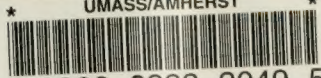


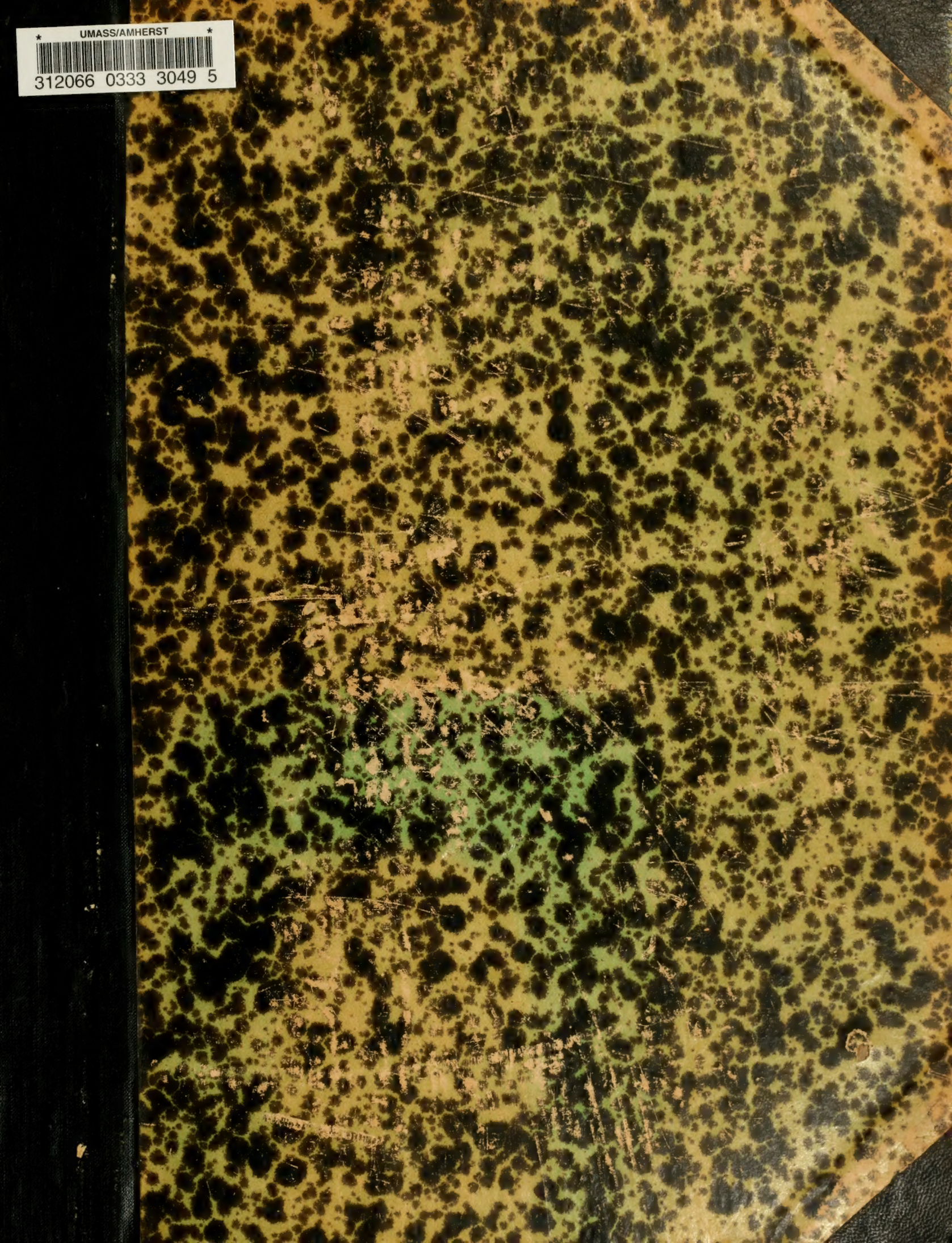
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OF

HORTICULTURE IN ALL ITS BRANCHES.

FOUNDED BY

*W. Robinson, Author of "The Wild Garden," "English Flower Garden," &c.*

"You see, sweet maid, we marry  
A gentler scion to the wildest stock;  
And make conceive a bark of baser kind  
By bud of nobler race: This is an art  
Which does mend Nature,—change it rather: but  
The art itself is nature."

*Shakespeare.*

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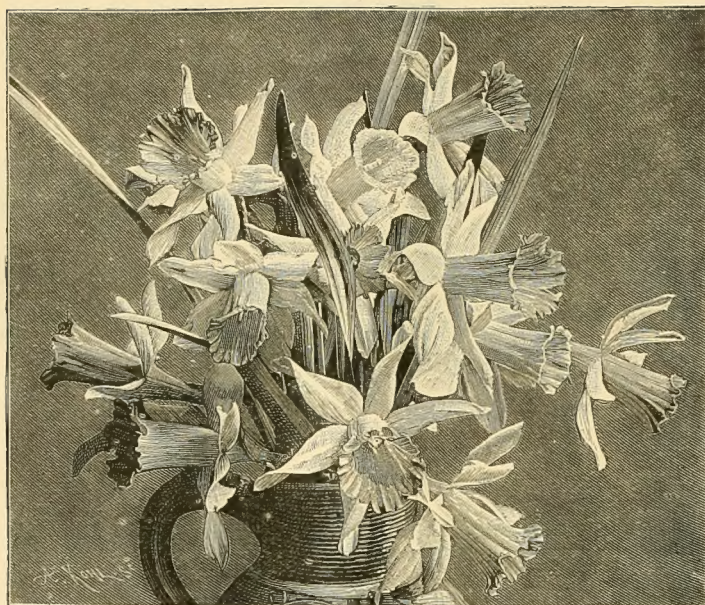
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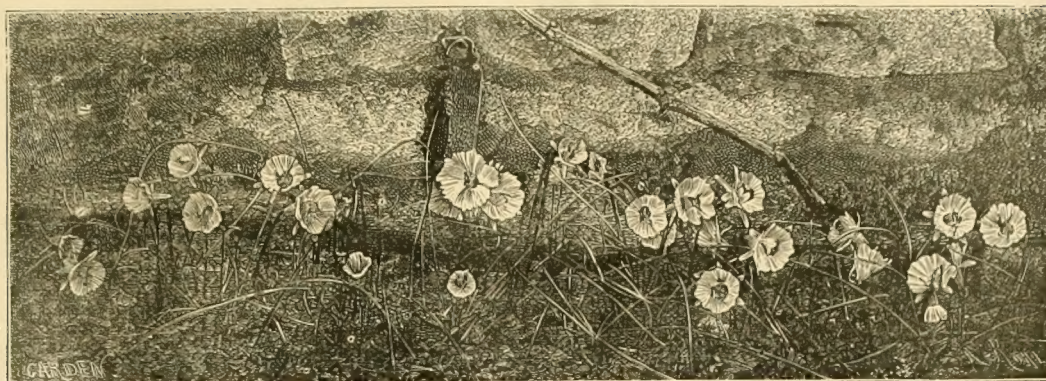
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# The GARDEN.

VOL. XLII.

## ORCHARD AND FRUIT GARDEN.

### FLAVOUR IN PEACHES.

THE question of flavour in Peaches and Nectarines is a very important one, and of all fruits grown under glass—Melons which are poorly grown excepted—there is no other kind which is so unpalatable as an insipid Peach. The want of flavour in market Peaches is often very pronounced, but this is principally on account of the baneful practice of gathering the fruits before they are ripe. This is carried to such an extent, that they are often quite hard at the time of gathering, and this being so, how can the fruits be expected to be of good flavour? It does not matter how well the fruits may have been grown, if they are gathered before they are well advanced to the final ripening stage, that full, luscious, and vinous flavour so characteristic of a well-grown Peach will be sadly deficient. There certainly appears to be a mistaken notion that for market the fruits must be quite firm when gathered, so as to ensure their safe arrival when carried a distance by rail or road. Some people say if colour is present it matters little about flavour, but I invariably find that where the fruits are well advanced towards the ripening stage they command a higher price and the colour is also more pleasing. It is astonishing the colour Peaches take on during the last twenty-four hours previous to their final gathering, and this alone is well worth waiting for. There is also the additional danger of leaving the fruits too long on the tree before gathering, for when they are allowed to hang too long, the flesh is woolly in texture and lacking juice. The practice of allowing the fruits to drop into nets cannot be too strongly condemned, for when they are so far advanced as to fall, the full flavour so desirable will have vanished. The injury alone that the fruits receive is also much against their keeping, for it will be noticed that these net-caught fruits keep but a very short time. I have known such fruits as these to be even sent a long railway journey to London only to arrive at their destination a mass of decay, brought on through their bruised and over-ripe condition. Mistakes of this kind generally result in going to the other extreme of gathering too early. I never consider a Peach or Nectarine, especially the latter, fit

for gathering until it will part from the tree after being firmly grasped by the hand and given a slight backward pull. A pad of cotton-wool laid in the hand is sometimes used, and if the hand be hard and horny this aid may certainly be of use to prevent injury, but otherwise it is in the way. A practised eye can tell almost at a glance if a Peach is fit for gathering on account of the change of colour near the base of the fruit. Some people also recommend the use of a pair of sharp Grape scissors for detaching the fruit, but these can only be used occasionally, for if extreme care is not taken, far more injury will accrue to the fruit than without their aid. Indeed, the formation of some of the varieties is against their use, for it would be impossible to reach the foot-stalk without injuring the fruit. In gathering Peaches they should be laid in shallow trays over a base of soft paper shavings, with a layer of silver paper over the whole. The fruits when laid on this should be removed to a dry and cool room or cellar, when twelve hours afterwards they will be in condition for use. They will keep well for three days if the position is cool, and I have even kept them a week, but, as previously mentioned, the flavour is more fully developed from twelve to twenty-four hours after gathering. The early morning is also the best part of the day for gathering, as at that time the fruits are cool.

The time of gathering is obviously only one way of securing fruits of well-developed flavour, as other cultural details, such as a circulation of warm and dry air, are most important. A damp and close atmosphere must be avoided, also overhead syringing when the fruits change for ripening, but inside moisture must not be wholly stopped, as the floors should be damped in the morning and evening during fine weather. A sudden withdrawal of inside moisture would affect the foliage considerably, especially under the strain of a bright sun.

The practice of applying liquid manure to the ripening fruit may also be easily overdone, as I have known the flavour sadly depreciated by this cause alone. The application of liquid should be dispensed with at least a fortnight previous to gathering, or rather ripening, a soaking of clear water at this stage being the best. If the surface is littered down with long stable litter at this time, sufficient moisture will be retained in the border to carry the fruits through

to their full stage. If a heavy watering is given a few days prior to gathering, it sometimes causes the fruits to part from the tree before their time. Y. A. H.

### EARLY PEACH AMSDEN JUNE.

THE above variety is useful on account of its earliness, its free-bearing qualities, and good flavour. Some good Peach growers may not agree with me in my estimate of this variety, and here let me remark I am only speaking from my own experience, as I do not think it is widely known and is not often planted indoors, but it deserves a place, as when it succeeds well it is not inferior in flavour to older and good flavoured varieties. I may state I prefer it to Alexander and Waterloo, both of which are American introductions of late years, and here, no doubt, many will not agree with me, as Alexander is supposed to be the best of the trio, but with me it does not do nearly as well; it certainly blooms well, but more than three parts drop; indeed all the first flowers never set, only a few late blooms, and smaller flowers set. It is wonderful how soon these late flowers set and swell up, finishing long before the older kinds are ready. I do not depreciate Alexander on any other account, as it is really a valuable early Peach, but its erratic behaviour when in bloom causes much uneasiness and a thin crop at the best of times. Waterloo is much liked by some, but I prefer Amsden June. I grow Waterloo in pots better than planted out, as I get more colour in the fruit. It is quite six weeks earlier than some of our good sterling kinds. For outside culture it is very good. The great value of these early Peaches is that they can be forced readily, thus prolonging the season greatly. I formerly grew Early Beatrice indoors, but the fruits are so small, that they are not to be compared with the above kinds. One point worth recording is that it is best to force slowly till the fruits have set; then there is less danger of dropping, as they will stand more heat later than is often given if not hurried too much at the start. For instance, Amsden June this season was ripe in fifteen weeks from the day of shutting up the house, and at the coolest end, this latter being greatly in its favour. Some think these early Peaches, such as Alexander and Amsden June, one and the same, but Amsden June is distinct in colour and sets much better than Alexander. Amsden June colours all over without the least difficulty, whilst Alexander requires more exposure. I prefer Alexander to Hale's Early for a cool Peach house; indeed, those who have late houses would find these varieties useful, as they then get the treat-



ment they like. Alexander is earlier than Hale's, though much like it in appearance. For outside culture Hale's Early is very good, but it is, I consider, less suitable for forcing, as being later than those named. We have Dr. Hogg, Early Grosse Mignonne, and others that cannot be replaced for their good qualities to succeed the early kinds. With me the Amsden does much best, sets freely, comes of a nice size, and is always of a good colour; therefore, I have no hesitation in recommending it for a few early dishes of fruit. G. WYTHES.

### BEST STRAWBERRIES FOR POT CULTURE.

ONLY a comparatively short time ago there was very little disagreement as to the selection of varieties of Strawberries most suitable for pot culture, but now if the verdict was taken from any given number of growers, the probability is no two would agree in their selections. The introduction of novelties and the bringing forward of hitherto but little appreciated varieties have had something to do with the confusion of ideas now prevailing, and a change of opinion as to what constitutes the best Strawberry is still more responsible for a change in numerous selections. A few years ago superior flavour rather than great size was the principal recommendation, but now-a-days quality is quite a secondary consideration so long as fruit of the largest possible size is forthcoming. This change has had the effect of relegating Vicomtesse Héricart de Thury to the background, and in all probability many places will soon know it no more. Yet it is still the very best that can be grown for early forcing either as regards productiveness or the superior quality of fruit when ripened in strong heat. What is wanted is a variety of the same robust yet very productive, free setting habit, with fruit at least double the size of Vicomtesse and of the same excellent quality when ripened in or out of heat. Till this is forthcoming or something very nearly approaching it, I shall largely depend upon Noble for pot work, being strongly of opinion that it is the most profitable variety in cultivation. My first attempt to force it extra early was a complete failure. In the first place it set badly, and what few fruits did swell were almost uneatable. As a consequence none were fruited in pots in 1891, but being requested to once more give it a trial a stock of plants was prepared last summer. The earliest batches flowered strongly, and being regularly and carefully fertilised with a camel's-hair brush set remarkably well. I commenced gathering ripe fruit early in March, and a succession was kept up several weeks by means of four more good batches of plants. Instead of preparing too many plants my chief regret was that the bulk of our stock did not consist of Laxton's Noble. Well grown, the fruit is large—I had plenty weighing 1½ ounces—richly coloured and forms a very attractive, tempting dish, or just what most employers like to see on their dining table. Nor after all is the quality to be despised, and, properly packed, the fruit travels well. A very strong heat is neither desirable nor needed by this variety, and if several batches are grown, the latest will ripen their fruit on warm greenhouse shelves, or in but very little heat, very much more quickly than several of the larger and much-vaunted later sorts. Especially ought amateurs or those who have not the means for forcing to depend principally or solely upon Noble. At Leighton, Westbury, Mr. Mann has hitherto grown La Grosse Sucrée for early forcing, but, excellent as this variety may be, Noble surpasses and will most probably largely supersede it, the first

large batch of Noble being already layered in pots. In Auguste Nicaise lovers of the sensational have a variety that quite meets with their approval, but I am not so much enamoured of it, especially after doing so well with Noble. In the first place it ripens too slowly, three batches of the last named being cleared out during the time it would take to finish two lots of Auguste Nicaise. Then again, the fruit of the latter, though of enormous size, is decidedly clumsy and ugly. It is something, however, to have fruit weighing from 2 ozs. to 3 ozs. in weight, but such samples are usually of a fasciated, contorted character, and do not show to particular advantage on a dish. The variety is of fairly vigorous habit, the crowns not splitting up badly, while the leaves are of a bold, distinct appearance. Left on the plants long enough the fruit colours well, and the quality is good, firmness being most noticeable. It is a variety few fail to do well with, and this cannot be said of the large fruited James Veitch. With me J. Veitch colours badly, but at Rood Ashton, Trowbridge, Mr. Miller invariably succeeds in growing and colouring it to perfection. The good old Sir J. Paxton has always been a favourite of mine, and does well as a successful variety. I notice that it is largely grown and forced for the London markets, salesmen liking it owing to the good size, colour and firmness of the fruit. Not much fault can be found with the quality of Sir Joseph, nor of President where it is properly grown. Countess can be had very fine and good in every way, say during May, at which time Unzer Fritz is also good. The last appears to be of little service in the open, but in pots it produces good crops of large, handsome fruit, briskly flavoured in the way of Sir C. Napier, still one of the very best for the later crops, few varieties cropping better or producing superior fruit. British Queen I cannot keep, and whereabouts it is rarely seen or heard of.

The question now arises, why bother with so many varieties in pots? I have previously asked the same question and have never yet received a satisfactory reply. I need hardly repeat that it is a very simple matter to maintain a constant supply from March to May inclusive, or till the outdoor crops are available with one or at the most two varieties. In very many instances from six to a dozen varieties are grown in pots, this entailing very much extra care in dividing, and far more judgment has to be exercised in fruiting them so as to avoid gluts at one time and scarcity at another than is the case when only one or two sorts are solely depended upon. Late varieties are the most unprofitable, as they occupy too much time in ripening, and in not a few instances fine dishes of Noble can be had from the open long before the latest batches of slow ripening Strawberries in pots are cleared out of the houses. This season two-thirds of the stock of plants I intend to prepare for forcing will be of Noble and the remainder Auguste Nicaise. What others are grown in pots will be simply for trial, and if something superior to either of the two varieties named is found, so much the better.—W. IGGULDEN.

—With regard to sorts of Strawberries to grow in pots, opinions differ greatly as to which are the best. Almost every grower has his favourites, but there can be no question, I think, as to the great superiority of British Queen if size and flavour are taken into consideration. Unfortunately, British Queen will not succeed everywhere, and many have a difficulty in growing it, as it requires a good, rich and moderately light soil, and even then is apt to be barren and go off. Here it does well, and is the chief kind we cultivate. In cases where

the Queen fails or is not satisfactory, I would advise Sir Joseph Paxton to be substituted. This possesses many good qualities, as it has size, firmness, high colour, and excellent flavour. President has long been a favourite with many and is a prodigious cropper, as it flowers abundantly, sets freely, and the fruit swells regularly and colours up well. Sir Charles Napier is valued by market growers, as it is a robust free-growing variety, but though showy and taking to look at, it is not of high quality. Auguste Nicaise has during the last year or two come under notice, and just lately a dish of fruit of it exhibited caused quite a sensation, as each fruit weighed over 2 ozs., and it is a very fair flavoured kind. The above-mentioned are all second earlies, and therefore for first crop forcing it is necessary to have some other sort, the most precocious among these known being Noble, which ripens at least a fortnight before any other I have yet tried in pots. For freedom of growth, setting and cropping, Noble is quite unsurpassed, the fruit being large and very showy, but the flavour is flat, or it would be the most valuable kind in existence. The one we depend chiefly on is Vicomtesse, but it requires good cultivation, and to be satisfactory the plants must be strong. If they are, they send up fine heads of flower and produce large, firm, rich, bright-looking fruit that packs and travels well without being injured or bruised. In forcing Strawberries, however, it is not advisable to have many varieties, but to stick to two or three that are found to suit, as then a more regular supply can generally be maintained and less trouble entailed in their preparation and management.—J. SHEPPARD, Woolverstone Park, Ipswich.

### LARGE OR SMALL MELONS F. FLAVOUR.

I DO not think that a Melon should be condemned because it is medium-sized (3 lbs. to 4 lbs.) or even larger, as if it is good in quality it has great advantages over a small fruit of a pound or two in weight. Melons often differ in quality, and it is not usual to put half-a-dozen on the table at once, as what is expected with dessert is as much variety as possible. I admit for two or three persons a small Melon may be useful, but my experience is, that a Melon however good is rarely sent to the table a second time if it has been cut, as there are always ways and means to use it either in the kitchen or confectionery. If a Melon is good there is always more demand for it; hence the advantage of a fair-sized fruit, so that if small fruits were used, it is often found that they differ so greatly that one could not depend on the second being equal to the first; again, the first Melon always stands the best chance, if good, as the palate soon tires of this fruit. I think when small Melons have been grown in pots or with restricted root space, there is less chance of their differing in flavour. It would often be interesting to know how some Melons are grown, as they assume such peculiarities in flavour, that some are really uneatable; this often occurs from over-feeding or feeding too late, and often from the roots getting down into decayed manure, and receiving too much nutriment when none was required. Many Melon growers have to plant their Melons in unsuitable places; many would do better if less manure were used, but unfortunately it has to be employed to start the plants into growth owing to a deficiency of heat. This latter is one of the causes of bad flavour in sunless weather. The best Melons I ever grew were on small slate beds with plenty of heat under the beds; there was not much soil space, and I fed them with liquid and other manures, such as Thomson's Vine manure. No animal manures of any kind were given. I never failed to get flavour, owing to being able to stop feeding at the proper time, and to ripen the fruit by allowing plenty of air with a good command of fire-heat. I often envy those who have plenty of means at their disposal to grow Melons to the best advantage, as often the gardener is put to great shifts to secure a crop, and he cannot be fastidious as to size; indeed if he went in for very small



fruits, there would soon be an outcry as to his abilities as a Melon grower. I do not like a Melon with a thick rind. I thought one of the best points of a Melon was a thin rind; as, for instance, we send Peaches a long distance with a thin skin and soft flesh; Figs also. I admit a thick rind is advantageous for keeping purposes, but a Melon with a thick rind is of more importance than we have been led to believe; but why, as less of the fruit can be eaten? My idea is a medium sized Melon, such as Easton Castle. A thin rind and small seed space are good points. For instance, William Tillery is a large Melon and first-rate in every way, so that small size and quality are not always the points to be considered in a Melon. If one takes other fruit as examples, one does not dislike Grapes, Peaches, Nectarines or Pears because they are fine fruits; on the contrary it will be found that large fruits of many kinds, if not too large, are equally well flavoured. I have grown a houseful of Melons to test the question of flavour by allowing the plants to remain in  $\frac{1}{2}$ -inch pots plunged in cocoa fibre, without other soil or manures of any kind, growing a lot of plants as single crowns, the result being that the fruit finished as well as when given more favourable treatment; of course plenty of feeding was given whilst the fruits were swelling. In Melon growing, as in other branches of fruit culture, a man may finish one crop well and two badly; much depends upon the health of the plants and the time moisture and feeding cease, and with a crop of small fruits all in together there is less difficulty in finishing also when the root space is restricted. I may go further and say if a Melon is condemned because it is larger than a cricket ball, the same treatment must be applied to other fruits, but it is impossible to do this; we must get size and flavour combined. A small Melon in May is appreciated more because there are few varieties of choice fruit to be had at that time than later on. Many persons would not care to place several on the table with a choice collection of other fruits. It would be impossible to make a number of dishes of Melons, so that larger fruit will continue to find favour, and for market small ones are useless.

G. WYTHES.

#### NOTES ON STRAWBERRIES.

STRAWBERRY forcing for the season has now come to a close. At this season growers should take a review of the past year's work and note what improvements it is possible to make, so as to guard against possible failures. This may result from various causes; sometimes the variety which has been principally relied upon has not come up to expectations. It is not always through errors in culture that disappointments ensue, for very often the grower's hopes are buoyed up over some specially puffed-up variety, and he consequently relies upon it exclusively, to find, perhaps, that it does not come up to expectations, or the quality of the fruit is not cared for by those who have to consume it. I wonder how many varieties recommended during the past few years for forcing have stood the test. I am afraid but very few, and growers, I am thinking, would vote for our old standard kinds. It remains to be seen to what degree of favour the variety John Ruskin will attain. If it should prove both a good grower and free setter, it will no doubt be valuable, but the great test has yet to come—the test of public opinion. The great fault with these new Strawberries is the liability of their being weakened by over-propagation; consequently the variety is not seen at its best, and so becomes condemned. I have added four or five new kinds during the last year or two, but the growth made has been most miserable and nothing like what I was led to expect through reading elaborately published reports. Over-propagation has much to answer for in these cases. It is quite evident that the qualities of the older varieties have not yet been improved upon for forcing, taking all points into consideration. These are the kinds to rely upon, the newer ones being added for trial and only to

be grown as a part of the main crop when proved worthy. These when received, unless the buyer should be specially favoured, are not strong enough for growing on for forcing, consequently are best in the open to recuperate their strength for providing runners for another season.

This brings me to the question of the best means of preparing the layers. I refer to whether it is best to layer direct into the fruiting pot or into small pots to be repotted. I cannot see where the gain comes in by layering into the fruiting pots at once. There is far more work in carrying the large pots to the layering plot, and also in the fetching back and so forth, than repays for the trouble. By layering into the small pots the work is done expeditiously and the plants start more freely into growth. All these are details which we should bear in mind before the actual time comes on for the work. The time, however, will be quickly here, for very often the last of the forced crop overlaps the commencement of the preparation of the plants. The necessary details are simple enough, but one and all must have rigorous attention if success is to crown the grower's efforts. What is wanted is a long season of growth with free exposure to direct sunshine from start to finish. Failure may often be attributed to the want of this. Weakly runners are also of no use, and at this season of the year, if the runners are to be taken from fruiting plants, it is best to go over the plants at once and arrange the wires in alternate rows, so that they will not be trampled upon whilst gathering the fruit, which, if precautions are not taken, is apt to get much injured.—Y. A. H.

— The layering of Strawberries for next year's fruiting now receives more attention than formerly, and though we have now several earlier kinds, it is necessary to layer early to get good results. It is almost impossible to get the runners from plants that are bearing a crop of fruit, as these latter do not form runners till the fruit is taken, and even then strong runners cannot be expected; hence the advantage of getting the supply from maiden plants—that is those which were planted early last season as soon as rooted and from which the trusses of bloom were removed this spring. I do not contend that good runners are impossible from plants bearing a crop, but I know which gives the best results for early forcing. It is immaterial how the runners are layered, some preferring one way, some another, and when a quantity of plants is required, there is no time to lose once the runners are large enough. Those who are short of pots may layer in pieces of turf cut square as successfully as those who layer into small pots. I prefer 3-inch pots, but there are others who layer direct into the fruiting pots, and when the runner can be secured strong and 5-inch pots are used with ample drainage, this latter plan is equally good; the only drawback is worms, and in wet weather too much moisture before the pot is filled with roots; in this case a weak growth is the result, as the soil gets into a soddened condition, being of a heavy nature. Good plants are readily secured without pots or turves by placing some good soil down every other row and pegging the runners into the fresh soil; this latter is a good plan where labour is scarce. I have advised missing the second row, as the runners can be drawn to the nearest row, thus leaving a walk to water and work among the runners and prevent trampling on them. In dry weather the runners need constant attention. The layering direct into the fruiting pot requires more care for this reason: if the soil is heavy and made firm, as it should be, weak runners are slow to root, and the soil holds the moisture too much, so that unless the plants are specially grown for the production of runners, I would not advise their use. Where it can be done, it is a great saving of time, and for early kinds is more suitable, as the sooner the plants get well rooted and the growth advanced the better they are for early forcing. There is no loss by planting strong runners at the end of August for the supply of next season's plants, keeping the flower-trusses pinched out as they appear, as the runners can be placed closer than fruiting plants. I do not plant them any

closer from row to row, but from plant to plant. When the runners are secured every other plant is cut out with the hoe, or lifted to plant elsewhere, leaving the others the right distance apart to form permanent beds. From these permanent beds the following season we get our best fruits, and by planting a quantity each year runners are readily secured, and preparations for a permanent crop made at the same time. Of late years I have seen the necessity of planting annually; it has much to recommend it, especially on soils not suitable to the growth of the plant, as under the old system there would be many bare places, and therefore loss of ground, which is not the case with yearly planting. To do this, more attention must be paid to the production of runners, and the best plan is to plant for the purpose. Though the system I adopt cannot well be termed the one-year plan, it has much to recommend it, as good runners are secured and the foundation for a permanent crop is laid at the same time. I find this plan much better than planting forced plants, as in our light soil the forced plants soon become exhausted; indeed with us Keens' fails to fruit in the second year, and when grown yearly from runners there is no anxiety as to their well-doing. The chief points are well-prepared land, plenty of manure, and early planting of strong runners yearly.—G. WYTHES.

— If the heavy rains which have done such good in Surrey and all round the metropolis have been general, Strawberries even on the most gravelly soils will hardly need further watering. No doubt the previous dryness had given much trouble to the growers and the size of the fruit was seriously affected. Now all is well except where mulching had been either badly done or neglected, and there whilst there had been moisture there is also much dirt on the fruits, to their great detriment. Should renewed hot sunshine soon follow, the need of a heavy mulching of long strawy manure will be all the more manifest, but no one should complain of either grit on the fruits or of speedily exhausted moisture if he neglects such an ordinary precaution as freely mulching his Strawberry breadths. Where clean straw alone is employed, it is sometimes the practice to gather up the foliage and flower or fruit-stems, and to place a collar of straw round the whole of each plant so as to keep it erect—that is, where mulching is done late—better practice than laying the straw flat and indiscriminately amongst the plants, as much of the fruit may then be covered. Mulching is best done about the time the plants are in bloom, or just before, as then the trusses if fully developed are yet erect and out of the way. One objection taken to mulching is that it prevents the early runners from rooting. Those who want specially early runners should, however, plant strong runners expressly to make plants to produce runners early in the following season, and from which the bloom-heads have been gathered. A couple of score of such plants put out wide apart and on good loose soil will give an abundance of early runners and save a lot of trampling over the fruiting breadths. This practice is now adopted in all good gardens, especially where the forcing of plants in pots is conducted. It is equally good for the getting of early runners for planting out in the open ground.—A. D.

— The first dish of outdoor Strawberries was this season picked on June 7, the variety being Noble. For several seasons I grew Black Prince on a warm south border to succeed Sir Joseph Paxton grown indoors, but although good enough in point of flavour it is not of sufficient size where there is a demand for large fruit. It throws such a quantity of stalk and bloom as to necessitate abundant thinning of both truss and flower to procure Strawberries fit for dessert. Until a better flavoured early variety of nearly equal size presents itself I fancy Noble will hold its own, as apart from its handsome appearance it is of easy culture and fine constitution. I do not know if this is the general experience, but I find it here a variety peculiarly adapted to annual treatment and doing best under those conditions. Other sorts grown, notably Sir



Joseph Paxton and Filbert Pine, do well under the three years' system from old forced plants, but Noble is best from one-year-old plants. So, too, was La Grosse Sucrée, a sort I used to grow rather largely, but it had to give way to Noble on account of the superior cropping qualities of the latter, and as the season of these two sorts is nearly identical the culture of both is hardly advisable. Preparations must soon be made for new beds where these are contemplated, and a sufficient quantity of runners taken for this purpose when they are selected for another season's forcing. Bits of sod 2 inches or 3 inches square answer as well as anything for the runners that are to make the new outdoor plantation, and if the old border is to be cleaned or renewed before the new one is ready, the little squares can be tightly packed together in some convenient place where they are not likely to be overlooked by the water-can. A bit of good manure from the cow-yard evenly distributed, a deeply dug border, which, after lying a couple of days, is trodden firmly, as our soil is on the light side, plants inserted 15 inches square, and finally a surface mulching, and the new Strawberry plantation is no more trouble until the following spring. The ripening up of mid-season and late Strawberries, and indeed of small fruits generally, will be considerably retarded by the spell of cold weather that has come upon us in the middle of June. The outdoor glass for three consecutive nights has dropped to 33°, 32°, and 31° in one or two places in the immediate neighbourhood, the more tender bedding stuff, Marrows and French Beans are cut, and I hear this morning that on the open commons the young tips of Bracken are blackened and destroyed. Fortunately, everything is wonderfully dry, or the consequences of frost at such a time would have been disastrous. There is a remarkable difference between the present weather and the late spring and early summer of 1891, when we were lamenting the continued wet and the rotting of Strawberries on the ground.—E. BURRELL, *Claremont*.

— There can be no question but that Noble is the earliest Strawberry, and, tried with most of the others, I find it is a good fortnight before them in ripening, which renders it of much value for forcing or outdoor cultivation, for though not of high flavour, it is passable when grown in the open and a wonderfully free cropper, as even small plants produce good trusses of bloom and all the fruit swells up to a great size and a long-continued succession is kept up. Market growers appear to be going in for it extensively, and no wonder, as it is very showy and taking, and being so much earlier, there is a good demand for it, and it sells readily till better flavoured kinds are ready to pick. Gardeners and others who have not yet tried Noble should make a point of planting a few rows on a warm border, as it is sure to serve them well after forced or pot plants are over. I tried John Ruskin inside, but shall grow it no more in or out, as the plants mildew so badly and the fruit is not good, the old Keens' being far superior and within a few days as early, as both are ripening side by side in the open, the foliage of Keens' being fresh, healthy, and green, while that of John Ruskin is curled by the mildew. Vicomtesse I consider the next best early, and I have tried the crossing of it with Noble, also the latter with British Queen and Auguste Nicaise, as I think Noble is the kind to work on to give us what is wanted for first use, there being plenty of good ones that come in at mid-season. I wonder what Noble originated from, and shall be glad to know, as I am not acquainted with a Strawberry so precocious or at all resembling it in foliage or fruit, and it has all the qualities except that very desirable one of fine flavour. If this can be put into it and the others retained, it will rank high and be the most popular Strawberry we have; and it is to be hoped that it is being worked at by many others, and that the desired result will be attained before long.—J. SHEPPARD.

**Open-air Peaches in Wiltshire.**—From various quarters comes the report that the trees of

Peaches and Nectarines against open walls are exceptionally well furnished with fruit, and that, too, without in several cases any special protection. At Leighton a long south wall is being gradually furnished with healthy young trees, these superseding the worn-out older ones, and not only are the crops heavy, but the trees are also forming very clean moderately strong growth, or such as is not often seen on open-air Peaches and Nectarines. The varieties principally grown are Alexandra Noblesse, Bellegarde and Royal George Peaches, all of which are noted for their superior quality and afford an excellent succession to the fruit obtained in several houses. Royal George, unfortunately, is more liable than most other varieties to be overrun by mildew, and this very luscious Peach has to be reluctantly given up in many gardens accordingly. The most reliable Nectarine at Leighton is the Downton, and of this I noticed excellent crops. The fact of Peaches proving far more hardy or reliable than Plums will most probably have the effect of still further stimulating the already strong reaction in favour of the more extended open-air culture of the former. At Leighton and other Wiltshire gardens I could name considerable additions will at any rate be made this autumn to the stock of trees already being grown.—I.

## ORCHIDS.

### DENDROBIUM SCHNEIDERIANUM.

THIS is a beautiful hybrid, the result of a cross between *D. Findlayanum* and *D. heterocarpum*. It was raised by Mr. Holmes, who now has charge of the magnificent collection of Mr. Hardy, Pickering Lodge, Timperley, Cheshire, and it flowered for the first time in this country about five years ago. It is a distinct and pleasing flower, and I have little doubt as the plant increases in strength and gains size it will be a very desirable Orchid. I observed some of the hybrid *Dendrobiums* at Sir Trevor Lawrence's last season were stricken with a disease, which was working sad havoc amongst them, but on my last visit Mr. White appeared to have got the mastery over it and the plants were doing far better. This seems curious, for home-raised seedlings generally have a more vigorous constitution than the imported species. *Dendrobium Schneiderianum* is an erect growing plant with slightly flattened stems, which are deciduous, bearing flowers usually in pairs. Each flower measures between 3 inches and 4 inches across, the petals slightly undulated on the edges. The ground colour is creamy white. The lip is rolled over the column at the base, the front lobe elongated into a fine point, which is tipped with rosy mauve, the basal part being downy, stained with a large patch of orange-yellow, streaked with purple. The flowers are produced through the spring months, and they last in full perfection for a considerable time. This plant thrives best when growing in a hanging basket and placed near the light, but in such a position that it can be shaded from the heat of the midday sun. When growing, it likes a good share of moisture both to its roots and overhead from the syringe, and the atmosphere should also be well charged with moisture. After the growth has been completed, the plants should be kept drier and hung up in a cooler house with other *Dendrobiums* which are ripening their bulbs. This will cause the leaves to fall, and the plants as autumn comes on may be removed to the cool end of the Cattleya house and be kept as dry as possible. About the turn of the season the plants may be removed to the East India house and be given more moisture, when the flower-buds will soon begin to show. The baskets require to be tho-

roughly drained and the soil used for potting should be good brown peat fibre mixed with some chopped Sphagnum. This should be pressed down firmly, keeping the plant slightly elevated.

WM. HUGH GOWER.

**Dendrobium canaliculatum.**—Charles Toden, in sending a spike of this species for a name, calls my attention to "its beautifully sweet flowers." This I failed to observe when I unpacked the flowers, but having cut the stem back a little and placed the spike in water, the fragrance was noticed. This plant was sent home from North-east Australia by John Gould Veitch, and was figured by Mr. Bateman under the name of *D. Tattonianum*, after Lord Egerton of Tatton, he having failed to identify it with *D. canaliculatum* of Robert Brown.—W. H. G.

**Cattleya Schofieldiana** (*J. Hudson*).—It is now about ten years since this plant was first seen in English gardens. The flowers now before me are of about the usual size, viz., 6 inches across. The ground colour of the petals and sepals is a pale tawny yellow, tinged with green and profusely spotted with crimson-purple, the lateral lobes creamy white, middle lobe yellow, the whole of the front portion of a rich magenta, with a narrow marginal border of white. It is a beautiful flower, with some resemblance to that of *C. granulosa*, but, I think, quite distinct from that plant.—W. H. G.

**Dendrobium Phalaenopsis dellense.**—From Mr. Bennett, gardener to Mr. Mackellop, Royal Crescent, Bath, comes a fine flower of this variety. Mr. Sander, of St. Albans, obtained a first prize for this as a new Orchid at the international show at Earl's Court. It is a beautiful form, having eleven flowers on the spike, the flowers large, sepals and petals broad, creamy white at the base, but towards the tips passing into a delicate soft lilac-mauve. The lip is somewhat of the same colour, having a few darker lines. It is one of the most delicate and beautiful varieties of this fine species which has come under my notice, and I congratulate Mr. Bennett upon having it crop up amongst his plants.—W. H. G.

### SHORT NOTES.—ORCHIDS.

**Cattleya Warocqueana** (*C. D., Glasgow*).—This is the third or fourth flower which has been sent me within a fortnight asking if it is the true *C. labiata*, and your flower leads me to the same conclusion as I came to when this controversy began, that I thought it was a plant which came near to *C. Gaskelliana*.—G.

**Cattleya Mossiæ Dormaniana.**—This is a truly grand variety, in the way of magnificence, lately received from Mr. Broome, of Llandudno, but the lip is double the size and of a very deep magenta-crimson. This form was named some few years ago, and I lately saw it in flower with Mr. Norman, gardener to Mr. Dorman, The Firs, Laurie Park, Sydenham.—W. H. G.

**Cypripedium caudatum.**—H. Metzgar sends me a nice flower of this species very bright in colour, but I think the flower was cut before it had developed its tails fully; the petals measured 20 inches in length. The greatest length of the petals I have seen was 37 inches on a flower sent me from Mr. White's garden at Arddarroch. It is when dried 36 inches long.—W. H. G.

**Dendrobium Phalaenopsis** (dark variety) (*C. Oakenshaw*).—Yours is a very fine form of this plant. The sender says: "I have only sent you one flower, but I thought it would be enough. I have twelve flowers left on the spike. It has been in bloom all through the month of June." Whilst writing this I have received No. 11 of the "*Reichenbachia*," in which this *Dendrobium* is figured. Yours, however, are the darker flowers.—W. H. G.

**Dendrobium Harveyanum.**—Charles Toden sends a flower of this species for a name. He evidently mistakes it for *D. Brymerianum*, the short-bulbed variety, but it is not that plant, and the chief distinction lies in *D. Harveyanum* having



smaller flowers and in the colour being of a lighter yellow. It comes from Burmah; consequently it thrives in a good heat and a moist atmosphere during the growing season.—W. H. G.

**Lælia grandis tenebrosa.**—From Mr. Bennett also comes a splendid flower of this variety, which I was the first to describe under this name. It measures 8 inches across the petals, which are each  $1\frac{1}{2}$  inches across, the sepals being somewhat narrower, the colour a beautiful dark bronzy purple; lip very large, having an intensely deep maroon-purple throat. It is by far the best flower I have yet seen of this variety.—W. H. G.

**Masdevallia Denisoni** (*G. Mayhew*).—This, I believe, is the right name for the very fine flower you send under the name of Bull's Blood; the flowers are large, deep crimson-purple. I am glad to hear there are some growers who are taking up these plants, and I am under the impression that when the many hybrid kinds come into flower we shall then have a large call for *Masdevallias*.—G.

**Cattleya Warneri.**—I am in receipt of a flower of this species from Mr. Ransom, gardener to Mr. J. T. Gabriel, Palace Road, Streatham Hill, of a curious character. The sepals and petals are deep rosy-crimson freely spotted with lilac, the side lobes of the lip, on a ground of white, being also much spotted with the same colour, the front lobe deep crimson. It is very pretty and curious, and I have refrained from giving it a varietal name until next season, when we shall see if it is constant.—G.

—(*G. Hubbard*).—Yes; both flowers are of the same species. No. 1 is an excellent form with deep rosy-lilac sepals and petals, and a rich dark lip almost resembling that of the old *labiata*. No. 2 is worthless.—W. H. G.

## KITCHEN GARDEN.

### LATE PEAS.

It is customary for the compilers of calendar matter to advise the cessation of sowing late Marrow Peas after the middle of June, but instead of these some of the early sorts are recommended to be sown. Doubtless this is sound advice as far as the more northern or cold localities generally are concerned, though if those practising in more favoured districts adhered to it, the chances are not many late dishes of really good Peas would often be forthcoming. I hold that *Ne Plus Ultra* or any other well-tried late sort may be sown as late as the end of June in all southern or warm localities with every prospect of profitable crops being obtained, always provided they are not starved for want of moisture at the outset. In the neighbourhood of Bath, *Omega* is a favourite late variety, and this may be briefly described as a medium height form of *Ne Plus Ultra*. Mr. Cooling, who has long made a specialty of Peas, sows *Omega* extensively after the first good rain that may fall during the first fortnight in July, or if rain does not sufficiently moisten the ground, the watering-pot has to be employed. From these rows good late crops are obtained, the supplies not unfrequently lasting till near midwinter. Certainly the climate in the neighbourhood of Bath is exceptionally mild, but, all the same, the plan of sowing *Omega* early in July is well worthy of being given a trial in various other parts of the country. With me the late June sowings of *Ne Plus Ultra* usually hold out till severe frosts are experienced in November, and in addition we also have good pickings from a number of rows of the dwarf *William Hurst*. Either this or the similarly good *Chelsea Gem* may be sown up to the middle of July on the ridges between Celery trenches or on borders newly cleared of early Potatoes with a good prospect of remunerative and greatly appreciated crops being

obtained. One great advantage these dwarf varieties have over taller growing sorts is the ease with which they can be protected from early frosts. If required late they must be protected too, especially if they are growing in other than the highest part of the garden. Branches of Fir or Evergreens or a strip of scrim canvas hung over strings or wires strained well above the Peas will usually prove ample protection. I must also point out that it is next to useless to sow two or three short rows of dwarf varieties, as they would never afford good pickings at one time. From one quart to two quarts of seed may well be sown, the rows running through the centre only of the Celery ridges or else 18 inches or rather less apart on borders of any kind.

The practice of sowing newly-saved seed of both the dwarf early varieties named and also *William I.* on similar sites is a good one. New seed invariably germinates the most strongly, and a vigorous start is a great gain in the case of late Peas. Too often the old seed produces very feeble plants, and these make but poor progress and fall a prey to mildew. August is usually a very trying month for Peas, and if they are subjected to the ordeal of dryness at the roots as well as excessive heat, it is not to be wondered at if they either crop prematurely or succumb to mildew. Late Peas generally ought, therefore, to have a deep and fairly rich root-run, and the soil so drawn up to the rows as to form a basin for holding the copious supplies of water that ought to be given during August and the early part of September. Very frequently cultivators are misled by appearances.

Very rarely indeed do we get enough rainfall during the summer months to keep the roots of Peas sufficiently moist, and it is most unwise to stop watering during showery weather. That is really the best time for watering and also applying liquid manure, and in any case mere dribbles are useless. A mulching of strawy manure is never thrown away on Peas, and a thorough soaking should be given where possible. I. M. H.

**Pea William Hurst.**—This excellent dwarf Pea I noticed cropping finely on a south border at Claremont on the 10th ult. Mr. Burrell is much taken with it, not only because so fine a cropper, but also because so dwarf. Then there is in the Peas very much better quality than is found in the bulk of first early varieties. For small gardens, especially where sticks are scarce or costly, this Pea with some others of its sturdy compact character would be far more satisfactory than tall ones are, especially when badly supported or left to lie on the ground. *William Hurst*, apart from its good qualities, is one of the very earliest, hence it merits wide cultivation.—D.

**Perfect Gem and other Lettuces.**—From "S. H.'s" comments upon my observations on the above (p. 567), I fear my note was not sufficiently explicit, for it has misled him, as I had no idea of disparaging the value of *Perfect Gem* as an early forcing Lettuce, for until the advent of *Paris Market* and *Golden Queen* I have grown it since its introduction and relied solely upon it as a first early, and continue to grow it extensively even now as a succession to the above-mentioned, for which purpose it is well suited; but I still contend that as a forcer and for earliness it must give place to the pair mentioned above. Neither do I find fault with its quality or general usefulness; quite the reverse, and fully agree with him as to it being a very good thing; hence it was included in my previous list. I would be sorry to recommend either *Golden Queen* or *Paris Market* for summer use (their chief value being in their earliness and adaptability for growing in heat), as we have a better and superior Lettuce for that season in

*Perfect Gem*—which certainly justifies its name—to which I again add *All the Year Round* and also *New York*. I regret "S. H." has not yet given *New York* a trial, for I venture to say that without it he is minus one of the best summer Cabbage Lettuces extant.—J. R.

**Rapid growth of Cabbages.**—Recently on going through the kitchen gardens at Leighton, Westbury, Wilts, my attention was directed to a remarkably good breadth of Cabbage, which I at first thought must have been autumn sown. Such, however, was not the case. Owing to the failure of many of the autumn-sown plants, Mr. Mann decided to raise a fresh stock as quickly as possible, foreseeing how much a good and fairly early supply of tender hearts would be appreciated. Early in February seed was sown in gentle heat, and the plants thus obtained were duly pricked out in frames. Before they became very large advantage was taken of a fairly favourable time for getting them out on to well-prepared ground. Some time after they were planted out severe frosts were experienced, but this evidently gave but little check to their rapid progress. When well established they were occasionally given a soaking of liquid manure of a somewhat forcing character, and to this must be attributed the rapid growth of the Cabbages. Drainings from stables freely diluted with water were used. Mr. Mann commenced cutting excellent Cabbages from this bed towards the end of May, and when I saw it on June 20, a cartload of fine hearts could have easily been cut without their being greatly missed. It would have paid remarkably well to have thus grown several acres of Cabbages for the markets in the west of England. The varieties preferred and relied upon by Mr. Mann are *Ellam's Early Spring* and *Wheeler's Imperial*, these also being what are principally grown by me and various other cultivators hereabouts. *Ellam's Early* is undoubtedly the better of the two, and, all things considered, the best Cabbage in cultivation.—W. I.

### PEAS FIELD GROWN.

In the neighbourhood of Bromham, Wilts, the allotment system or small holdings has long been in existence, and early Peas are found to be one of the best paying crops that can be grown. This season the large breadths of *Earliest of All* and other early round-seeded forms looked remarkably well up to the middle of May, after which the drought began to tell on them. This effectually checked the usual strong growth, and now the crops are being gathered they are found far too light to be profitable. The pods have filled well, but they are much too few in number. It may surprise those who have no experience with Peas grown in the open and without stakes to learn that *Telegraph* and *Telephone* are found to be much the most profitable second early varieties that can be cultivated in the fields, yet such is the case. Although the rows are only sown not more than 2 feet apart, there is no such thing as their overrunning each other. They naturally get somewhat laid, though this is not till some time after the rows are heavily moulded up, and it is not long before the haulm becomes nearly erect again. Space between the rows seems ample, added to which varieties which under garden culture attain a height of not less than 5 feet are this season in the open fields not more than 2 feet high. They commence bearing very near to the ground, and had it not been for the frosts that were so general during the week ending June 18, the more forward pods would have been fit to gather before the end of June. At the Bromham Fruit Farm other varieties of Peas are also grown. There is a large breadth of *Yorkshire Hero*, or, as gardeners prefer to call it, *Veitch's Perfection*, than which no better late variety for field culture can well be named. This used to be and no doubt still is a favourite variety with the Essex farmers and market gardeners, but I never saw it in better condition than on the lower green sand of Bromham. It is sown thinly, the plants now being 6 inches apart and the rows 2 feet asunder. This plan of growing the plants



thus well apart ought to be followed by private gardeners not only with Veitch's Perfection and another form much resembling it—Walker's Perpetual—but also all other varieties of a strongly branching habit of growth. Crowded they fail to branch, and the crop is light and of very short duration accordingly; whereas the plants that have good room branch freely, and are far more continuous bearing. M. H.

### PARSLEY FOR WINTER AND EARLY SPRING.

OF all herbs grown for the kitchen Parsley is in most request. The preparation for a winter supply of Parsley is apt to be overlooked. Anyone who has had to maintain a continuous supply is well aware that vigorous plants which are growing away in an open part of the garden at this season of the year are not the best to stand the winter, for although the growth may appear vigorous and healthy during the early part of the winter, yet upon a spell of frosty weather followed by rain and fog, the tops will rot away wholesale. Occasionally some good Parsley is forthcoming from the open throughout the winter and spring, and this in places where least expected. In two gardens I have had charge of, I have been enabled to secure gatherings right throughout the winter with but little protection, except from snow. In one place it was grown under Nut bushes, and in the other under a wall on a dry limestone soil, where it used to thrive amazingly. There is but little trouble in keeping up a fairly good supply till Christmas, but after this, and especially throughout February and March, is the strain felt. Although at this time fresh growth is starting, yet during the past year or two this has been the time when growth has really been at its lowest ebb.

In commencing preparations for winter, the position where the plants are to remain must be arranged now, so that whatever covering is adopted when the time comes may be placed over the Parsley with care and despatch. Low bricked frames or pits are the best for affording a supply. Even a two or three-light wooden frame, if filled up to within 10 inches of the top and the seed sown now, will maintain a supply. Not that any coverings are needed before inclement weather arrives, as the more exposure the better up till this time really does occur. A deep mass of decaying vegetable matter will not do at all for filling up the space in the pit, for this would have a tendency to cause the tops to grow rank and unfit to stand through the winter. What is wanted if the space to be filled up is deep is a layer of dry open material, such as old brick rubbish and clinkers. Over this should be placed the soil, which must be made firm, the seeds being sown thinly in drills a foot apart. If the weather should be dry at the time of sowing, give a gentle watering and cover with a mat to check rapid evaporation. The position for the frames cannot be too freely exposed to the sun, for although the Parsley grows fast enough in shady and damp spots during the summer months, in such positions it is sure to collapse during the winter. A good contrivance where frames are not at hand is to mark out a bed about 5 feet in width and any desirable length, and in this to sow the Parsley. This may be effectively covered by placing boards on edge around the sides, covering the top with a wooden framework, on which waterproofed canvas may be laid. This keeps out the wet and snow, and also a fair amount of frost. On all favourable occasions this covering must be removed to let in light and air, as without these the leaves would soon melt away if shut up for

any length of time. Ground vineries and other portable lights may also be brought into use, the beds being arranged to fit the covers.

Very useful gatherings may be had during the later winter months by the old-fashioned method of growing Parsley in tubs and boxes. I have adopted this plan for some years. The tubs have holes bored 2 inches across and 6 inches apart all around the sides, a wooden funnel about 6 inches square being placed right up the centre. The plants are raised in 3-inch pots, and as soon as these are large enough they are placed in the tubs, the soil being filled up as the work proceeds, the top also being planted over. The tubs are kept in the open until the approach of winter, at which time they are mounds of green. I place the tubs in a vinery or cool Peach house, and keep them as a reserve when the main supply gives out. At the time gathering commences the growth is kept on the move by placing the tubs in an early vinery or warm greenhouse.

The seeds may be sown now, thinly in drills being the best plan, also allowing ample room, 15 inches not being any too far apart. What is wanted is a sturdy growth. Although I raise the plants from seeds where the plants are to remain, some growers favour the practice of dibbling out healthy seedlings into their respective positions. During a favourable time the plants take quickly, but if a dry time should ensue they require close attention in watering. If it is decided to depend on Parsley which is now growing very strongly, the best course is to cut over a part during the early days of September, when the resulting growth will be such as will enable it to stand successfully, that is, if adequately protected. A dressing of lime on old garden soils overcharged with humus through years of manuring will prove very beneficial to Parsley.

A. Y. A.

### NOTES FROM OAKWOOD.

TO THE EDITOR OF THE GARDEN.

SIR,—Among plants which are considered as being not very easy to grow successfully, *Primula Reidi* in a cool, damp situation, *Lewisia rediviva* in good loam, *Cypripedium acaule* (large form) in moist vegetable soil, *Onosma tauricum* on dry banks, have been very fine this season at Oakwood. *Ranunculus parnassifolius* has smaller flowers than usual, probably owing to the drought. *Arnebia echioides* in exposed situations stood the two last winters well. When lately showing some plants of this to an old Indian general, and telling him the usual story, he gave me a new version. Thinking it to be an improvement on the old one, I asked to have it in writing. I give it as he kindly sent it to me in his own words:—

In the trans-Indus country of our Indian possessions a flower grows wild in great profusion, both in the Peshawur and Eusoofozaie districts, which reminds one to a certain extent of our English Cowslip. The natives of these districts, almost exclusively Mussulmans, call it the "Mohammedie Phul," which we have anglicised into the "Prophet Flower." When in the Peshawur district many years ago I made friends with a man of the local police, who told me many interesting stories and legends which had come down *vivâ voce* from ancient times. My good friend Gul Khan amongst other things told me of the origin of the name given to the above flower. It was to the following effect: Before their great Prophet Mohammed had fairly established himself in power and importance, in one of the ups and downs of his earlier fortunes he had been compelled to fly for safety into the

desert, accompanied only by a few disheartened but faithful followers. There as they rested on the dry, barren, and scorching sand, discontented murmurs arose amongst his companions at the hardness of their lot, at their being compelled to take refuge in such a forsaken spot; not a blade of Grass to be seen nor a drop of water to be had; a spot cursed of God and avoided by man. The Prophet, hearing the words of despair and faithlessness, roused himself from his apparent sleep or abstraction, and striking his open palm on the parched and burning sand, up sprung at once a green and fresh-looking plant bearing pleasantly scented flowers, each yellow blossom having a dark spot on every one of its five petals. Mahommed then rebuked his murmuring followers. "See," said he; "the power of Allah, even in this barren spot, can produce this flower, and cannot He again restore our fortunes and rescue us from our present state of misery?" The flower is therefrom called the "Mohammedie Phul," and the five brown spots they say are the marks of the thumb and four fingers of the Prophet's hand. This flower grows amongst the hard and stony tracts of the Peshawur valley, as well as upon the richer soil of the Eusoofozaie. Marching at night, I have perceived its pleasant scent when crushed under foot by the troops. The seed-pods are harsh and bristly, making one's fingers quite sore in collecting them.

GEORGE F. WILSON.

**Genista virgata.**—Some remarkably fine examples of this shrub, scattered about the arboretum at Kew as well as in the collection of leguminiferous plants, are making a very fine show just now. In the adult stage the species is a widely spreading shrub, some of the specimens being 12 feet in height and as much in diameter, the whole plant being a mass of bright yellow flowers. I am told by a friend who sees a good deal of English gardens that this *Genista* is very rarely to be met with, and scarcely ever so fine as it is at Kew. Considering that the soil there is of the poorest, sandiest description and that the plants take their chance along with other shrubs without any special attention, it is evident that the species is deserving of a much wider cultivation. For those who have to deal with a hot, dry soil it is likely to be of especial value.—B.

**Cottage garden societies.**—Looking over a large number of allotments, I think some eighty-eight in all, and comprising an area of about 14 acres, in the county of Surrey, I recently observed that in some cases more attention was being given to the production of specially fine samples of vegetables for exhibition than for the production of good average useful crops. It is not possible to favour that form of cropping, and perhaps it is one of the evils which grow out of the present method of awarding prizes at flower shows. It seems impossible to devise any means by which the giving of the best prizes to the largest products can be avoided, even though they may have been produced by methods not to be commended. It should not be possible, however, to encourage errors of this kind when prizes are awarded for the best kept and cropped allotments, because all crops which exhibit the form of treatment complained of, viz., seeking to produce merely large samples at the expense of usefulness and average quantity, should obtain black marks rather than commendatory ones. It is a fact that these allotment gardeners are after all but following the example set them by professional gardeners, who, if exhibitors of vegetables, invariably devote much more of relative space and high culture to the crops intended to produce exhibition samples than they do to their average or main crops. But these exhibitors again are to some extent the victims of the system of judging vegetables which always puts size or bigness or bulk before other considerations; the whole practice tends to encourage an artificial system of vegetable culture, which does not result in the production of the most useful or profitable crops.—A. D.



## GARDENS IN JAPAN.

By MRS. ERNEST HART.

SITTING in my English garden on this lovely April day, the warm sunshine of a genial spring gives the earnest of summer and banishes care. The lowly Violets, half hidden among the dark green leaves, are scenting the air with perfume; the Daffodils and Jonquils and Primroses are yellowing the beds with golden blooms, while from among the still leafless trees the snow-like blossoms of the Plum trees are tossed out in flakes of white against the blue sky. Blended with the gentle sighing of the wind through the branches of the big Elms, which shelter the garden on the west, comes the sound of the happy singing of the thrushes, and blackbirds and robins; and from the sunny slopes of the

informed that this date was that on which in the calendar of flowers the Cherry blossoms would be in full bloom. We were not disappointed. Arrived at the station, our party, consisting of seven persons, were each deposited in a jinriksha, the little hand cars which do duty in Japan for cabs and omnibuses; the luggage was packed into five other jinrikshas, and to each little car were yoked two runners, tandem fashion. When all was ready, the runners, leading with the heaviest member of the party, and followed by the long single file of jinrikshas, proceeded at a pace of not less than eight miles an hour through the dark narrow streets of Kioto. We sped along, the silence of the night broken only by the shouts of the runners to each other or to the foot passengers, between rows of low wooden toy-like houses, beside narrow canals, in the

Cherry trees, beneath which were spread the low tables or platforms on which the light-hearted people were seen sitting at their picnic feasts, lit by paper lanterns swinging in the night air. Passing slowly up among this crowd of pleasure-seekers, we came suddenly upon the pride and glory of the Cherry gardens of Kioto. This is a tree as large as an English Oak, well grown and strong, and planted on a raised circular mound. It was thickly covered with thousands of white blossoms, on which was thrown the intense white light of a hidden arc electric lamp. Around the tree was a wide circle of seats on which the people sat, and looked and looked, and enjoyed this wondrous bouquet of multitudinous white flowers scintillating in the light against the impenetrable depths of blue of the sky at night. Happy people, to find their chief enjoyment in Nature's bounty of flowers.

We stayed a fortnight at Kioto, and visited every day and at all times the Cherry-blossom gardens, and watched the people at their simple pastimes and even joined them in these. Now and then, loitering with sketch-book in hand, I would stop to draw the winsome children in their many-coloured kimonos and sashes, and would be invited, on presenting the sketch to the proud mother, to exchange cups of saké and to eat sweetmeats at the picnic-table; or we would join a lively party of Japs in their favourite game of scissors and string, which, owing to its being simply a game of the change of the position of the fingers, can be played perfectly well and with much amusement between persons who do not understand a word of each other's tongues. There is indeed nothing so interesting and surprising to the English as the simplicity and poetic refinement of the popular pleasures of the Japanese. The festivals of flowers are their Bank holidays, and on these occasions the workshops and factories are closed, and the people



Iris time in a Japanese garden. Engraved for THE GARDEN from a photograph sent by Mrs. Ernest Hart.

ridge on which I write the distant woods and hills are seen only to be lost in the grey luminous mist of an English landscape. Surely no land is so fair as England! but while enjoying the subtle beauties, the tender harmonies, the quiet sense of restrained joy of this English spring day, my mind—wary of forecasting the inevitable cares and toil of the future—wanders back dreamily over the past, and memory recalls the recollection of this day year; yes, this very day, on which in the course of a tour of never-ending pleasure in Japan we entered Kioto.

Our arrival at the old royal city was one of the most picturesque incidents of a tour full of memory-pictures. We had been all day long travelling by rail from Nagoya, and had reached Kioto after dark. We had timed our journey so as to arrive at the city of flowers on April 7, having been correctly

still waters of which were reflected here and there coloured paper lanterns hung out in honour of the festival of flowers, rounding sharp corners, but never slackening speed, till suddenly we turned out of the narrow silent streets into the broad avenue leading to the park and gardens around the ancient temple of Chionin. Here all was light and life and movement. The roads were thronged with men and women dressed in the national costume; the girls and children were arrayed in the brightest of kimonos and obis; among the crowd passed the brilliantly dressed and flower-crowned *geishas* or dancing girls of the *miyako dori*, and all faces wore the look of careless happiness and gaiety. Beneath the great red carved gateway of the temple braziers flamed on tall tripods. From gardens on all sides gleamed in the uncertain light the white blossoms of the

are *en fête*.

The Sunday before we reached Kioto was the fête day of the Cherry blossoms at Tokio. A more beautiful and interesting spectacle no capital in the world can produce. The Ueno Park, which resembles somewhat our Kensington Gardens, but which has been planted chiefly with Cherry trees, so that their blossoms can be enjoyed by the public in the spring, was full of holiday folk "come out to see the flowers." The leafless trees, many of which are of immense size and age, were covered with white and pink blossoms, and under their spreading branches and the thick canopy of flowers wandered the family parties, hand in hand, happy, free from care, and dressed in their brightest costumes, or they were quietly dancing with the grave and graceful postures characteristic of the art in Japan.



Not only, however, at Uyeno, but also out on the banks of the broad river do the people congregate on this fête day of flowers. Here immense trees of untold age lean their gnarled and crooked trunks over the banks of the river, and the branches, powdered with snowy blooms, shimmer in the summer air. I will not deny but that the untamed brutality of human nature did not even here, in this beautiful and poetic festival, make its appearance, and the grotesque and annoying burlesques of the "saké men" were the single blot on this fête of flowers; but these "saké men," mostly foolish boys who drink in order to amuse the still more foolish by their antics, are not comparable with the "drunk and incapable" of English holiday-making.

Next to the view of the snow-crowned peak of Fuji-san, there is no scene which furnishes so frequently a subject for Japanese paintings on fans, crêpes, and kakemonos as the blossoming hills of Arashiyama. Kioto lies in a plain sheltered east and west by ranges of mountains, across which it was thought in the olden days the evil demons had been driven, thus leaving Kioto secure as the city of pleasure, of flowers, of dancing girls, and of the peaceful arts of life. Rising among these hills and flowing in a broad bed along their base is the river of Katsura-gawa. To descend the rapids of this river is one of the exciting incidents of a sojourn at Kioto. After a long drive in a jinriksha across the flat plain gleaming yellow with the flowering crops of Rape, we arrive at a spot where the river was navigable *à la Japonnaise*. The river flows deep and swift between steep hills of about 1000 feet in height. While waiting for our men, we watch from the banks a long row of bare-legged boatmen towing a boat against the stream, and guiding it between the huge boulders which cumber the bed, while the quiet valley resounds with their shouts and laughter. This scene is so frequently a subject of design with the Japanese, that we are suddenly reminded of many kakemonos, inros and kodsekus depicting it. We cannot loiter, however, as we have to make a seven miles' journey down stream. We enter our boat, and with one boatman at the bow and another at the stern, each furnished with a long pole, we steer out into mid-stream. The craft is instantly caught by the rushing torrent, and we are borne along between boulders and around sharp corners with a speed which gives the sense of dangers constantly met and overcome. Though the sides of the boat graze the edges of the narrow rocky channels, and though its single-boarded bottom moves up and down from the swirl of the waves beneath, a sense of security is soon attained by watching the skilful steering of the boat. I have descended the rapids on the Wye, at Killarney, and on the river St. Lawrence, but I never experienced such mixed sensations of danger and safety as when shooting the rapids of Katsura-gawa. For seven miles the river bore us along on its foaming surface, then suddenly the torrent widens out into the smooth still waters which wind beneath the heights of Arashiyama. On one

side of the river rises the far-famed woods aglow with the pink Cherry-blossom; from the other bank stretches the broad plain, and the edge of the river is bordered with Tea houses and gardens. Up and down the placid stream float the pleasure boats of the Japanese who are making spring holiday.

There is in Japan a calendar of flowers, and each month has its festival. In March it is that of the pink Plum blossoms; in April the Cherry trees are in bloom; in May all the hillsides are ablaze with the scarlet Azaleas, and the Wistarias are hanging their long lilac blooms over trellises in the Tea gardens, or from the trunks of trees in the woods; in June the tall Lilies and Irises are scenting the air; in July the Pæony gardens are visited for the sight of the exuberant blooms; in August the lordly Lotus covers all the muddy pools with splendid flowers and leaves, and ladens the heavy air with sweet perfume; in September the Maple reddens the mountain-sides; later the Chrysanthemum heralds the winter, which is also not devoid of flowers, for before the frosts and snows have disappeared, the red Camellias, growing on trees as large as our Hawthorns, are brightening the woods with their ruddy blooms. Of the

#### WISTARIA GARDENS

I must say one word. It was in May, the month of months all the world over, when I went one brilliant Sunday to Kameido in Tokio to see the famous Wistaria gardens. These gardens are situated on the confines of the temple grounds, which are always the scene of the happy innocent amusements of the Japanese, their religion and their worship not being of the kind to induce to gloom and apprehension, but leading them to make the best of everything in the best of all possible worlds. A bridge, which describes more than a semi-circle, and which it is one of the mild jokes of the place to traverse, connects the temple grounds with the Tea gardens. The bridge spans the narrow neck of a pool or pond, around and overhanging which are set the booths where the happy people picnic. The gnarled and twisted branches of the ancient Wistaria trees form the roofs, and under the flickering shadows of the long lilac blooms, which hang in abundant masses 2 feet and 3 feet deep, the bright-eyed *musmes* and the winsome children sit on their heels eating sweetmeats out of little lacquer picnic boxes; or leaning over the parapets they clap their hands, at the sound of which huge golden carp as large as salmon-trout lazily come to be fed with biscuits and bonbons. Words fail to convey an idea of the brilliancy of the scene. The radiant air, the luxuriant wealth of flowers, the soft brilliant colouring of the women's dresses, the many-hued lanterns, the *va-et-vient*, the laughter, the gaiety, and the careless happiness of the whole combine to make a scene never to be forgotten.

The art of gardening is, however, cultivated in Japan not only by public bodies, or solely as a means of providing public amusement

and recreation, for it is an art dear to the heart of every inhabitant of the land of the Rising Sun. Every Japanese, however poor he may be, however small may be his house, strives to reserve some little space which would be in England relegated to the uses of a backyard, dustbin, and rubbish heap, to the laying out and cultivation of the traditional garden. This is, as everything else in Japan, unique. In the traditional garden should be found a miniature stream flowing between rocks, crossed by one or more tiny stone bridges and bordered by low Pine and other trees, which are not allowed to grow their own sweet way, but are trained to bend and reach at abnormal angles over the shallow stream, in the water of which a few tame carp are always to be found. Blossoming trees and shrubs fill up the space, and among them is always to be seen the stone lantern, in which on certain occasions a lamp is placed, with the object, it is said, of lighting the soul back to its old home on earth. In many such gardens, adjoining the paper-walled workshops where the patient Japanese produce their marvels of art workmanship, have I had the processes of manufacture explained or demonstrated to me, or the objects brought out to be photographed.

But *mignon* as are most of the gardens in Japan, *mignon* like the people and their houses, and expressive as everything else of the refinement, the absence of care and the repose of their lives, there are yet many gardens and parks which are as extensive as those in England. The great enclosures of the Daimios during the old *régime* of the Shogunate, most of which have become public parks, the silent groves around the Shiba Temples, and the extensive gardens of the Mikado's palace at Tokio testify to the fact that the Japanese can conceive and carry out a grand scheme of a garden.

Among many beautiful private gardens I may mention, however, that of Count Matsura at Tokio, which was a celebrated garden before the city of Tokio was built. Here a lake takes the place of a pool, and forest trees overshadow the blossoming Cherries, and a tea house and boat house bear witness to the thorough enjoyment of life in a garden.

In Japan, though flowers are adored, hot-houses are unknown. With a taste as correct as it is refined, the Japanese do not aim at cultivating the rare, the costly, and the novel, but at taking the common flowers of their country occurring in their natural sequence, and by care and cultivation making them the sources of national enjoyment.

Thus the Cherry trees in bloom, which in England can only be seen in our kitchen gardens, are deemed in Japan a sight worthy of the Mikado to invite his guests to view.

**Plants for a bank.**—Has Mr. Tallack tried any of the Helianthemums upon the bank in question, because if they would do he could not possibly have anything prettier or more showy when in flower as at the present time? The aspect is just the right one, and I should certainly advise him to give them a trial. *Centranthus ruber* is a glorious plant for the spot if the soil will suit it, but as to





MIMOSA PUDICA

1833







that I do not know. Those who have seen it full of bloom upon steep chalk escarpments along our southern coasts know what a brilliant effect it produces where few things could even live. Where the trees overhang I should try the fetid Hellebore. It is one of the handsomest hardy fine-foliaged plants in cultivation, and with me upon a poor gravelly bank grows vigorously. Its foliage may be found useful in many ways along with cut flowers, especially in the winter months when outdoor leaves of a suitable character are scarce. *Coronilla varia*, too, might be tried. In good soil it is rather difficult to keep it within bounds, as it runs far underground. *Lathyrus grandiflorus* and *latifolius* and vars. if they could be established would be charming.—A. H.

## GARDEN FLORA.

### PLATE 864.

#### ACACIA DEALBATA.

(WITH A COLOURED PLATE.\*)

THE Silver Wattle of Eastern Australia is one of the most beautiful trees which we owe to the Australian Continent. It is now a well-known tree in sub-tropical countries all over the world wherever the soil is suitable, forming trees 50 feet to 100 feet high, and flowering most profusely in spring. In some of the towns bordering the Mediterranean, especially Cannes, it is largely grown as a garden tree, and is even a considerable source of profit to many who send its elegant and deliciously fragrant flower sprays to the markets of London, Paris, &c. Its leafy branches have been aptly likened to ostrich plumes and its flowers to great golden thyrsi. It does not blossom freely until it has grown to the dimensions of a large bush or small tree, so that except for large conservatories it is not as useful in English gardens as many of the Australian Acacias, which grow and flower profusely in 6-inch pots. Planted out in a large sunny greenhouse and kept pruned into shape it grows rapidly to a large size, and as it produces its soft yellow flowers in March or April it is of special value in such houses. In the temperate house at Kew it has been one of the principal spring attractions for many years, failing only when the fogs have been severe, and even then one of the specimens has not been deprived of all its charms, but has flowered freely in spite of the worst of London fogs.

There are places in England, for instance Cornwall and the Isle of Wight, where the Silver Wattle grows to a good size in the open air, and is a success except when a severe frost comes and cuts it down to the ground. But although the stem succumbs, the roots escape, and from these numerous new shoots spring up, so that if favoured by a succession of mild winters a grove of saplings is soon formed where the original one stood.

In Cannes the Silver Wattle is perfectly at home, the soil there apparently being exceptionally favourable to this tree. At Nice and several other towns on the Riviera the tree refuses to grow, and this behaviour is accounted for by the difference in the soils, that at Cannes being a micaceous schist, whilst in Nice, &c., lime is present, and, as is the case with many other hard-wooded plants from Australia, lime is distasteful to the Acacia. According to Alphonse Carr, a line 1 yard wide may be drawn between Nice and Cannes to mark the boundary of the Acacia.

\* Drawn for THE GARDEN by Gertrude Hamilton, from flowers sent by the Hon. P. Glyn, Rook's-nest, Godstone, Feb. 20, 1892. Lithographed and printed by Guillaume Severayns.

In Australia *A. dealbata* grows in swamps, where in favoured situations it attains a height of 150 feet. Its bark is imported into England along with the bark of other species of *Acacia* for use in tanning skins, and it is one of the plants which furnish gum arabic. In THE GARDEN for 1885 (p. 541) a plate will be found representing two other handsome garden Acacias, viz., *A. leprosa* and *A. lineata*, and accompanying it is a descriptive account of some of the best of the species known in England. These are *A. armata*, *A. Drummondii*, *A. grandis*, *A. lineata*, *A. leprosa*, *A. longifolia*, *A. platyptera*, *A. Riceana*, *A. verticillata*, and *A. dealbata*. Many more handsome species could be added to this list from the Kew collection—an exceptionally rich one—but they are not in general cultivation. Acacias are a great deal more serviceable in the garden than many people are aware of. They may be used for draping pillars, covering walls, training against roofs, or as specimen bushes, and they are really excellent for any of these purposes. They like plenty of moisture during summer, all the sunlight possible, a peaty sandy soil, and to be kept clean. They will bear any amount of pruning; indeed, they grow scraggy and unsightly if not pruned in well every year immediately after flowering.

W. W.

## FLOWER GARDEN.

### THE GLADIOLUS.

It was with a certain amount of grim satisfaction that I read "J. C. C.'s" sorrowful plaint over his losses in Gladioli. This was occasioned not by what Montesquieu cynically calls the pleasure of seeing other people's troubles, but because a few years ago he was in the habit of writing in a somewhat superior strain about the matter, and I remember once, after describing a visit to Mr. Kelway's, where everything was *couleur de rose*, that this credulity about losses was the more evident. He thought that when we complained of losses it was all our own fault, and that if we would only have a little care, we might avoid them. It was, of course, of no use to say that every amateur grower whom I had known had, by continuous losses, been obliged to give them up, as he found it was of very little use to be buying in bulbs which he lost by some means or other, and "J. C. C." now finds himself unkind with those who have found that it is a hard fight. After many years—more years than any amateur in England—acquaintance with the bulb, I have arrived at some conclusions which I think to be sound, but which must be taken for what they are worth.

In the first place, I am convinced that a light soil is about the worst that Gladioli can have, and that a good unctuous loam is what suits them to perfection. Of course they can and do accommodate themselves to various soils, but this is the soil they prefer; and wherever Roses and Strawberries are at home, there the Gladiolus will be at home also. It used to be thought differently, and I was one of those who believed and acted on it, but I am sure now that soil such as Mr. Burrell possesses at Cambridge or Mr. Lindsell at Hitchin is the soil in which they rejoice. In the second place, they will not stand being grown on the same piece of ground year after year. People will say, "Of course not; nothing will;" but I have seen in our cottage gardens large crops of Potatoes taken off land that has been for thirty years or more bearing the same crop, and, strange to say, not a bit more

subject to disease than in gardens where the rotation or change-of-crop system has been adopted. A relative of mine whose garden was small grew Gladioli well for some years, but ultimately he too failed, from, I believe, this very cause. I am myself compelled to do much the same, and attribute some of my losses to this, for I think the Gladiolus is specially susceptible to this kind of treatment. I have this year adopted the plan of taking out a quantity of the soil and putting some fresh loam in its place, and am curious to see the results. I believe one great secret in the success of large growers like Mr. Kelway is that they have ample opportunities for this change, and my old friend Souchet used to allow the piece of ground where he was going to plant to lie fallow the year before. The fact has been generally admitted which "J. C. C." has found out that great losses which cannot altogether be accounted for do occur amongst the bulbs. Some say it is degeneration, some exhaustion, and others disease, and I do not think it very much matters to what we ascribe it, as there seems to be neither prevention nor cure. The course of propagation is, as some seem to be ignorant of, that each year the old corm dies and a new one is formed on and above it, while a number of small bulbs, differing in their quantity according to the variety, are formed around the base. Now this new corm is taken off the old one it is grown on, a condition which would not be the case in its natural habitat. I should imagine that very probably the old corm dies out altogether, and some of the new bulbets take its place. Be this as it may, I am persuaded that the only way to keep up a collection is by growing on the spawn, as it is called, after a corm has been manipulated for five or six years. The record with most of us is that in some way or other it perishes, but the spawn of the same variety, yea of the same bulb, will give flowers as good as ever. Of all the varieties that M. Souchet has sent out during the last forty years or more—ever since, in fact, he began to do so—not one has been withdrawn from cultivation, and all can be obtained from any of the French houses who deal in these bulbs; hence I am convinced that what we want is to grow the spawn on, and thus make ourselves independent of the loss of the old corms and of any losses amongst them. The spawn vary very much in size, and consequently in the length of time we have to wait until they flower. I have known some to flower the first year, many do so in the second, and the majority will do so in the third. When they reach the second year without flowering, many of them will be about the size of a Walnut, and from these very fine spikes are often produced. The French say these form the best spikes, but then I do not think that they take anything like the pains we do in this country with their bulbs; and, as with Hyacinths, I have seen great surprise expressed at the grandeur of the flowers exhibited by our principal growers.

But to me the most amusing part of "J. C. C.'s" contribution is that wherein, as if in palliation of his own losses, he alludes to an amateur in the west of England, who has taken the principal prizes at the exhibitions held there for the last three or four years, who has experienced such heavy losses in his bulbs, that he has been obliged, in order to replace them, to send to France for a fresh supply. As I know these exhibitions pretty well, as I am always present at the principal one (that held at Taunton), I know that there is but one person to whom this description can apply—Mr. W. Herbert Fowler, of Claremont, near Taunton. I do not know from what source



"J. C. C." has obtained his information. Mr. Fowler is a most successful grower of this flower, as he is of most things that he undertakes. I saw his garden last year when his plants were in full vigour, and possessing, as he does, an admirable soil and situation, his beds were a sight that anyone might well envy; and in a letter which I had from him the other day he tells me that he had planted his bulbs in fine condition, and that his losses have not amounted to 1 per cent. As to his obtaining bulbs from France, I can only say this, that as I have obtained them for him each year, what he had were not old varieties to replace his losses, but new varieties, of which we shall hear more by-and-by; so this airy dream may be dismissed with a smile. I ought not to find fault with the blunders of "J. C. C."; he made a similar misstatement with regard to Mr. Fowler's losses some three years ago in Tea Roses, and I alluded to this in a communication in which I expressed my surprise, as I thought the locality one especially adapted for Tea Roses. This brought me a letter from him, in which he stated that it was quite incorrect. This instituted a correspondence, in the course of which he asked me to come and see for myself. This I did, and it led to a friendship which I very much prize, and which I hope will long continue. It was, perhaps, natural enough for anyone hearing that he had obtained bulbs from France to connect that with supposed losses—another instance of the danger of drawing conclusions from insufficient evidence.

I am inclined to think that it is better to have a dry season after planting than a wet one. It is better for most bulbous-rooted plants that they should not have too much wet until they have emitted roots and before they begin to send out their flowering stems. It is a mistake to suppose that the French growers are independent of weather. No doubt the soil and climate of Fontainebleau are favourable to the growth of these bulbs, but they too have exceptional seasons, and I shall be curious to see what the effect of this season will be on them, for we hear that there has not been such a dry spring in Paris for 150 years, and that neither in April nor May had half an inch of rain fallen, and Fontainebleau is not very far from Paris.

Of course it is a matter of regret to have to write anything discouraging concerning plant so beautiful and useful as the Gladioli, but, on the other hand, the great reduction in their price enables a grower for a few shillings to recover his losses; while if he chooses to raise seedlings, he is pretty sure to get something that will please him.

DELTA.

**Chrysogonum virginianum.**—One hears good accounts of this, and sees it doing well wherever it has been given a proper place in a deep seam of good loam. Than this much-branched and five-months-flowering plant, of but 15 inches or 18 inches stature, nothing could be better where a piece of orange-yellow is in request. The flowers or heads are small and star-shaped, and otherwise the plant is distinct, not to say singular.—W.

**Anemone alpina.**—The yellow form known as sulphurea may have the more numerous admirers, but a bold plant of this, the white type, is a glorious thing in May and early June. I daresay it is because it flowers earlier than the yellow, and so escapes the notice of the chief visitors to the alpine meadows of Switzerland, that it is not so much grown and appreciated at home as it is justly entitled to be. The monster big cup-like flowers, half filled with golden anthers, wave

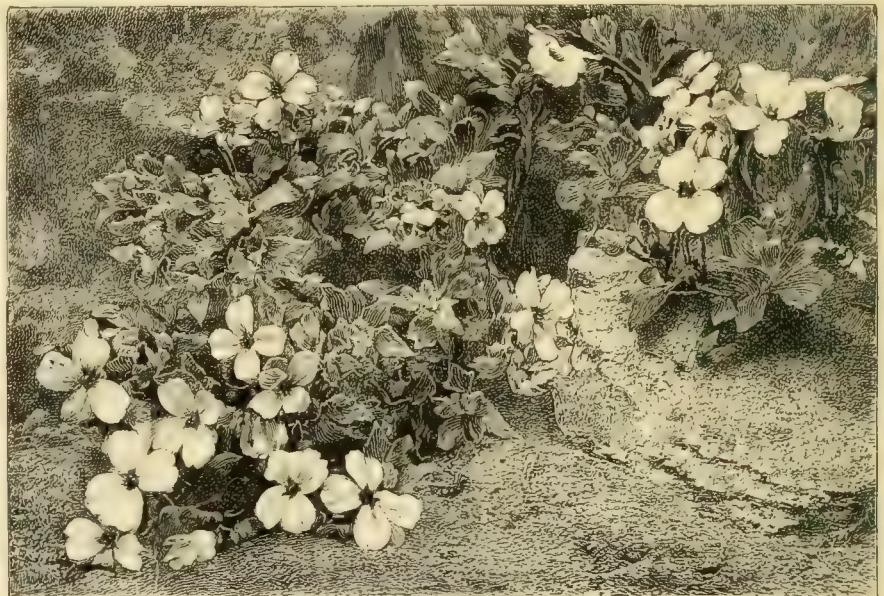
majestically over the very ample feathery foliage. But to have this as well as the yellow kind at their best they require rich deep soil and plenty of patience, for they go on improving for quite seven or eight years, so that you can form no idea from young plants of what a show the species is capable of producing. I believe I am right in stating that well-cultivated plants are finer than wild ones in their native homes. A peculiarity about the transplanting of this species is that you not only do not gain time by setting big roots, but that such often refuse to grow, and rarely attain the vigour of young seedlings whose roots at planting time may be all fibre, i.e., not have reached the state of a woody root-stock.—J. W.

**Ramondia pyrenaica.**—It would appear that this is a very variable plant. In looking closely over a lot of wildings I find great diversity in the foliage as to shape, texture and veins or wrinkles. These of themselves might not have meant much, but the plants, one after another, send out flowers, and the variability of the species is further confirmed. Some flowers are quite white, and there are intermediate shades from white to lavender. I dare say the blue tint may be weak, owing to the plants

generally called, also does fairly well. The above with Croussi, platypetala fl.-pl., are the kinds we grow. They are planted on an east border, fairly shaded, and I keep them mulched with cocoa-nut fibre refuse. It is a pity they do not succeed generally. I know a nursery where all the kinds grow freely planted between the rows of young Apple trees. The foliage of the trees affords a nice natural shade throughout the summer months.—A. Y.

### AUBRIETIAS.

THE purple Rock Cress in its numerous varieties forms a very charming and valuable group of trailing rock plants. It is a native of the high mountains of Southern Europe, and perfectly hardy even in the most severe winters. A plant so accommodating and yet so beautiful is naturally popular, and few rockeries are without their selection of the varieties of *Aubrietia deltoidea*. These varieties were of different shades of purple until the advent of A. d. Leichtlini, named in honour of Herr Max Leichtlin, who has done so much for plants



*Aubrietia purpurea.*

having been moved when the flowers were ready to push, and possibly those that now appear white may not be such when in full vigour. Still there is evidence that in a wild state the species is very variable. It has been proved that in some gardens nothing less than very special requirements in the way of shade, position and moisture will satisfy this plant, whilst in other gardens it may be set and will prosper with the most ordinary treatment; so that it is not only a question of what its special requirements may be, but also of the conditions of the garden intended as its home. Is it not so with a great number of reputed fickle alpine?—J. W.

**The double white and other Primroses.**—I can heartily agree with the high praise which both "D. T. F." and "J. C. B." bestow upon this grand old Primrose. It is the freest grower of all, and as far as our plants are concerned they even outvie the old single yellow in this respect. During the past spring our plants were literally smothered with the pretty white rosettes. The double yellow, as stated by "D. T. F.," is our next strongest grower, but does not bloom so freely, the double-purple being better in this respect. The yellow I received for Cloth of Gold, but whether it is the true old form I cannot say, but I fancy not. Crimson Velvet, or the old double crimson as it is

in general and Aubrietias in particular. The indomitable courage and perseverance of Max Leichtlin will be apparent when our readers learn that he has set himself the task of producing a red Aubrietia, and between that and A. Hendersoni, his starting point, A. Leichtlini is certainly more than half way. It has taken twenty years hybridising and selection to produce A. Leichtlini, and it is well worth the time and trouble, as no prettier or more elegant trailing rock plant has yet been seen in English gardens. A. Hendersoni or Campbelli was the best variety until Max Leichtlin introduced violacea, a handsome variety of a varying purple-violet shade. The next step was Leichtlini rosea, and finally Leichtlini. We are anxiously awaiting further developments, and hope soon to see a real red. One of the earliest to bloom is A. græca, with pale purple flowers and a dense close habit, followed closely by A. taurica and A. Pinardi, a form with glaucous leaves and lilac-purple flowers. A. Bougainvillea, with light violet-purple flowers and a dense habit of growth, is a very useful rock plant, and one that is often found on rockeries. A. Eyrei, A. purpurea, A. columnnea, A. hesperidi-



*folia*, Mooreana and a host of other forms all present some feature of interest to the lover of these charming alpine. They are amongst the first flowers to greet us in early spring in the rock garden, and they are prominent even now. K.

#### NOTES ON HARDY PLANTS.

**Aster alpinus ruber.**—The name of this may not sound tempting, rather suggesting perhaps an approach to the objectionable magenta, but when the flowers are seen the shade is a most pleasing one. It might be described perhaps as satiny bright rose at least, this description of colour applies to plants here. I have raised it from seed, and though the species is known to be a very variable one, my seedlings have come fairly true. The object of this note is to strongly urge the merits of a plant whose name may in a measure mislead. It is not merely a good alpine, but a truly exquisite flower.

**Dianthus neglectus.**—My mind is more than ever made up as to the uselessness of trying to keep strictly to the type, if indeed we have one type better defined and authorised than others that have also been described. One may raise this plant from seed, and though the chief botanical features may be present in most, or perhaps all, there is a wide variation in colour, stature, and habit. Fortunately, however, one cannot go wrong with this beautiful alpine, as all the forms are good.

**Inula glandulosa.**—I never had this in better form than at present. Where this is well grown it is one of the grandest flowers for outdoor cultivation. Here again, however, we are bothered with varieties. In my view *I. Hookeri* is far behind the older type. The older plant is sturdier, dwarfer, has bigger heads, and deeper old gold-coloured florets. The reason of many of the heads or buds going blind is largely due to the maggot. This should be hunted for scrupulously at the earlier period of the formation of the buds. Another cause of blindness may be traced to a very hot day, when the plant, which is peculiar for its very free evaporation of moisture, very soon shows distress, and when once the buds are severely stricken with drought the stems may come all right again, but the flowers do not come forward. I always give special instructions for this species to be abundantly watered, though the rule with me is never to water old-established plants.

**Saxifraga La Ga Dauphane** (Maw).—This is rather a pretty miniature form of the Aizoon section. The habit of the plant, with its very symmetrical and silvery rosettes, is always pleasing, and the constitution of the plant is faultless. Just now it is in bloom; the rudely stems are only 6 inches high; the four or six flowers on each stem are creamy white, thick and wax-like and large for so small a plant. A more distinct feature is that the globular buds are prettily pink-tinted, which, toge her with the red stems and silvery setting, makes the plant attractive and even showy among allied sorts.

**Primula suffrutescens.**—When the older foliage of last year has mostly gone black and crisp and the stems become ripe and almost woody, there ought to be a complete set of new and bright green foliage, say, in May or June. This will be the case if the plants are healthy. If the object is more to see the plant in its natural form, *i.e.*, with woody forking stems with tufts of fresh foliage on the points, and also the sooner to have flowers, leave the plant alone; but if you wish to grow the plants vigorously and first make them into good-sized specimens, at once earth up the riper portions of the stems with some loam, peat and grit. Into this new soil stem roots soon push and the plant goes on and makes another growth before winter. This little tree-like *Primula* likes deep loam of a free texture and full exposure to sunshine. It makes an enormous amount of long stringy roots, which, unlike those of some other species, do not die in

rotation every two years, but keep alive and active for at least five years to my certain knowledge.

**Galax aphylla** is splendid this summer. It is one of those very hardy and distinctly beautiful plants which strikes the most cursory observer. It is showy the whole year round, but when its bright red brown leaves of leather-like substance have their rich colours heightened by the straight spikes of white flowers lasting for many weeks, the plant is indeed charming if but of humble stature. To let this uncommon plant have a moist position and the handful of sponge-like peat, affords an instance of the ample returns which some plants give us for a little thoughtful care. With these simple helps the plant does well here in the ordinary soil of the place. I have seen it well done in boggy beds of peat amply prepared, but it is sometimes useful to know the minimum amount of care with which questionable plants may be successfully cultivated, or at least the reader modes of treatment that will answer for them generally.

Woodville, Kirkcaldy.

J. WOOD.

#### HERBACEOUS PÆONIES.

Of hardy flowers in the open ground at the present time, there are none so beautiful as herbaceous Pæonies. Among the flowers will be found every conceivable shade of crimson, purple, lake, cerise, carmine, together with the equally beautiful and more delicate shades of rose, pink, blush, flesh and satin-rose. And then there are those with sulphur tints as well as those of pure and spotless whiteness. Fine massive white varieties exist too, as in the case of *festiva maxima*, having some of the inner petals occasionally margined and sometimes flaked with carmine. This is so good and distinct that no collection is complete without it, and one that everyone who sees it requires; consequently, though among the older kinds, it is still among those highest priced. Independently of the distinctive shades of colour above named, many varieties combine two or more shades. Another very pleasing feature to be found in many kinds is their fragrance, in no case overpowering, thus adding an additional charm to a group of plants which in their day are without an equal in the hardy flower garden. But with all their beauty, it can hardly be said that Pæonies have had either the popularity or the general cultivation to which, I feel sure, they are justly entitled, for it is rarely one meets with a good collection in private gardens. This may to some extent be accounted for, owing to the length of time the plants take to grow into size after planting. This varies from three to five years, according to the size of the plants themselves. This fact, again, may in not a few instances prevent their being planted in the open beds in the first instance, which is by far the best place for them; and consequently they are for the time being grown in the reserve ground till sufficiently large to occupy permanent beds. This, however, is a mistake and involves replanting them, which means the loss of one year more. Frequently I have seen them in shrubberies with scores of thin flowerless growths in them, causing annual disappointment to their owners. The worst place for Pæonies is the shrubbery, particularly where the plantation does not receive due care and is backed by trees of larger size. Pæonies, to do them justice, delight in, indeed must have, the richest of soils, and in all cases where possible be supplied with abundant moisture in summer. Avoid moving them when once well planted, for they will go on year after year rooting deeper and deeper and increasing the number of their rich and beautiful flowers annually. Let them in all cases occupy their permanent quarters where first planted, and if this should happen to be in a conspicuous spot on the lawn, there are plenty of things to carpet the ground and flower freely enough till the Pæonies are deemed sufficiently large in themselves. Tufted Pansies are excellent for this purpose, and while delighting in the good soil at disposal, seem thankful for the partial shade from the Pæonies and are

benefited by the moisture applied to these plants. And if the eye tires of Pansies, these may give place to tuberous Begonias, Mignonette, Ageratums, Heliotropes or such things as are not deep rooted and are easily planted and removed. Those who require distinct kinds would do well to select them now they are in flower. E. J.

**Seedling tufted Pansies.**—Dr. C. Stuart, of Chirnside, N.B., sent me a few days ago a bunch of flowers of what he terms his *Violetta* strain of seedling tufted Pansies. Some are deep bright violet, others of lovely shades of delicate mauve, various shades of yellow, deep to pale, blue, creamy, and pure white, all of excellent form and substance, and all possessing this peculiarity, that they are perfectly self-coloured—that is, all the markings and lines usually seen round the eye have disappeared.—R. D.

**Drummond's Everlasting Pea under glass.**—Anyone having the wall of a conservatory to furnish might do worse than plant this Pea. Naturally it comes into bloom at the beginning of June, and under glass without artificial heat it will commence to show flowers from six weeks to two months earlier. When in full bloom this Pea has a very taking appearance, the colour being so unlike anything grown under glass at that time of year. I can only liken it in this respect to some of those pretty little greenhouse climbers, the *Kennedys*. I discovered its worth for this purpose quite accidentally. I happened to have a pot of seedlings too small to go into the open last summer, and this spring I put them into a large pot and placed it against the wall of a light lean-to house that was occasionally heated. For the last two months it has been quite a picture, and is but now going over. In the open this Pea is fine in bright weather, but a few days' rain tarnishes the flowers, which, of course, cannot happen under glass. I do not know how this Pea would stand forcing, to bloom, say, early in March, but I should think it would bear much more warmth than I have given it.—J. C., *Byfleet*.

**The great scarlet Poppies at Batsford.**—Lately we had the pleasure of seeing at Batsford Park an interesting example of the fine effect of the great scarlet Poppies in the wild garden. They occurred in large groups among the more vigorous plants seen from the very picturesque rock garden there. Words can give little idea of their brilliant effect, which is as good near as at a distance, the splendid scarlet flowers, in groups, telling well as far as one can see them. There being a winding valley of rocks, backed up by strong herbaceous vegetation and shrubs, the variety of surface is so great that one sees these great Poppies at various angles, thus increasing their beauty. At Batsford, owing to separate groups of the two kinds being planted in different places, one can see the two kinds are distinct enough to be particular about what we do with them, the splendid orange-scarlet (*P. orientale*) being quite distinct in its effect from the larger and more purplish red (*P. bracteatum*). This is another proof that differences which in botany may appear slight are often of much importance in a garden. All the Poppies here have been raised from seed—proof that it is easy enough to increase them if we cannot easily get roots. For association with the more vigorous perennials flowering in early summer, such as Lupines, Columbine, &c., there is nothing so fine. It is best to keep the two kinds as distinct and true as we can; hybrids between them and varieties are not wanted. Nothing can surpass the fine colour of the true wild forms.—*Field*.

**Dianthus alpinus.**—When all things are considered, this lovely alpine Pink is to my mind one of the best. In the first place it is more easily managed than some other of the very dwarf kinds, for example, *D. neglectus* or *D. Fischeri*. Seeds in good seasons are fairly plentiful, and though there is some variation in the seedlings, there is always the possibility of a superior form being added to the not very long list of this dwarf section. The glossy green tufts of which it is com-



posed render it quite distinct from any other. The flowers are well formed, of a deep rose, and spotted with crimson. When in good condition it rarely grows more than 4 inches high, but the flowers are as large as a florin. It is not very particular as to soil or situation, and though usually seen as a rock plant, I have never seen it in so good condition as when growing on the level ground. Some years ago I planted a batch of between 200 and 300 seedlings of this lovely alpine Pink, and the rapidity of their growth under these conditions surprised me. This in some measure proves that a rockery is by no means an essential part of its existence; indeed, I think lack of moisture on many so-called rockeries is the primary cause of failure with this plant. Where it is growing on the level ground this extreme dryness can hardly occur, and the only points to be aimed at are very firm planting and a position fairly well exposed. Apart from raising seedlings, any good form may be increased by cuttings torn off with a slight heel and inserted in moist sandy soil in a cold frame shaded from the sun.—E. J.

**English versus Spanish Iris.**—In reference to what is so well said at p. 512 on these plants, I should like to add that in my own experience *I. xiphoides* likes a deep and moist soil, even a bog rather than a hot and dry sunny border; whereas *I. Xiphon*, on the other hand, soon dies out except in the hottest and driest borders. They are fortunately both cheap enough to be grown by the thousand, but another charm is this, of their enjoying such diverse conditions, the one so opposite to the other.—F. W. B.

**Why "Windflowers?"**—Mr. Dod in his note on p. 542 appears (as Dr. Johnson says at the end of "Rasselas") to have "arrived at a conclusion in which nothing is concluded" concerning the application of the name to the flower. It is hardly plausible to suppose that anything relating to the ripe seeds (which do not come under observation for some good while after the flower has disappeared) gave rise to the name which applies to the flower. I am quite contented to believe that the circumstance of the plant coming into bloom at the time of the spring equinoctial gales very sufficiently accounts for its Greek name of "Anemone" or "Windflower;" and this would quite accord with Pliny's explanation that "it opens when the wind blows"—not every wind, of course, but the wind which occurs at the time when the flowers usually open, that is, the wind of the March equinoctial gales. Carpets of the *Anemone* coming into bloom and the stormy March gales are two things that would be almost certain to be noted by the ancient Greeks as recurring together every year.—W. M.

**Growing alpine plants in Sphagnum Moss.**—I was pleased to read the very practical and sensible remarks of Mr. Meyer (p. 553) on this subject. It may be that an all-year-round experiment of growing alpine plants in Moss at Geneva may have been found to be satisfactory, but do we require to manufacture vapour clouds in England? It is quite clear that the modes of treatment of plants needful in sunny Switzerland are not fitting for us, even when they are less extreme than is the case with Moss in place of soil and grit. As a rule, damp both in the air and ground is our chief cause of failure, at least in winter. Why then intensify the dampness. If you grow the alpine plants in Moss in summer, I opine you may not safely transpose them in the teeth of winter, and if you do not, what will happen to them and to the Moss when uncovered by snow? Both plants and Moss are frosted by night and scorched by day. Our trying winters must be taken fully into account in dealing with any hardy style of treatment. Where Moss-grown plants can be made a success, by all means let the plan be followed, but if the doctrine is based on experiments made under conditions so very opposite to those of this climate it may sometimes lead to other than the results expected. I have heard of some trials of the Moss treatment, and the results have been simply ridiculous, and where a faint sign of success showed at one period of the year, it would seem to point more to the fact that some plants can ac-

commodate themselves to nearly anything as a summer-rooting medium than to anything in the manner of a practical and reliable mode of culture for general acceptance. I am a believer in both living and dead *Sphagnum* Moss when mixed judiciously with the soil for many species, but live *Sphagnum*, pure and simple, as a rooting medium would not only leave our plants in the lurch in winter, but in summer need more care in watering to keep it fresh than the alpine plants would themselves require if grown in a more normal fashion.—J. WOOD, Woodville, Kirkstall.

## STOVE AND GREENHOUSE.

### TREE CARNATIONS.

WILL you kindly inform me how Tree Carnations should be treated at this time of the year? I have several, but I do not understand whether I should take cuttings from those that have finished flowering or what I should do. I had three plants of Miss Joliffe; they were grand plants, but somehow have quite broken down, and I have only had about three flowers from them. Should I take cuttings from these?—G. THOMSON.

\*\*\* The best time for propagating is early in the year, say February; at that time there will be found some short side shoots, which should be taken off close to the stem. Loam, peat, and sand in equal parts is a good compost to strike the cuttings in, and the pots should have plenty of drainage. The best position for rooting the cuttings is where there is a moderate bottom-heat and a cool surface. A well-made hotbed will do well. It is most important to keep the cuttings from getting withered; therefore they should be taken off and put into a close frame with as little delay as possible. I find the cuttings succeed best when kept fairly moist. Well water them when first put into the frame, and then sprinkle them every morning. What is called damping is the greatest trouble in the propagation of Carnations. This is caused by a fine thread-like fungus, which when once it makes its appearance spreads very rapidly. Carnations being rather slow to form roots require to be kept close longer than most subjects, and consequently are more liable to be affected. It is generally supposed that too much wet causes the mischief, yet I have found that the opposite is the cause; once let the cuttings get too dry, and after they are watered it will be sure to make its appearance. The best way to avoid it is to water regularly and leave the frame open for a short time every morning. It takes from two to three weeks for the cuttings to get well rooted. As soon as they have started they should be gradually exposed, and removed from the frame as soon as sufficiently rooted. After standing out in an airy, light position for about a week they will be ready for potting off into 3-inch pots, after which they require to be kept close for a few days until they are re-established, when they should have plenty of air. A heated pit or an intermediate house where they can be kept near the glass and have plenty of air will be a good position for the young plants. They should be ready for potting on into 5-inch pots early in May. The compost for potting should consist largely of good fibrous loam, some well-rotted leaf-mould, and a little good manure; sand should be added if the loam is heavy. The pots should be quite clean and well drained. The plants should be potted moderately firm, and should remain under glass until about the middle of June; they will then be better out in the open, or in a pit off which the lights can be taken. During the time they are outside they require regular attention to watering, &c., and may be syringed frequently with soot-water, which will help to keep them free from insects and strengthen them as well. Within the last few years the Carnations have been very much infested with a small white maggot which eats its way down the stem and eventually kills the plants. The soot water will go a great way towards keeping off the fly

which breeds these maggots, but the only way to get rid of the maggot where it has started is to cut away the plant until it is found and destroy it.

The plants may remain outside until about the beginning of September. During the winter they succeed best in a house where they are well exposed to the light, and get as much sun as possible. Green fly is often troublesome, and where it is possible the house should be well fumigated on its first appearance. In cases where only a few plants are grown they may be kept clean by using tobacco powder. A slight dusting over occasionally will keep them clean.

Although I prefer young plants for winter flowering, the same plants will bloom well for several seasons if properly treated. After the plants have done blooming in spring all the flower-stems should be cut away, and any side shoots stopped back. The plants should have new sticks; those with several shoots should have a separate stick for each main shoot. The old plants may be placed out of doors earlier than the young ones, and after they have been stopped and begin to start into growth they should be repotted, using pots according to the size of the plants, but always avoiding overpotting. In some instances they may have a portion of the old soil rubbed off and be potted back into the same sized pots again.

The most essential points towards success with Tree Carnations are to keep the plants free from insects, to avoid excess of moisture or drought at the roots, and during the winter to give them plenty of light and air and avoid a high temperature. The time of flowering can be regulated by stopping the plants at intervals, or by having successive batches of young plants coming on, but they cannot be forced. Light and sunshine only will bring them into bloom. F. H.

**Japanese Maples in the conservatory.**—I quite agree with the remarks of "H. P." (p. 544) concerning these. For some few years past I have grown a goodly number of kinds in pots for embellishing the conservatory, and they are always greatly admired for their elegant and finely cut foliage and brilliant colours, which under glass come out surprisingly well. It is certainly surprising that more has not been hitherto made by decorators of the Japanese Maples for grouping and general decoration as well as by exhibitors for mixing in their groups. As stated by "H. P.," simple protection is all that is necessary, or, for the matter of that, they are perfectly hardy, but when grown in pots under glass for the purpose indicated, the colours are more pleasing. Our plants remain in the conservatory throughout the summer, and in the winter the pots are plunged to the rims in a cool glass plant protector. Except for the application of water, the attention required is practically nil.—A. YOUNG.

**Calla Elliottiana.**—A sale of unusual interest took place on June 17 at the rooms of Messrs. Protheroe and Morris, when the entire stock of the new golden-flowered *Calla Elliottiana* was offered for sale, and the prices realised were sufficient to show that a plant of sterling merit is always appreciated. The first lot—a good flowering plant—sold for 16 guineas, and the five following, each consisting of a single plant, realised 17, 10, 9, 8 and 6 guineas respectively. Smaller plants (two in a lot) realised from £2 5s. to £5 per lot; four plants varied from £4 4s. to £5 15s. 6d., and six plants sold for prices ranging from £4 4s. to £6 6s. Most of the plants, with the exception of the first few lots, were but small, many having only a couple of leaves, so that in their case it will be necessary to wait some time before they flower. The entire stock, consisting of 243 plants, realised over £400.—H. P.

**Crinodendron Hookeri.**—Under the above name this Chilean shrub was figured in THE GARDEN, November 27, 1880, but last year it was illustrated in the *Botanical Magazine* as *Tricuspidaria dependens*. By whatever title it may be known, this shrub certainly merits extended cultivation, as in flower it is very beautiful; but, like many other



plants from the same region, it cannot always be depended upon to flourish, though it will sometimes thrive without any particular care or attention. It forms a somewhat irregular growing bush, clothed with dark green lanceolate leaves 3 inches or thereabouts in length, while the flowers, which are in shape a good deal like those of *Clematis coccinea*, but larger, are of a bright crimson colour. A peculiar feature in connection with this *Crinodendron* is that the flower-buds are formed one year and expand the next, usually about May or June. It succeeds best in a mixture of loam, sand and peat, this latter predominating, while a cool, fairly moist atmosphere suits it best, as indeed it does many other plants from the same region, such as the *Lapageia*, *Mitraria coccinea*, *Pinellia buxifolia*, *Desfontainea spinosa* and others. This shrub first flowered in 1880.—H. P.

#### BLANDFORDIAS IN BLOOM.

GIVEN ordinary greenhouse treatment, the *Blandfordias* as a rule flower during the month of June or thereabouts, and very beautiful and distinct they are when in that stage. Through the whole of them there runs a strong family likeness, for they produce a tuft of narrow Grass-like leaves, from the centre of which the flower-stem is pushed up to a height of 1 foot or more. The blooms, which are borne on the upper part of the stem, are narrowly bell-shaped, wax-like in texture, and for the most part marked with varying proportions of red and yellow. They are very seldom seen, but that not from any difficulty in their culture, for, given much the same treatment as a *Pelargonium*, except that they require to be shaded during the summer months, the different *Blandfordias* will do well. A compost consisting of equal parts of loam and peat, with a liberal amount of silver sand, will suit them perfectly, and the best time at which to repot them is as soon after flowering as possible. This operation must be carefully carried out, as the roots are few in number and of a brittle succulent nature, so that even a slight injury will often cause the loss of the entire root, which can ill be spared. Thorough drainage must be insured, for though the *Blandfordias* require plenty of water when growing, stagnant moisture is very injurious to them. During the winter just sufficient should be given to keep the soil fairly moist, but as the spring advances they may be treated more liberally in this respect.

A cool moist situation suits them best in the summer, and with such surroundings the flowers remain in beauty a good deal longer than they will where it is at all hot and dry. The *Blandfordias* can be increased by division and also by seed, but working up a quantity is a slow process, and that is most probably the reason so few of our nurserymen keep them in stock. *B. flammea* and *B. Cunninghami* produce the largest blossoms, but by far the quickest growing and most free-flowering is *B. nobilis*. The roots of this are more fibrous than those of the preceding, and therefore recover more quickly from a check of any kind. If potted on when required, this species will form quite a mass of foliage, and when bristling with flower-spikes it is sure to be much admired. The *Blandfordias* are all natives of Australia, from whence *B. nobilis* was introduced as long ago as 1803, but all the others are more recent discoveries. H. P.

**Growths on Sycamore leaves.**—Would "G. S. S." kindly say whether the very curious, red, papillose growths on the upper surface of enclosed Sycamore leaves are attributable to the agency of insects; and if not, how are they to be accounted for otherwise?—W. M.

\*\* The little galls on your Sycamore leaves are formed by one of the gall mites (*Phytoptus acris*). They are by no means uncommon, and will not injure the trees unless they are present in very large numbers. The mites are very small whitish creatures, and cannot be seen without the aid of a

strong lens. There are probably several in each gall. The only way of destroying these mites that I am aware of is to gather the leaves and destroy them. Where the mites pass the winter is uncertain, but it is probable that they abandon the leaves before the autumn, and either hibernate near the buds or lay their eggs there. The gall mites attack various trees and plants. Maples and Limes may often be found with these galls on the leaves. The tangled masses of shoots in Birch trees known as Witches' Brooms are the work of one of the gall mites, and Black Currant bushes are often attacked by one of these mites, which feed in the buds, which swell and become almost globular, but never open. Nut bushes also suffer in the same manner.—G. S. S.

## THE WEEK'S WORK.

### THE KITCHEN GARDEN.

**TOMATOES UNDER GLASS.**—It is now a busy time among Tomatoes under glass. All side lateral growth should be rubbed out as soon as perceived, as the main stems must not be hampered in the least, or the flowers will fail to set. What is needed to secure a free set is a warm airy temperature without creating a draught. When other cultural details are having close attention and the flowers are not setting so well as could be wished, a light dewing over with the syringe early in the afternoon as the sun is going off the structure often has the desired effect. It appears to make the pollen more potent and the syringe is like a warm shower. During a dull time, of course, syringing would not be needed. Where the plants are carrying heavy crops, feeding with either liquid manure or approved fertilisers must be proceeded with, especially where the roots are in a confined space. In pots or boxes this is very necessary, or the plant will soon give over bearing. Poverty at the roots will lead to sterility as much as anything. The plants must also be top-dressed with rich compost, so as to induce surface feeders.

**RADISHES IN SUMMER.**—In many gardens good crisp Radishes are not often forthcoming at this season of the year, generally being very hot and also tough in texture, the result of growing on poor soil and also in a too open position. Radishes do not require a soil full of rank manure. Having to keep up a supply of crisp Radishes throughout the summer, I find they thrive best on an east border. It is the same site every season, but the soil is added to each year. What is needed for a free growth is a rich, fertile and sandy soil, and also a free supply of water if the weather should be dry. A dressing to the depth of 4 inches of old potting soil, burned refuse and old Mushroom-bed manure in equal parts, the whole being mixed together, should be spread over the surface, and in this three or four crops in a season, if so desired, may be grown. The best course to ensure a supply is to make a small sowing or according to the demand about every ten days. The seeds are best sown thinly in drills about 8 inches apart. For summer use, the French Breakfast is the most popular variety.

**BORECOLE.**—To ensure plants worthy the name, the planting of these must now be proceeded with. The ground will have already been prepared or the sites looked out where the plants are to go, whether between Potatoes or not, and although I do not favour this double cropping, yet I suspect it must be resorted to in special cases. In this latter case, unless the rows of Potatoes are wide apart, it is of little use to plant in other than alternate rows, the haulm being pushed back, so that the plants may receive all the light possible, and not be smothered up, as they often are. When such takes place, it is impossible to secure plants capable of weathering the winter storms. If club or maggot is likely to be troublesome, examine each plant carefully, and also dip each in a puddle formed of soil, lime, and soot. In special cases a dressing of lime previous to planting would be of marked benefit, merely pointing it in being sufficient. The

Green Curled is the first to turn in, to be followed by the Cottagers' Kale, Read's Hearting, and Asparagus Kale.

**SELF-PROTECTING BROCCOLI.**—A planting of this useful autumn Broccoli should now be made, as it will come in useful when other choice vegetables are getting scarce. It is well adapted for lifting and planting in pits or any likely places, so care should be taken that sufficient are planted for this purpose alone. Such crops as these follow well on early Peas. If the ground is in good heart, hoeing over the surface, clearing off all rubbish, and afterwards levelling down will be all that is needed. If the plants of sprouting Broccoli should be ready they must go out, as, unlike the spring kinds, a long season of growth is needed, so that large plants capable of turning off a lot of produce can be grown.

**AUTUMN CABBAGE.**—Where provision has been made for securing an autumn and early winter supply of Cabbage the planting must take place forthwith. It is useless, however, to plant out on poor soil, or the quality will be poor in the extreme. Any Savoy which may be ready for planting should also be put out, leaving the smaller plants for some time longer. A. YOUNG.

### PLANT HOUSES.

**GREENHOUSE HARD-WOODED PLANTS.**—Many of these which were in full beauty during May and the earlier part of June will now be past their best. It is not well to allow the flowers to remain upon the plants when their attractiveness is thus past. Removing the dead flowers in most cases is somewhat of a tedious process. In the case of *Ericas*, for instance, both hands must be employed, one to hold the shoot, the other to pull away the flowers; if this be not done, there is the possibility as well as probability that the young shoots starting at the base of the flower-trusses will be separated from the plant also. When dealing with these kinds that have glutinous flowers, the better way is either to syringe the plant or have a water-pot at hand into which the fingers may be dipped whilst doing this work. If the young wood is still tender, or if the shoots are only just starting, it will be better to keep the plants under glass a few weeks longer; but where growth is well advanced, as it will be in some instances, then the plants may in favourable localities be stood out of doors, first in a moderately shaded place and afterwards fully exposed to the sunshine. *Pimeleas* and a few other plants are subject at this season to an attack of red spider; any signs of this insect should be carefully watched for and immediate action taken to exterminate it. This is best done by syringing with sulphur water; it is a better plan than that of dusting with dry sulphur; so much is not required, whilst it reaches all parts of the plant. Where *Pimeleas* are getting too large or inclined to be leggy, the wood may be partially shortened back, then by keeping the plants close for a few weeks, another good break will soon be obtained. *Aphelexis* may still look fairly well, but it is hardly advisable to allow the flowers to remain any longer; if still in fairly good condition they will be useful in vases &c. Everlastings for the winter season. The flower-stems of the *Aphelexis* should be broken out (not cut off) close back to the young growth which is pushing forth nearest to it. This is the topmost wood-bud, all beyond it dying in time, making the plant look shabby. *Phenocomas* will now be at their best; these will take the place of the *Aphelexis*. *Eriostemons*, *Adenandras* and *Acrophyllums* after having all the flowers or remnants removed should be syringed for the same reason as given for *Pimeleas*. Any shoots upon these plants which show too much vigour, being thus calculated to weaken other parts not so well placed, should be partially shortened; this meantime will encourage the more weakly ones. *Hedromas* should have the old flowers and seed-pods if any are forming removed also. There is on the part of some growers a disposition to allow these plants to retain their flowers for too long a time through their not falling, as in many cases. The *Dracophyllum* blooms profusely



under favourable conditions, but as soon as its flowers fade, although they may still look fairly well at a distance, they should be cut off close back to the young shoots to give these latter all possible encouragement to gain strength without becoming too much drawn. All of the foregoing plants from the *Eriostemons* will enjoy a rather close treatment for a week or two; it will encourage a kindly break or give vigour to shoots already growing. As soon as this object has been gained, then withdraw this treatment without delay.

Late-flowering *Ericas*, *Croweas*, and *Pleromas* should have all the sunshine and light that are possible until they are opening their flowers; then a little shade during very bright weather is an advantage. The *Ericas* will thus have their flowers much deeper in colour, whilst those of the other plants named will be more vigorous by exposure. The latest of the Indian *Azaleas*, as *A. Brilliant* and *A. Gem*, will want looking to now. They may still have some fresh blooms upon them, but if only a few, it is best to remove them and seed-pods also, after which the plants should be placed in a brisk warmth with plenty of moisture. New growth will thus be soon made and be the means of saving a season, or at least securing a good set for another year. *Boronia megastigma* and *B. heterophylla*, both of which should be in the most limited collections of hard-wooded plants, should by now have made a good growth. This may require some regulating by pinching. This, if done more frequently, would keep the plants more bushy and compact. Winter-blooming *Ericas* and *Epacris* will also by now have completed all necessary growth for another season; what has now to be aimed at is a thorough exposure, so as to ripen the wood and thus secure an early set for flower. This will not be the case if much more free growth be made. These *Ericas*, and others also, are during damp weather liable to be attacked with mildew. *E. Cavendishi* is often attacked by this pest, causing a severe check. Syringing or dusting with sulphur is the best remedy, seeing that the centres of the plants can be reached with it.

JAMES HUDSON.

### FRUIT HOUSES.

**EARLIEST PEACHES.**—In very many cases the whole of the trees in the earliest house will now be cleared of fruit, but, nevertheless, they must not be neglected. First go over them and cut out all old bearing wood, or much that is usually removed at the winter pruning, and this will give the strong young growth that is to produce fruit next season a better chance to mature properly. Overhead syringing may be resumed, though it is perhaps the wisest not to recommence this, but rather to thoroughly coat both the upper and lower sides of the leaves with flour of sulphur, this effectually keeping down red spider without favouring a late growth of wood. A handful of the sulphur should be squeezed through a muslin bag into a 3-gallon can of water, this being the simplest way of mixing it, and then be well syringed over the trees. Two or three applications on successive days may be necessary before the leaves are coated with the sulphur, after which there will be no further need to syringe. Set the house open as wide as possible, wholly removing any movable lights there may be. It should be remembered that root-action goes on very briskly after the crops are removed. Allowing the borders, therefore, to become injuriously dry may greatly injure the trees. If not mulched they often crack badly after syringing ceases, and this should be prevented by lightly loosening the surface and keeping the border well supplied with water. Strong old trees should have liquid manure occasionally, and a mulching of decaying leaves and manure may be of benefit in several ways.

**SUCCESSIONAL HOUSES.**—When the fruit is nearly ripe no more liquid manure ought to be given, a late application sometimes causing the fruit to drop prematurely, but the borders must be kept in a thoroughly moist state; also cease over-

head syringing. Ripe fruit should not be left on the trees long enough to drop off, nor, on the other hand, ought they to be dragged off. Go over the trees once or twice a day, and all that are soft near the foot-stalks are fit for gathering. Never press or thumb the upper surface, or bruises will soon be seen. When gathering, have a pad of cotton wool in the left hand with which to grasp the fruit, and with a strong pair of Grape scissors cut through the foot-stalk. In this way there will be no bruising and the fruit will be of more value and keep better accordingly. Lord Napier Nectarine ought in particular to be gathered in the manner just described. Nets suspended under the trees are undesirable and can well be dispensed with if the fruit is kept closely gathered, as it ought to be. Highly-coloured fruits are most preferred, and these can only be had by well exposing them to all the light and air possible. Thin out and lay in young shoots, wholly removing any leaves that cannot be conveniently tucked back from the fruit. In some instances strips of wood should be used for raising fruit to the light. If the Nectarines give signs of scarring or cracking near the point, and which is most likely to happen in unheated houses, cease over-head syringing in the case of those particular trees. Close all the houses early enough in the afternoon to raise the heat to about 90° for a time, this being advisable even if it is desirable to retard some of the crops. In the latter case, put on a little top air in the evening and ventilate very freely in the daytime. Abundance of moisture at the roots will now be needed by all the trees, and soft water well blackened with soot will be found an excellent and safe fertiliser, this being varied by farmyard liquid manure freely diluted with water.

**FIGS.**—If these fail to fruit well it is more often than not the result of crowding the young shoots. They usually grow the most vigorously in unheated houses, and the young growths must be kept perfectly clear of each other, or otherwise they fail to harden and bear fruit properly. Thin out at once, and remove all that form at the top of the walls. The exception to the latter rule would be where the trees might be trained down a roof trellis, but when so treated there will be few or no more fruit produced against the back wall. It is also of importance that the trees in the earlier houses be kept freely thinned out or otherwise the crops will not ripen satisfactorily. In some houses a difficulty is experienced in preventing the ripening fruit from decaying prematurely at the point, but this can usually be prevented by ventilating more freely and maintaining a drier atmosphere. Never gather Figs till they are quite fit to eat or fully ripe, as they will not ripen off the trees. Trees in narrow borders, pits, or pots require abundance of water, and liquid manure is needed in order to assist them in swelling off good second crops, occasional top-dressings of rich, rough compost being also of good service. Thin out the second crops if very heavy, or otherwise the fruit may be smaller than desirable. Continue to maintain a fairly brisk heat, closing early, and freely syringing where this can be done without detriment to the ripening fruit in order to keep down red spider. The earliest trees in pots that have matured two crops should be kept in a light position under glass, freely and frequently syringed, and well supplied with water and liquid manure. Ventilate freely, the aim being to solidify the growths and to prepare them for early forcing next season. Not till the young wood is quite firm should they be turned out into a sunny, open spot to rest.

PRACTICAL.

### ORCHIDS.

I WROTE some time ago about repotting the *Cattleyas*, *Lælias*, and other plants of this kind that have passed out of bloom and are ready to start into growth again. If this work has not been completed, see to it at once, and surface-dress those that do not require to be repotted. I would again urge the importance of doing the work of repotting very carefully as well as that of removing the plants from the receptacles in which they have

become established. The insides of the flower-pots become so interlaced with roots, that the plants can only be removed by chipping the pots to pieces and carefully removing the pieces with the fingers. When all are carefully repotted it next becomes necessary to attend to the watering of the plants and atmospheric conditions of the house, for it is only by careful attention to these details that the plants become fairly well established again. This is also a good time to repot the *Anguloas*, such as *A. Ruckeri*, *A. Clowesi*, *A. uniflora*, &c.; they also may be repotted as they pass out of bloom, and from that time require much the same treatment as the *Cattleyas*. When plants of such species as *C. Mossiæ*, *C. Trianae*, *C. Mendeli*, &c., become sickly and they happen to be but ordinary varieties, it is better to throw them away and purchase healthy specimens that have not yet flowered, as there is always some pleasurable excitement in watching the opening flowers of newly-imported plants. Sometimes the more valuable varieties become unhealthy and cannot be so easily disposed of, and in that case it is a good plan to move them into a part of the house by themselves; they ought also to be rather more shaded from the sun, and those that have been repotted should be watered with great care until it is seen that new roots are being formed. A moist atmosphere is more necessary for these than for the more healthy specimens. Newly-imported Orchids that have not yet begun to make roots should also be placed with the sickly specimens, or, at least, they should have the same cultural conditions. Semi-established plants, as they are termed, that is, such as have been recently imported and have made some roots or growth, may be placed with the robust healthy specimens. Many persons do not like to see recently imported Orchids in their houses. Doubtless they are a little unsightly, but it seems to be a grave error to place them in some corner where they may be out of sight and where they will most likely be neglected, instead of in a favourable position where the eye of the cultivator and owner may be constantly upon them. I have always paid more attention to the imported plants. Those who dislike the look of imported Orchids in their houses had better purchase established plants at a slightly higher rate. *Odontoglossum vexillarium* has passed out of bloom, and we would have removed them to the cool house, but the weather has been so cold that there has been no need to do so. When hot days and warm nights set in they will be better in the cool house. The first thing to do with them when the bloom passes away is to dip them in a solution of some kind that will destroy thrips. A safe and simple dip for them is diluted tobacco water either used with soft soap dissolved in it or without. Some of the best growers do not use any soft soap in the water, but I fancy it causes the solution to act more effectively.

When the plants have been dipped, lay them on their sides so that the poisonous solution may not drain into the neck of the plants. In an hour or so they may be sponged over with clean tepid rain-water. It is well to dip these plants when they pass out of bloom whether they show signs of insect pests on them or not. Do not give them very much water at this time, and in three weeks or so they may be repotted or surface-dressed. It will be sufficient to repot them every second year. If *O. Phalaenopsis* was not repotted in February, it may be done now. This is rather a ticklish subject to manage, and does not succeed very well if removed to a considerable distance from the glass roof. I have found it grow most freely in pots half full of drainage, the potting material about half of the best fibrous peat and *Sphagnum* mixed with clean potsherds and nodules of charcoal, the plants being suspended in teak baskets near the roof glass on the shady side of the *Cattleya* house. *O. Roezli* in the warmer temperature of the East India house is also in a condition to be repotted now. This is a good time to see to any Orchids that may happen to be in bad condition; such plants have few healthy roots, and the material in which they are growing in consequence of this becomes unfitted for the roots to run into; it decays into loose powdery stuff, in which no



Orchid roots can live. Better by far turn the plants out of the flower-pots in which they have been growing and repot into quite clean ones of a smaller size. It is a good plan to get a cartload of broken pots from a pottery, if there is one in the neighbourhood. They are mostly used for the mending of roads, and are of but little value; we pay about 3s. for a cartload. At this season of the year careful attention is needed in shading the houses, as the growths in course of formation may be checked by exposure to the sun for any length of time, and the cold nights have necessitated more than usual attention to the fires. From 4° to 7° of frost in the middle of June is unusual, but the warmest house must be kept to about 70° at night, the *Cattleya* house about 60°, and the cool house 50°. We do not mind 2° or 3° above or below these figures. The damping down and syringing must be regulated by the state of the outer atmosphere. J. DOUGLAS.

## NOTES OF THE WEEK.

**Delphinium grandiflorum album.**—Mr. J. Forbes, Hawick, sends us a very fine photograph of this valuable white-flowered variety. It is a fine break from the usual blue-flowering kinds, growing to a height of about 3 feet and blooming very freely.

**Buddleia Colvillei.**—A most beautiful new hardy shrub from the Himalayas (B. Colvillei) is now blooming with me, I believe for the first time in Europe. It has racemes of pale rose-coloured, bell-shaped flowers, unlike any other member of its family, and far the handsomest of them all. It is figured on plate 18 of Cathcart and Hooker's illustrations of Himalayan plants.—W. E. GUMBLETON, *Belgrave, Queenstown, Co. Cork, Ireland.*

**Lithospermum graminifolium.**—Messrs. J. Bickhouse and Son, of York, send us a plant of this in bloom. It forms large tufts with Grass-like leaves, but with woody stems. The spikes vary from 4 inches to 8 inches in height, and are surmounted by a cluster of drooping bell-shaped blossoms of the most intense blue. The plant seems to do best in deep rich loam and stones in an elevated position and well exposed to the sun. It will also be found valuable for pots.

**Fidelweiss.**—This grows quite easily from seed in England on stony or sandy rockeries. My plants flowered freely in their second year, but the flowers were large, loose, and not nearly so pretty as they are in Switzerland. Someone told me they wanted lime, and since adding mortar rather freely to the soil I have come to the same conclusion. My flowers this year are compact, and, so far as memory serves, just the same as they are in the Alps.—J. I. R.

**Primula nivalis.**—I beg to draw the attention of "D. K." to my statement at p. 429. The plants up to date are in luxuriant health and promise strong scapes for next year. I cultivate them in ordinary garden soil, and in dry weather they want to be freely watered and to be kept in shade; it is best to apply shade artificially by rush mats. From September onward they may be left alone, and do not even want the protection of Fir boughs.—MAX LEICHTLIN, *Baden Baden.*

**A good Gooseberry.**—This is Banks' Keepsake, a good-sized green variety, which is strongly recommended for general cultivation and as being superior to Whinham's Industry. Whinham's is strongly recommended for growing for jams and preserves, but Keepsake as a dessert fruit. One great advantage attached to this variety is that the fruit will keep for a fortnight after being gathered. It is early both in getting into size and ripening.—R. D.

**Allium kansuense.**—Amongst later introductions to Alliums we saw one at Kew lately called *A. kansuense*, the loveliest Allium we have ever seen. It is of a dwarf habit of growth, rarely exceeding 8 inches to 12 inches in height. The individual flowers, from two to three dozen in a head,

are of the prettiest shade of blue. A clump of a dozen or so of bulbs makes a pretty group, and as it will be found perfectly hardy it is sure to become a great favourite. It is a native of Turkestan, whence so many new species have lately been introduced. It is a species well worth possessing, and will be found suitable for the rockery.

**Morisia hypogæa.**—Cuttings of this strike far more readily than those of the common bedding Geranium, and now is a good time to begin operations. It ripens seeds in this country, though not plentifully, but, as the name implies, it buries them in the ground, and makes the finding of them almost an impossibility. By spreading fresh soil round the neck of the old plant we have succeeded in getting a few strong seedlings from self-sown seed. There is no fear of a plant that behaves in this way, and we hope soon to see it as plentiful as it is now scarce. It is a native of Corsica and Sardinia, and is perfectly hardy on a bleak easterly exposure.

**Primula japonica.**—I am pleased to see "H. J. C.'s" note on the hardiness of *P. japonica*, for I have proved it even in the case of very small plants to be thoroughly hardy here, where the thermometer has at times registered 2° or 3° below zero, and I never made the slightest attempt to protect it. The notes which have appeared charging it with not being hardy are calculated to do harm. Position has more to do with success than any other thing, for the plants cannot bear the slightest approach to dryness; the damper the situation the greater will be the success. Grubs, too, often attack the roots and kill off whole batches before the injury is noticed.—J. C. TALLACK, *Livermere Park, Bury St. Edmunds.*

**Musk-scented Larkspur.** (*Delphinium Brunonianum*).—This rare variety is now in bloom at Messrs. Veitch's nurseries, Exeter. The plants are about 9 inches in height and have five-lobed leaves deeply crenated at the margin. The flowers are large and open, of a light slate colour, the veins and edges of the petals being of a deep blue or bluish purple; the centre is black and covered with yellow hairs. The blooms are highly scented, emitting a most distinct perfume of musk. The plant is perfectly hardy, requiring no special care or protection and does not appear to be very particular as to soil. Here it is growing in a mixture of loam, peat and sand, and seems very happy.—F. W. M., *Exeter.*

**The Mariposa Lilies** (*Calochorti*).—The most beautiful of the genus, to our mind at any rate, is now in flower in the lilaceous border at Kew. It is called *C. Kennedyi*. It is a native of Southern California from Fort Tejon to Providence Mountains. The stems are four to six-flowered, stout; the sepals broad with a deep purple spot. The flowers are large, of the brightest orange-red; the petals only slightly hairy upon a deep purple blotch that surrounds the gland. We have seen nothing in this genus with such lovely flowers as the above species. This is now flowering in the open border and has been out, we are told, all through the past winter. Near at hand we noticed a fine group of *Calochortus splendens*, *C. elegans*, *C. flavus*, *C. pulchellus*, *C. Maweanus*, *C. Weedi* and several forms of *venustus* are all doing well and giving promise of a good bloom.

**Ostrowskia magnifica.**—Some of my gardening friends, and probably a good many others interested in hardy flowers, have been under the impression, as indeed I was myself, that this magnificent campanulaceous plant had proved practically a failure in English gardens. It may be agreeable news, therefore, to some to hear that this is by no means universally the case. In the beautiful garden of my friend and neighbour, Mr. R. Fremlin, of Wateringbury, I saw yesterday no less than five of these plants in flower. Two of these plants, each over 4 feet high, bore respectively five and six blooms; one had four, two had one apiece. The size of the expanded blooms in the two specimens was close upon 4 inches across, the whole flower being fully equal in size to a large breakfast cup. The colour in four instances was a

delicate porcelain-purple, but in one instance almost pure white, which seems to prove that the plant varies from seed. The plants are growing in a border having a south-east aspect and in common soil, and some of these flowering were raised from seed about four years ago. Unluckily, Mr. Fremlin could not tell me whether the finest specimens were bought plants or his own raising. I do not think there is any question as to the hardiness of this plant, and if once established and taken ordinary care of, it will succeed. Probably the safest way is to obtain plants established in pots or to raise them from seed. The extreme brittleness of the roots is the principal cause of failure.—J. C. L.

**Annuals.**—A dry spring and summer seem to suit the great majority of annuals, as this year they are certainly above the average. *Phacelia campanularia* and *viscida* are flowering very freely, although it does not take one long to make up his mind as to which he admires most. The former is certainly the most intense and beautiful blue flower open at present. It is a perfect mass of colour and appears as if it would continue. *Linum grandiflorum coccineum*, an old friend, is also remarkably fine. The *Eschscholtzias*, such as *E. crocea*, *E. aurantiaca* and others, certainly deserve their names; they are all distinct and well worth growing. *Phlox Drummondii cuspidata* is stronger and flowering more freely than we have ever seen it. The colours are varied and beautiful, and the plants when well grown make a very telling bed.

**Calanthe bracteescens.**—A plant of this species now flowering in the Orchid house at Kew proves that it may be classed along with the best of the evergreen species. In general appearance it comes nearest to *C. veratrifolia*, although quite distinct. Its leaves are plaited, dark green, and from 1 foot to 1½ feet in length. There are two growths on the plant, each of which carries a spike, the stronger one being over 3 feet high. The flowers are confined to the upper part, as in *C. veratrifolia*, but they differ from those of that species in being individually larger and not so closely packed on the scape. Each blossom is 2 inches across, and on first opening is pure white; with age, however, the lip (which is cut up into the four strap-shaped lobes characteristic of this genus) changes to yellow. The species has been introduced from the East Indies.

**The white Martagon Lily in the north of London.**—The first blooms of this beautiful Lily opened with me on June 21, just a week earlier than last year. The white Martagon possesses a wonderfully good constitution, and the freedom with which it produces its lovely waxy blooms should recommend it to all who possess a garden, however small. The soil in which I grow this Lily is a good loam with plenty of leaf-mould, the very soil that Lilies of the Valley like. I planted a few clumps of the latter two years ago among the Martagons, and they have completely covered the bed. The Lilies seem to like the shade afforded by the broad leaves of the Lilies of the Valley, and have increased perceptibly in height. A single bulb has sent up three stems with a total of fifty-six blooms, one spike carrying thirty-one flowers and being nearly 5 feet high. This variety does not seem to resent transplanting, as many of its congeners do. If I transplant in September, I never fail to get plenty of flowers the ensuing summer.—R. A. JENKINS, *Highgate.*

**Alliums** are not as a rule welcome in the rock garden, although a few species well deserve to find a prominent position even among select alpine. *A. pedemontanum*, to a large extent free from the garlic smell, which is a great consideration, does not run about all over the place like some of the species. *A. Ostrowskianum* is another about which the same may be said. In a weak state it is weedy, but strong healthy clumps are really very handsome, the heads large and the colour brilliant. *A. vernale*, not a common species by any means, but a very pretty one, may be briefly described as a miniature *A. neapolitanum*. The flowers are being largely used in Bristol and district for bouquets, &c. The flowers are small, very neat, the segments



pure white, and with a very faint garlic smell. *A. scorzonifolium* and *Moly* are two fine yellow-flowered species, both showy and both in bloom now. *A. nigrum* and *magicum*, with large heads of whitish flowers, are also very useful at this time of year. They do not spread much and are easily kept within bounds. *A. giganteum*, *stipitatum* and *ciliatum* are among the giant kinds, bearing huge globular heads of rosy-purple flowers.

**Ixias**, *Sparaxis* and *Tritonias* have been in flower at the foot of a south fence since the end of May. They were planted in December and protected from frosts. The sandy soil and the sunny position seem to suit them well. Few plants are so appreciated for button-holes, coming as they do at a time when few other flowers furnish such delicate sprays of bloom. My favourites among the *Ixias* are *Wonder*, *Golden Drop*, *Ethel*, *Pallas*, *Orion* and *Conqueror*. Among the *Sparaxis*, the most beautiful are *Delicata*, *Lady Carey*, *Garibaldi*, *Maculosa*, and *Tricolor grandiflora*. A good selection of *Tritonias*, embracing nearly every colour found in this group, is *Avalanche*, *Pallida*, *Leopold*, *Brilliant*, *Eclair*, and *Delicata*. If these bulbs are potted about October and grown on in a warm house, flowers may be secured in February or March. After the plants have done flowering they should not be turned out of the pots, but laid aside to ripen. This secures plump bulbs for a good display of bloom next year.—R. A. J., *Highgate*.

**Notes from Baden-Baden.**—*Pseudo-larix Kämpferi* is now coning freely here; the cones do not occur on the main branches, but on small slender twigs produced along the main stem. *Inula glandulosa* is a native of the Caucasus, but its variety *grandiflora*, which comes from the Himalayas, is a much finer plant, the rich deep yellow flowers measuring fully 5 inches across. *Hypericum Tauberti*, a novelty from Kurdistan, is very showy; the flowers are ranged in large thyrsi. *Achillea clypeolata*, from Southern Turkey, has silvery grey foliage, contrasting well with the numerous, very brilliant yellow flowers. *Caiophora coronata*, from Chili, is flowering very freely and is most interesting. It belongs to *Loasaceæ* and has very large snow-white flowers like *Blumenbachia*. *Prunella Webbiana* major in a shady corner is much admired; its big spikes of violet flowers produced very freely are very showy. For many years I have been trying to improve *Scabiosa caucasica*—if improvement it be—but all my exertions to produce another shade of colour as yet have been in vain.—MAX LEICHTLIN, *Baden-Baden*.

**Cineraria lanata.**—Although this plant had been known to botanists for many years, it is only lately that its merits have been brought to the notice of horticulturists. For several seasons it has been grown at Kew, and a coloured plate of it has appeared in *THE GARDEN*. As a decorative plant for the greenhouse during the months of May and June it deserves to be extensively used, being easy to grow, free-flowering and elegant in habit. It is a perennial plant and may be propagated from year to year by cuttings, these attaining a height of 3 feet to 4 feet in one year. The leaves are cordate and from 3 inches to 5 inches across, the under surface being coated with a white tomentum, hence the specific name. The flowers occur in corymbs from the upper portion of the stems, each flower being  $1\frac{1}{2}$  inches across, star-like, the centre white and the tips of the petals bright purple. Some of the larger corymbs are upwards of a foot across. There is some confusion between this species and *C. aurita*, the latter name having been given to *C. lanata*. The true *C. aurita* is, however, an annual, and the parent of the common florists' *Cineraria*.

**Medinilla magnifica.**—There are few stove plants which combine in a more striking degree the beauties of flower and foliage than this *Medinilla*. Its large leathery leaves of the deepest green, traversed by prominent yellowish ribs, would in themselves make the plant worth growing; but it is at this season when its large and beautiful racemes are at their best that the magnificent

character of the plant is shown. The racemes are both terminal and axillary, but always pendent. They are about a foot long by 6 inches in diameter at the base, tapering like a bunch of Grapes, the large bracts at the base, the central and secondary stems as well as the flowers themselves being of a bright rosy pink. The plant is a native of the Philippine Islands, whence it was introduced to England in 1848. It is easily grown, requiring moist stove treatment throughout the year. Provided it is well supplied with water, it need have but little root room. Some years ago a plant was shown at one of the Royal Horticultural Society's meetings at South Kensington which measured 7 feet in the spread of its branches and carried between seventy and eighty racemes, yet it was growing in a 12-inch pot.

**Thunia Marshallæ.**—This is undoubtedly one of the most useful Orchids flowering at the present time. It is as elegant in habit as it is distinct in appearance, and being also both easily grown and free-flowering it may be said to possess all the qualities of a first-rate garden Orchid. It has been in cultivation over twenty years, and being easily propagated has supplanted in a great measure the much older species *T. alba*, of which it is considered to be a variety. It is, however, a very much superior plant. The stems are 2 feet to 3 feet high, tapering upwards to a point, and clothed from the base with pale green leaves. The inflorescence is terminal, and on strong stems will consist of a dozen or fifteen flowers. Individually, the flower is about 5 inches across. The lip has also a white ground, but the front is of a rich golden-yellow, and yellow veins occur also on the centre; the edge is white, and by being frilled adds much to the beauty of the flower. The species is a native of Moulmein. The old stems should be started in the warm house in spring, removing the plants to an intermediate house when they are a foot high. After the leaves begin to show signs of decay, water should be gradually withheld, and in mid-winter none at all is needed. The compost may consist of peat and loam fibre, Sphagnum, and a sprinkling of coarse silver sand.

**Ornithocephalus grandiflorus.**—This plant belongs to a curious genus of Tropical American Orchids, of which about a score species are known to botanists. Scarcely one-fourth of these, however, have ever been grown in gardens, and at the present time it is probably safe to say that the species under notice is the only representative of the genus in cultivation. None of the absentees can be said to be of any horticultural value, although, on the other hand, *O. grandiflorus* may safely be classed with the prettiest and most interesting of small Orchids. It was first found on the Organ Mountains of Brazil by Gardner in 1837, but up to within ten years ago was only known by that collector's dried specimen. In 1882, however, it appeared in several Continental collections, and lately has been introduced in considerable numbers. It has narrowly oblong leaves from 4 inches to 6 inches long, the bases of which enclose the small pseudo-bulb. The scape rises from the centre of the plant, and attains a length of 6 inches to 9 inches, the flowers being confined to the upper half. In diameter each flower measures three-quarters of an inch, the sepals and petals being white with a spot of bright green at the base. The lip is also white with a prominent green callus. The sepals and petals are concave and the lip quite saccate, so that the flower has a half-closed appearance. It is in the column, however, that the most distinctive characters reside. It is white, curved like a swan's neck, with the thread-like rostellum hanging down above the lip. The name *Ornithocephalus* refers to its bird's-head-like appearance. This species may be grown in small baskets suspended near the glass in the intermediate house.

**Cattleya superba.**—The difficulty which most Orchid growers experience in keeping this *Cattleya* in a continuously healthy condition is, no doubt, the cause of its being so comparatively seldom seen. Of its beauty when in bloom there can be but one opinion, for even in a genus so

noted as *Cattleya* is for the gorgeous colouring of its flowers, it is conspicuous in the richness and intensity of its hues. The scapes carry from two to five flowers, and on a plant lately flowering at Kew they each measured  $5\frac{1}{2}$  inches in diameter. The sepals and petals are of a bright rose-purple, the petals being undulated and larger and broader than the sepals. The lip is three-lobed, with the triangular side lobes curled over the column and of a rich magenta-purple, whilst the oblong central lobe is a most crimson; the disc is yellow, a blotch of white occurring on each side. The flowers are fragrant and their texture is firmer and stouter than is usual in *Cattleyas*. The species is an old one in gardens, having been introduced to Britain in 1838 by Sir Robert Schomburgk, a famous explorer in British Guiana, of which country the species is a native. It is described by travellers as growing on the tops of lofty trees in the swampy country bordering rivers, where it is exposed to full sunlight and where the evaporation and rainfall are excessive. Although it is spread over an enormous area in South America, it is, nevertheless, confined to within a few degrees north or south of the equator. It will be evident, therefore, that to imitate as nearly as possible the natural conditions under which this *Cattleya* grows it is necessary during the period of growth to give it the warmest and moistest conditions available. It should be suspended near the glass in the warmest part of the East Indian house from the time of starting into growth until the flowers appear.

**Gentiana bavarica.**—In the excellent paper on "The Cultivation of Alpine Plants" read before the Royal Horticultural Society by the Rev. Wolley Dod, M.A., and published in a recent issue of *THE GARDEN*, *Gentiana bavarica* is specially mentioned (p. 580) amongst the mountain plants which "refuse to be tamed, and from the time they are planted in our gardens seem always to go from bad to worse, and are never presentable for two seasons together." I am unable to say whether the climate of Devonshire is more suitable for growing *Gentiana bavarica* than that of other counties, but I may state the fact that no healthier or happier looking plant could possibly be found than a *Gentiana bavarica* in Messrs. Veitch's rockery at Exeter. This has been planted out for two seasons, and has never had the slightest protection. As the mode of planting may have much to do with success or failure, my experience may be useful to others. I have repeatedly planted *Gentiana bavarica* and failed, but the specimen referred to above as doing so well was not grown in the same mixture as other alpine, but had the soil specially prepared. It is growing in a well-drained level spot at the bottom of a slope. The soil consists of one part sandy peat and loam, one part broken stones, and two parts of Sphagnum Moss, which retains the moisture so necessary to this plant and makes the soil light and spongy. The surface all around the plant is mulched with pure Sphagnum Moss and covered with stones. The slope is facing due south, and the plant has no shade whatever. I venture to think that treated in this way *Gentiana bavarica* will succeed in other counties as well as in Devonshire. *Eritrichium nanum* is also mentioned on page 580 as one of the plants which no skill can keep alive on a rockwork, but within a yard of the *Gentian* just referred to a very fine specimen of *Eritrichium* has flowered, and is certainly looking very happy. It is planted in a slanting position in somewhat heavy loam and peat mixed with stones, and is exposed to the full sun. During winter the plant was safely protected against wet.—F. W. M.

**New forms of Chionodoxa.**—The discovery is announced from Smyrna by your correspondent, Mr. E. Whittall, through one of his collectors, on the slopes of Mount Taurus, of a grand new form of the lovely early spring-blooming *Chionodoxa*, or *Glory of the Snow*, which is said to have flowers more than twice the size of those of *C. gigantea*, or about 2 inches in diameter, and of a rather lighter shade of blue. This variety also produces as many as eight flowers on a head; whereas, *C.*



gigantea seldom produces more than one or two, and never more than three. The flowers of this fine novelty must, I think, resemble more those of the beautiful *Tecophylaea Leichtlinii* than those of any *Chionodoxa* hitherto known to us, and will in all probability be just as easy to manage and as perfectly hardy as they are, which the lovely *Tecophylaea* unfortunately are not, it being almost impossible to grow them successfully after the first year or so. It is proposed to name this new *Chionodoxa* C. Alleni, after the well-known *Galanthophil* of Shepton Mallet. Both pink and pure white forms of this new species are said to exist, which when introduced to cultivation should be great and most desirable acquisitions to our spring gardens. Another new *Chionodoxa* has also been found by Mr. Whittall, which he believes to be a natural hybrid between C. sardensis and *Scilla bifolia*, and which he has named C. sardensis oculata, its chief distinction being a very dark eye not to be found in C. sardensis. This should also be an acquisition, but it is as yet exceedingly scarce.—W. E. GUMBLETON.

**Painting greenhouses white.**—I hope this question will not be considered settled by Mr. T. G. Weaver's solution on page 591. He states that this is done because, as a painter told him, white paint stands best and preserves the wood best. A painter, unless an artist be meant, is surely the last person to consult on a matter firstly of taste and secondly where the painter's interests are concerned. We are only just escaping in our homes from the tyranny of the painter who insisted on painting our doors with the hideous design he called "a fine grain." Who also can have failed to notice the great and blessed change in the streets of London since people have rejected the advice of the painter and set to work to paint their houses as their fancy dictated instead of having them all a sham stone colour, which imposed on no one any more than the "fine grain" of Oak, or of Mahogany or Walnut did. The ancients distrusted the Greeks bringing gifts, and a painter preaching economy would inspire most people with suspicion. If white paint keeps best, it is singular how rapidly the woodwork of glass-houses perishes. Personal experience of this fact and a desire to escape from the monotony of white greenhouses and conservatories had suggested the question to me before it was asked on page 569, and I was hoping that the correspondents of THE GARDEN would throw light on this subject. I object to the look of white paint *in toto*. It may be economical if Mr. Weaver's painter is disinterested and truthful, but it is distinctly ugly in a garden. It destroys all repose and looks glaring and obtrusive. I have welcomed the slight green tinge that some have been bold enough to put on their conservatories, but only as a first step. In the interests of gardening, I hope some of your artistic readers, not instructed by jobbing painters, will give us some advice on the subject. What colours suit the outside of greenhouses best, so as to harmonise with the glass, with adjacent houses, &c.? What colours suit the inside of glasshouses best to show off or harmonise with plants and flowers? The economical question of how long a paint lasts is surely quite a secondary and trivial matter. If houses had to be painted once in two years instead of once in three, most amateurs who can afford glasshouses would not think of the extra cost if their gardens and plants looked better.—J. I. R.

**June frosts.**—It is a good many years since we have experienced such severe frosts so late in the season in this part of Surrey. On the morning of the 13th I was in the open at 4 o'clock in the morning, and the whole garden was white with frost. The glass was thickly covered with ice, and there were 3° of frost in an unheated house, but closely shut up. I did not notice how many degrees there were in the open, but Strawberries gathered from the frames had to be brought in as soon as picked to keep them from being frozen. Naturally, great damage has been done to growing crops, Potatoes and runner and dwarf Beans

being much cut. Potatoes in many places are completely destroyed. I saw one man levelling the ground in his Potato field to sow Swedes. In some gardens bedding plants have been much injured. As is always the case with these late spring frosts, some places have entirely escaped, and in many instances it is difficult to explain why this should be so. Considering that the winter was of such lengthened severity and that May frosts were so severe, it seems hard that we should be so severely visited at this late period.—J. C. B.

## PUBLIC GARDENS.

**Another open space.**—The old burial ground in the Hackney Road was lately opened as a public recreation ground. There is just one acre in this open space, and the laying out and planting cost the association £150. The Earl of Meath, in the course of the proceedings, mentioned that the association had already spent £30,000 in laying out such open spaces for the enjoyment of the people.

**The London parks.**—By a return furnished to the Parks Committee of the London County Council of the permanent and temporary staff employed in the parks' branch of the architect's department, it appears that in 23 parks there are 450 men employed, having wages ranging from 24s. to 63s. per week. Battersea Park, it seems, needs the largest staff, viz., 107 men.

**A public garden in Soho.**—On Monday afternoon Lady Hobhouse, who was accompanied by Lord Hobhouse, opened the disused burial-ground of St. Anne's, Soho, which has been laid out by the Metropolitan Public Gardens Association as a public recreation ground. Lady Hobhouse was received by the Earl of Meath (chairman) and other officials of the association. The Earl of Meath, in opening the proceedings, said the association had long had its eye upon that ground, as it had on other burial-grounds in London, and had offered, with the consent of the rector, to bear the expense of laying it out if the local authority would maintain it. This the Strand District Board of Works had readily undertaken to do, and the garden had been accordingly laid out at a cost of £150, towards which sum Miss C. Holland had contributed £50. He believed it would be of great service to the neighbourhood, which had a population of about 20,000. During the past eight years the association had been able, owing to the public support it had received, to lay out nearly seventy open spaces, and of this number fifty were disused burial-grounds. They had thus added about 100 acres to the public gardens of London. The garden, which is 3 rods in extent, has been planted with trees and flowers and provided with seats.

## DESTROYERS.

**The Onion maggot.**—A correspondent, who for several years past has been troubled with the maggot in his Onion beds, informs me that he has found the best cure a dressing of nitrate of soda. About the second week in May, taking advantage of showery weather, he strews over his beds, in the proportion of 2 ozs. to every yard, some nitrate of soda. This is repeated in about a fortnight, and he says that not only is the maggot destroyed, but his crops prove most abundant. He now uses this dressing of nitrate of soda every year, whether the maggot puts in appearance or not, as he finds it greatly promotes the growth of the Onion. In dry weather it should be applied of an evening in the form of a solution.—R. D.

**The Eucharis mite (W. Eryp).**—The Eucharis bulbs and both samples of Iris are attacked by the Eucharis mite (*Rhizoglyphus echinopus*). Many remedies have been tried, but without much success. No doubt many insecticides will kill the mites if it can only be made to reach them, but from the position of the mites this is no easy

matter, and nothing but a prolonged soaking, say for three or four days, is likely to be effectual. Water at a temperature of 115° Fahr. undoubtedly kills them. I would suggest soaking the roots in a mixture of 1½ lbs. of soft soap and the extract from 1½ lbs. of Quassia chips to 25 gallons of water for three days, and then raising the temperature of the mixture to 115° Fahr. for half an hour. These mites are very small, and can hardly be seen without a good lens.—G. S. S.

**The Gardeners' Orphan Fund.**—The monthly meeting of the committee took place at the Hotel Windsor on the 24th ult., when letters were read from the president, Sir Julian Goldsmid, Bart., acknowledging the resolution of condolence on the death of Lady Goldsmid passed at the last meeting, and from Sir J. Whitehead, Bart., in acknowledgment of the vote of thanks for presiding at the annual dinner. Special donations were announced as follows: Mr. H. Herbst, £2 2s.; Hotel Metropole, £2 2s.; Mr. G. W. Cummins, The Grange Gardens, Carshilton, collecting box, £3 3s.; and Messrs. B. S. Williams and Son, Victoria Nursery, Upper Holloway, collecting box in the house of insectivorous plants, Earl's Court Horticultural Exhibition, 15s. 9d. The quarterly payments to orphans upon the fund, amounting to £159 5s., were ordered to be paid.

In this year's "Grand Corso and Battle of Flowers," at Florence, one of the carriages which attracted most attention was covered—body, wheels, steps, driver's box, whip and harness—with Lilies of the Valley, while the ladies who sat in it were dressed in white and carried parasols of the same flowers. Another carriage, dressed also with Lilies of the Valley, showed on each side the family coat-of-arms wrought with red blossoms. Another was adorned with Forget-me-nots and yellow Roses, another with white Roses and pink Azaleas, another with Lilacs and white Roses, another with Forget-me-nots and very small pink Rose buds, another with Daisies, white Lilies, and Maiden-hair Ferns, another all with yellow Jonquils, and still another, described as especially graceful in effect, with great masses of Wistaria. Large umbrellas formed of flowers covered, like canopies, some of the smaller equipages, and in all cases the occupants were costumed in harmony with the decorations of their carriages.—*Garden and Forest*.

**New or rare flowers for drawing.**—Readers will kindly remember that we shall be greatly obliged for any specimens of new or rare plants, or information concerning them.

**Names of plants.**—*M., Norfolk*—Ordinary form of *Lælia purpurata*.—*H. H. C.*—1, *Pteris Kingiana*; 2, *Dennstaedtia anthriscifolia*; *Tritonia longiflora*.—*Jav. Cocker & Son*.—1, *Siene multiflora*; 2, *Iris sibirica alba*; 3, *Melittis melissophyllum*.—*J. Jacobson*.—1, *Cattleya Leopoldi*; 2, *Cypripedium spectabile*; 3, *Ophrys apifera*.—*D. Marghera*.—1, *Sedum acre*; cannot name Mosses unless fertile.—*G. Dobson*.—1, *Pellaea calomelanos*; 2, *Myriopteris vestita*; 3, *Doryopteris sagittifolia*; 4, *Goniopteris scolopendrioides*; 5, *Stenosemia aurita*; 6, *Pteris mutilata*.—*E. M.*—1 is a very fine *Cattleya Menziesii*; 2 a very inferior C. Mossie. —*C. Marshall*.—1, Sheep's bit (*Lasion montana*); 2, *Valeriana dioica*; 3, *Poterium officinale*. —*G. Bennett*.—1, *Masdevallia Harryana*, superb form; 2, *Odontoglossum luteo-purpureum* var.; 3, *Sobralia macrantha*; 4, *Aerides crispum*. —*E. C. B.*—1, *Davallia elegans*; 2, *D. bullata*; 3, *D. Vogeli*; 4, *D. dissecta*.—*West Highlands*.—*Iris sibirica*.

## BOOKS RECEIVED.

"Fruit Culture, and the Laying-out and Management of a Country House." By W. C. Strong, ex-President of the Massachusetts Horticultural Society and Vice-President of the American Pomological Society. New York: The Rural Publishing Co.

"Bees for Pleasure and Profit." By G. Gordon Samson. Crosby Lockwood & Son.

"Vines and Vine Culture." Third edition, Revised and enlarged. By A. F. Barron.



## WOODS AND FORESTS.

### THE GROWTH OF COPPICING.

IN many parts of the country, upon soils which will not grow the ordinary timber trees of sufficient size to make their cultivation profitable, coppicing may be substituted with advantage, and the annual income to be derived from this will, under proper management, be little less than that obtained from the periodical falls of timber upon superior soils. But in order to ensure the maximum of profit from such, the kinds of trees grown must be such as are suitable to the land, and also those for which there is a local demand. Thus in Kent, Sussex, Herefordshire, and Worcestershire Hop poles meet with a ready sale; in the mining districts, pit-props; in hardware districts and in the pottery-making localities, Willows of various kinds. The subject of local demand is an important one; as compared with their market value the materials obtained from ordinary coppices are too bulky to admit of long carriage either by road or rail.

Pure coppice of the best kinds, such as Ash, Spanish Chestnut, Red Willow, Red Birch, and Maple, are in the Hop-growing counties more remunerative than coppice with standards; but where the underwood is of an inferior kind, such as Oak, Beech, Hornbeam, Hazel, and the common kinds of Willow, a considerable admixture of standard trees may be reared with advantage. But under ordinary circumstances these should not occupy more than one-third of the wooded area, and their lower branches should, after every fall, be either pruned back close to the boles, or considerably shortened to mitigate the effects of too much shade. Most of our common deciduous trees coppice freely—the Ash, Oak, Spanish Chestnut, Elm, Lime, Maple, Poplar, Willow, Hornbeam, Birch, Mountain Ash, Sycamore, Hazel, Alder, and for a shorter period the Beech. Some of these, such as the Lime, Willow, Aspen, Birch, and the White Alder, grow very freely from suckers. For pure coppicing the Spanish Chestnut is best adapted to sandy or gravelly land, Ash for a moist loamy soil, and Larch upon rocky slopes; upon a moist loamy or clay soil Chestnut stools very soon die out, and upon a deep good soil Larch grows too rapidly to be very serviceable.

By means of planting and subsequent layering, growths of coppicing may be carried over rocky surfaces where timber trees even of the smallest size are reared with difficulty, for as long as its connection with the parent stool is maintained, the layer will continue to thrive, even though its roots obtain little nourishment beyond what they find in the thinnest surface soil or among the crevices of the rocks.

The length of a rotation will depend to a great extent upon the kind of wood grown and the purposes to which the produce is to be applied, as well as upon the climate, site, and quality of the soil. The shorter the rotation the sooner the stool is exhausted. When Osiers receive an annual cutting, the stools seldom last more than 13 or 14 years; though those worked upon a two or three years' rotation endure for nearly double that period. Standard trees cut down after the age of from 40 to 50 years seldom leave a reproductive stool, though instances have been recorded in which they have shot up afresh even when more than a century old. But with good management and careful

cutting, a Chestnut plantation may last for a great number of years. From nine to thirteen years is the common length of a rotation, but basket-makers' Osiers are cut at the end of the first and second years; Hazel for crates and hampers and for the cooper's use, at the end of the third; Ash and Spanish Chestnut upon good soils, at the end of the ninth or tenth year; and Oak, Hornbeam, Birch, &c., upon inferior soils, at about thirteen years old.

As coppice shoots are produced either by the adventitious buds which spring from the edge of the cut surface of the stool, or from the dormant or lateral buds which proceed directly from the medullary processes in the wood, and below the former, the method of cutting has a considerable influence upon the future crop. When the bark is torn from the edge of the stool's surface, the adventitious buds are destroyed, and heavy blows from a blunt instrument will also destroy the dormant buds, and even break off the finer fibres of the small stools standing in loose soils. To avoid this, the poles growing upon the smaller stools should always be cut off with the bill-hook, and everything under 6 inches in diameter with a light axe. All tools used in coppice felling should be of the best kind, and also be kept to a keen edge. No cutting should be permitted during frosts, and all blows should be directed upwards as far as practicable. Except in very wet situations, where the stools are occasionally partially immersed, they are best cut off as close to the ground as possible, in which case the dormant buds send up shoots from near the surface of the ground, or even below it, and these in time become well rooted in the soil, and at the next cutting considerably extend the area of the stool.

A.

### THE ASH.

FOR general usefulness and value in an economic sense, the Ash comes next to the Oak. It should, however, be borne in mind that the wood of several of our more uncommon small-growing trees, to wit, the Yew, Holly, and some others, but which cannot be obtained in sufficient quantity or of a large enough size, may for special purposes sell at a much higher figure; but this of itself is no criterion that the trees for purely economic purposes are equally valuable. A log of nice clean Holly, for instance, may fetch 5s. per foot or even a greater price, fully double of what the best quality of Oak can be sold at, yet the small quantity of such Holly in the market renders the tree on the whole one of very little value where purely economic questions are of first importance.

The range of capability, too, of a tree must be taken into account in judging of its economic status, and for this very reason such trees as the Walnut, Spanish Chestnut, and occasionally the Sycamore find only a second-rate place in our list of trees that are of value for economic planting. Taken on the whole, I think that the Ash must rank second amongst British hard-wooded trees that are of value not only when timber-production and quality, but range of capability are taken into account. Few uses, indeed, are there in a constructive way to which Ash timber may not be applied, and that, too, at almost every stage, from the sapling walking-stick to the perfectly matured wood that finds an honourable place where great strength combined with yielding powers is of first importance. This utility of Ash wood at almost every stage of its growth is a quality that is not shared in to an equal or greater extent by any other wood produced in equal plenty in this country. Ash timber of good quality and fair

size may be readily enough sold at 1s. 8d. to 2s. per foot, the lower price being, from statistics collected for a number of years back, about the average value of the wood realised in these isles.

There are many uses to which Ash wood may be applied, such as for implement and furniture-making, tool handles, in fact, in almost every way where strength and elasticity combined are points of importance. For oars for boats no timber has yet been able to compete with that of the Ash, while for agricultural implements, where strength, yielding power and lightness are points of first consideration, the wood has few equals. Exposed to damp, Ash timber soon decays, while if kept dry it lasts for a very long time, and in the case of tool handles that are wet and dry alternately, it stands well.

Regarding the soil that is best suited for producing the first quality of Ash timber, it is generally allowed that a rich dampish loam with a dry subsoil will best meet the case; but it must also be borne in mind that for special purposes, quickly-grown Ash timber is of the greatest value, such succeeding best in alluvial deposits of our rivers and streams, particularly in low-lying districts. Thin gravelly soils, chalk or sand are by no means suitable for the quick growth and development of the tree, the growth under such conditions being short and stunted in the stem, cankered and irregular in outline, and the foliage meagre and sickly in hue. Neither will the Ash do on too exposed sites, its whole nature being averse to anything approaching wind-torturing.

A. D. W.

**Planting out conifers from pots.**—When planting out conifers or other trees that have been grown for some time in pots, great attention should be paid to disentangle the roots as far as possible, otherwise, if the ball of roots is planted entire, or nearly so, scarcely any new fibres will enter into the fresh soil for a long time, and the plant becomes starved, as it were, in the midst of good food. It often happens, however, if planted without disentangled roots, that a few will after a time ramify sufficiently to keep the plant nourished, but a gale of wind soon shows that the plant is not firmly anchored. Upon examining any specimens that have been blown down in this way, it will be seen that nearly all the roots form a hard, tangled mass, the only part of which is active is a few of the outside fibres. The two or three larger roots that have grown freely, and from which the plant derives nearly the whole of its nourishment, may be all situated on one side, so that when the wind blows strongly in a certain direction there is nothing to resist it, and consequently the specimen topples over. I prefer to disentangle the roots as far as possible before planting by giving the ball of earth a good soaking in water. I then with a small hand-fork commence to open out the roots, untwisting the long winding ones, and altogether leaving a sufficient number clear of the ball in all directions to seek nourishment, and be a means of support on all sides.—W.

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"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—*Shakespeare*.

## ROSE GARDEN.

## OWN-ROOTED TEA ROSES.

I QUITE agree with a "Puzzled Amateur" that Tea Roses on their own roots are best, because if well cared for they are virtually indestructible. Place a little ridge of burnt earth or something similar round the base of each plant when frost sets in, and there will always be life below ground that will push out vigorously should the top be injured by stress of weather. But many planters of Tea and other Roses do not give their plants a fair start at first. The soil for Teas must be deep, well drained, and fairly rich, though strong, rank manure is not desirable, as its tendency is to make the soil close and sour. A good many years ago I turned out a lot of home propagated Tea Roses in various positions. That season I remember I had an abundance of home-grown Teas, mainly because there was a better lot of cuttings to work upon. One lot, consisting of Catherine Mermet, Niphotos, Homère, Marie van Houtte, and other good kinds, was placed along the front of a Vine border, where the soil was deep, well drained, and rich. With the exception of Niphotos, these plants along the front of the Vine border did famously, and formed immense bushes from which a supply of fine blooms could always be obtained. Another batch of plants was set out in a warm south border, and these also were a success, producing the same year they were propagated beautiful blooms. Other plants of similar sorts were placed in various positions, but the plants on the Vine border were the most successful. I have long held the opinion that for anything we wish to grow well it is both better and cheaper to thoroughly prepare the ground first, and Tea Roses must have a dry, warm, deep bed.

The propagation of Tea Roses under glass is as simple as striking Verbenas, and well-nigh as successful. Cuttings which have been obtained from plants under glass are firmer and riper than any growths made in the open ground can possibly be, though as regards the selection of the wood for cuttings, I do not care how old it is. In a propagating bed where there is a temperature of 75° to 80° and an atmospheric heat of 60°, all cuttings, except those which are very soft and young, will strike with a small percentage of loss. I think cuttings from wood of more than one season's growth are even better than younger stuff; at any rate, it is a decided advantage to have a heel of old wood at the base of the cutting. Cuttings may be rooted from single buds, but unless the buds are strong, the growths they make will be weak, and it takes a couple of years to make them into plants. I have struck Tea and other Roses in pots plunged in cocoa fibre in a genial bottom-heat, and I have rooted them by simply thrusting the cuttings into the moist fibre without potting and have invariably obtained more plants from the same number of cuttings when pots are not used for striking. The reason is, I think, obvious; cocoa fibre is always in one even condition as to moisture, and that condition can be maintained from the time the cuttings are inserted till they are lifted for potting without having received any water beyond a very light dewing over during the process of

rooting. This equable condition of moisture without the use of the water-pot is worth everything in the work of propagation. Water kills more cuttings than all other causes of loss put together. I like good sized cuttings, but the wood is too valuable to use big pieces, and by the one bud or eye system one has to wait a long time for strong plants. This is why a grafted plant has an advantage over the own-rooted plant at first, but as the years roll round the advantage is on the other side. It is true that in course of time if the stocks are buried in planting the Rose forms roots of its own, and then I think the stock seems to become an embarrassment and would be better away. As regards layering Roses, it is a very old and a very good process, but it is slow. Many years ago, when it was the fashion to have large beds of Roses in gardens of one kind, such as the Provence, York and Lancaster, Maiden's Blush, and other old sorts which are now being sought for again in some places, the beds were always kept full by layering the strong shoots, this being usually done in February. So far as regards open-air propagation, layering is decidedly the best plan to adopt, and when once strong old plants of the best and hardiest varieties have been obtained, there will be plenty of own-rooted Tea Roses with hardy constitutions. E. H.

**Rose Duchesse d'Auerstadt** promises to prove as valuable for pegging down as it is for quickly covering a great space. A group of plants so treated is now a pretty picture. The ground was previously carpeted with the mossy Saxifrage, which is now not quite hidden, peering out here and there, an intense green. The shoots pegged down are blooming freely, the flowers borne in clusters, fine in form, good in substance, with thick fleshy petals and the colour rich and effective, especially in the half-opened flower, which has a deep nankeen-yellow centre. The flowers when fully open are of a clear soft yellow hue. Above the flowers are the slender-growing shoots that will be pegged down next year.

**Rose Mme. Angele Jacquier**.—It is a singular thing, but, as all Rose growers know, some kinds are not always good. This under notice is an example. We have had a group of it standing for three years, and it had not given a dozen good flowers. We decided to do away with it last autumn, but through inability to obtain a kind selected for the place it was suffered to remain, and now every plant has this season borne perfect blooms. They are large and well formed, of the palest flesh-pink, shading to white externally, but bright peach-pink, suffused with pale yellow internally. It was sent out by Guillot in 1879. Like all this raiser's Roses, it is a fine kind when good, but uncertain, and therefore hardly likely to find favour except with those who desire large collections.

**Rose notes**.—On page 574 "Ridgewood" comments upon some of my previous notes and says I am fortunate in having such good growth. I was not aware of the fact till the appearance of the note in question, and shortly after, evidence was forthcoming from this county. Less than twenty miles from here 7° of frost were registered about the middle of June, and my informant says, as might be imagined, that the result was truly disastrous to his Roses. We escaped that frost except in one or two low-lying spots in the park, where the young tender shoots of Brake were browned. The brilliant prospects that I foretold our Roses were showing have been fully realised. From start to finish they had no check, nor were they hampered by insect pests, and during this last week of June the Tea Roses have been a splendid picture, the flowers fine, well formed, and exceedingly numerous, the growth abundant and strong. Had the deluge which fell on the night of June 28 been succeeded by dull weather, hundreds

of buds and blooms would doubtless have rotted but again, as throughout this present season so far, fine weather succeeded wet, and, aided by a breeze, the blooms quickly dried, and brilliant sunshine since has opened many more. Orange fungus already is very rife among Hybrid Perpetuals. It is a cause for great thankfulness that this most disfiguring and worst of pests never attacks the most ornamental and best section of Roses—the Teas.—A. H.

## BUDDING ROSES.

THE time for this operation is fast approaching, in fact I have already begun upon a few established stocks that were not strong enough last year, or else had failed when budded late during the previous summer. In the present case the buds were obtained from plants under glass, as those out of doors are not yet sufficiently matured to command a fair chance of success. July and August are the two best months for budding, the former month being preferable; but in cases where large quantities have to be done, or the stock of any desired variety is small and weak, it must depend in a great measure upon when one can find the buds. To ensure a fair amount of success, all stocks should be budded before September, as the sap on which the bud sustains itself does not flow so freely after that time, and consequently the bud has not so good a chance of getting "set" to the stock. I prefer the stocks to be growing fairly well, not rampant, or the bud is flooded with too much sap. It is well to have them of medium growth only, and to secure this end I never manure my stocks when planting, finding they grow quite strongly enough for successful budding without any such assistance, and that a steady summer's growth tends towards setting the bud earlier and firmer, both of them getting more matured and better able to withstand winter frosts. If grown too strongly, the bark sometimes swells completely over the bud, smothering and so killing it. This last point applies more particularly to the seedling Brier, a stock that often swells from the size of an ordinary knitting needle to as large as 2 inches in circumference, if growing at all strongly and upon rich ground. Supposing, then, that the stocks are not on too rich a piece of ground, they may be budded as soon as sufficient sap has risen to allow the bark to be easily lifted. Let the Rose shoot you intend working from be as nearly as possible in the same stage of growth as the portion of the stock you are operating upon, so that they may heal over and unite more perfectly. If this be attended to, they will be set in from two to three weeks, when they may be looked over and any failures re-budded a little higher up the stock. By getting this operation done fairly early in the season fewer failures will result, and one has the opportunity of inserting a second bud where failure has attended the first attempt. It is by no means necessary to have prepared stocks for budding upon, as any strong growing Rose may be converted into a more desirable variety. Where a good plant of any inferior kind exists, it is sometimes better to bud a more desirable kind upon it than to destroy it and replace with a nursery-grown plant of the favoured sort. In many cases one has a plant under glass that is growing vigorously, but is unfortunately of some little-desired variety. Almost any variety of Rose will do excellently upon such a stock, and it would be wise to so utilise the established roots of such Roses.

The Manetti is one of the staple stocks for dwarf Roses, and if properly budded they will do excellently upon it, and not produce the quantities of suckers too often found upon plants worked upon this stock. Some time ago I advised that all dwarf stocks should have a little earth drawn up to them. If this plan has been followed, the benefits accruing from it will be very patent during the budding season. Before inserting any buds remove the soil as much as possible without injury to the stock, getting as near to the crown of it as you possibly can. Let this operation be done very carefully, so



as not to bruise the bark. The lower the bud can be got, the better will it be as regards suckers, as you thus leave a very small portion indeed of the original stock to produce them; otherwise they are almost certain to emanate from the space between the bud and crown of the stock, robbing the Rose, and unless constantly attended to eventually resulting in the death of all but the stock itself. On the other hand, if properly worked, very few suckers can result, and the Rose is much more inclined to strike off upon its own roots, and thus receive additional support to that afforded by the stock. In the case of all dwarf stocks, one bud to each is quite sufficient. Seedling and struck cutting Briers may be treated exactly the same as the Manetti; so also may the De la Grefferaie and any of the Polyantha or other Roses that are grown from cuttings in the same way, and which are much used by some few amateurs as stocks. Hedge Briers for standard and half-standard Roses require somewhat different treatment, although the actual operation of budding is the same. As soon as the Briers in this form commence to grow, remove all of the young shoots except the two or three you intend working a Rose upon. The exact height of these must be decided on according to the height you wish your future Rose tree to be. When the remaining growths are a little thicker than an ordinary lead pencil and the bark at their base is sufficiently matured, they should each have a bud inserted into them and as near to the main stem as possible. One bud in each of the two or three shoulders will be sufficient.

We now come to a very important point in the operation of budding Roses, viz., what stock to work certain varieties upon. All Roses, of whatever class, will do well upon either of the Brier stocks; but it is best to put only strong growers upon full standards of the hedge Brier, as the weaker kinds do not possess sufficient strength to keep the Brier roots in active growth and the stem healthy. It will not do to allow suckers to grow out occasionally with this object in view, as they would soon take the whole of the sap, and the Rose itself would dwindle away and die. The majority of the Hybrid Perpetuals, Bourbons, Mosses, and strong growing Tea-scented Roses do well upon the Manetti, notable exceptions among the first being Captain Christy, Xavier Olibo, Marie Verdier, Sultan of Zanzibar, and Her Majesty.

The actual operation of budding may be carried out by the most inexperienced with fair prospects of success if done cleanly, quickly, and neatly, after a flower has been cut from a shoot about a week or ten days and the remaining eyes are nicely prominent without being actually started into fresh growth is an excellent time for budding; also when the prickles of a half-matured shoot will snap off readily when touched. If these hang to the bark, as a general rule the bark surrounding the bud will hang too, and this would necessitate too much force in removing the small portion of wood. It is essential that the bud be in as nearly a ripe condition as possible consistent with an easy and free removal of the wood from the bark; also that the seat of the eye be on a level with the bark and so rest upon the wood of the stock.

R.

**Rose Goubault.**—The chief charm of this old Rose is its lovely scent. In this respect few can equal and none surpass it. It flowers very freely, and its bright rose buff-shaded flowers are attractive.

**Roses on seedling Brier.**—It is stated in an article on "Roots or Stocks" by a "Puzzled Amateur" in THE GARDEN for June 11 (p. 573) that "Mr. Cranston says his Hybrid Perpetuals will not do on the seedling Brier." This statement, no doubt inadvertently given, is not correct, and is so misleading that it calls for an explanation. In a paper on the Manetti stock (page 527), from which possibly the conclusion might have arisen, I say: "Although I hold the Manetti in the highest estimation, I by no means wish to disparage the merits or value of the Brier, Grefferaie, or other stocks. They are all serviceable, and to the successful cultivation of the Rose are indispens-

able." And further I mention: "The seedling Brier is undoubtedly the best stock for Teas, and is also a good and suitable stock for most of the Hybrid Perpetuals, Bourbons, and Noisettes." From these observations, it cannot be inferred that I condemn the Brier for Hybrid Perpetuals. I have not found that Roses, either Teas or Hybrids, deteriorate sooner or more so on the seedling Brier than on the Manetti, and should be more inclined to attribute the cause of deterioration in the plants referred to by a "Puzzled Amateur" to the wood having been injured by frost, consequently losing vigour and the plants gradually decaying and dying away. Instances of this often occur, especially after a severe cold winter and spring similar to that we have just gone through.—JOHN CRANSTON, *King's Acre, Hereford.*

\* \* We think it as well to quote here what Mr. Cranston said in THE GARDEN for June 11:—

I give preference to the Manetti for all the strong and moderate-growing Hybrid Perpetuals, Bourbons, Moss, Provence, Austrian and all summer-blooming Roses for outdoor or pot culture, also for some Noisettes and Hybrid climbing Teas for pillar or wall Roses. The seedling Brier is undoubtedly the best stock for Teas, and is also a good and suitable stock for most of the Hybrid Perpetuals, Bourbons, and Noisettes, but it has this objection—that Roses on it are much later and slower in growth and later in coming into bloom than plants upon the Manetti. They are also later in ripening their wood and require more care in transplanting. It is more suitable than the Manetti for heavy cold wet soils in cold damp districts.—ED.

## NOTES OF THE WEEK.

**Papaver glaucum** is a new Poppy to us, and a very fine one indeed. It is dwarf, with rather the habit of *P. Rhæas*, the leaves less cut, of a firmer texture, and glaucous. The flowers are dull crimson, with small black blotches at the base of the petals—a decided acquisition to our list of annual Poppies, and one to be noted for next year.

**Nymphæa odorata exquisita.**—This is all that the name implies and a truly exquisite kind, deeper and richer in colour than any of the other hardy hybrids that M. Latour Marliac has given us. The flower is rather larger than that of the typical *odorata* and of a lovely colour. It is almost carmine-rose at the base of the petals, and shades to a clear soft rose towards the tips. The leaves are of a very dark purple shade.

**Nymphæa Marliacea albid.**—Although M. Marliac has been working, and successfully, towards producing new colours in Water Lilies, he seems to have also improved the white-flowered kinds, or at any rate given us a sterling addition to them in that which bears the above name. The flowers are of great size. Those of *N. odorata alba* look small in comparison. The petals are long and broad, the inner ones shorter than the outer, and the centre of the flower rich yellow. When fully established and flowering abundantly, it will be highly effective.

**Scabiosa caucasica.**—I notice in THE GARDEN of July 2 (p. 16) Herr Max Leichtlin writes that *Scabiosa caucasica* has not yet been coaxed into producing different colours. I do not claim to have made any effort to raise varieties of this beautiful perennial, but accidentally the white variety has appeared in a bed of the ordinary type. I have twelve clumps just in bloom, and they promise well both in healthy growth and freedom of flower. The flowers are large and of a delicate creamy white.—MAURICE PRICHARD, *Riverslea Nursery, Christchurch.*

**Pink Little Pearl.**—I send you a bunch of a medium-sized, Carnation-petalled, white Pink which I raised from seed of Mrs. Sinkins three or four years ago. It seems to me to represent a good type, having a solid substance and neat rosette-like form of flower. It is extremely free-flowering and carries an abundance of buds (none

of which I remove) on its stiff branching stems. It is just flecked with red in the centre of the flower, but only enough to give a creamy tone to its white colour. It goes by the name of Little Pearl here, and I grow it in abundance for gathering.—G. H. ENGLEHEART, *Applesham, Andover.*

**A Bignonia from King's Acre.**—I am sending you spikes of *Bignonia radicans grandiflora*. The plant from which these flowers have been taken is planted out in one of our Rose houses, and has at the present time upwards of fifty similar spikes laden with magnificent blooms.—J. CRANSTON.

\* \* We have never seen such beautiful trusses of this plant, which, although hardy in the north of France and sometimes in our own country, does not show its vigour in the open air. The panicle of flowers sent by Mr. Cranston is 15 inches long, though not half expanded, and with nearly fifty flowers and buds on it.—ED.

**Spiræa aruncus.**—What a noble plant this is, and yet how rarely do we see it well done! Grouped on a lawn in beds or borders with suitable surroundings, there is no more telling plant in flower at the present time. On dry soil it keeps dwarf, but in a moist rich soil it attains noble proportions. *S. gigantea* is somewhat disappointing, inasmuch as its flowers are not much better, if as showy as those of the ordinary Meadow Sweet. It is a fine tall species, however, with large leaves, and might be effective near the lake or pond. *S. palmata* loves moisture, and the more it gets the larger are its flower-heads and the richer the colour.

**Arabis petræa** is one of the best of this genus for the rock garden. It is a compact growing plant, increasing quickly, though not inconveniently, from self-sown seeds. It also blooms freely, the individual flowers large, and of the purest white. We have seen the very inferior *Hutchinsia petræa* grown under the above name; there is, however, no affinity, and briefly the one is a mere weed, while the other is a really desirable plant. On Bath stone or rough tufa it is equally at home, seeding all over, and in spite of the past dry season in perfect health, and at present a sheet of white. The tufts are very compact, the leaves irregularly and bluntly cut, and of a very dark glossy green.

**Phyteuma comosum**, at its best just now, is a very charming alpine too seldom seen in gardens. It is not at all difficult to grow, excessive moisture in winter seeming to be its greatest enemy. Protected from this overhead moisture either by planting under a ledge or protecting by means of a piece of glass or other material, it does exceedingly well, soon attaining a robustness and free-flowering habit rarely, if ever, seen when grown in pots. From the nature of its large fleshy roots, it seems reasonable to conclude that it will stand a long spell of drought without suffering much, and on this we have acted, planting on the driest, sunniest spot we could find with much success. *P. Scheuchzeri*, *P. globulariæfolium*, *P. hemisphericum*, and *P. humile* are all very desirable alpine. They are best raised from seeds, which usually ripen freely.

**Erigeron speciosus splenders** (Ware).—This is one of the finest hardy herbaceous plants we have seen for a long time. It is a great advance on the old *Stenactis speciosa* so largely grown in gardens. We noticed this variety in quantity in all the London parks, especially at the Zoological Gardens, where Mr. Young is planting it by the thousand; the effect at present is indeed very fine, and, weather permitting, will be nearly as good in a month. *E. salsuginosus* is also well worth a place in the border; the pale almost lilac-purple flowers are freely produced and last a very long time in perfection. This latter is a most useful plant for cutting, and where a demand for cut flowers is a heavy one it should be grown in quantity. *E. multiradiatus*, a Himalayan species of a dwarfer habit and with deeper coloured flowers, will be found a good border plant and also useful in the rock garden.



## TREES AND SHRUBS.

## THE MAGNOLIAS.

THERE are about a score species of Magnolias known to botanists, and all but some half-dozen or so are in cultivation in this country. The head quarters of the genus are in China and Japan, a few are peculiar to the Himalayan region and a few more to North America. All are handsome and desirable trees or shrubs ;

ing readily. The best results obtain if the plants are procured and planted just as growth begins in spring. The fleshy roots when injured rot rapidly, and when autumn planting has been practised, very many individuals succumb to the ordeal, those that do not do so outright often struggling on in a pitiful plight for years. A little care in transplanting in spring, in sheltering with mats from dry winds or hot sun, and in syringing the wood to prevent shrivelling until the plants are thoroughly established, would do much to prove that the

yellow-tinged, bell-shaped and slightly fragrant. There are fine examples of this tree at Kew, in the gardens of Syon House, Claremont, &c. In its native habitats it attains a height of from 60 feet to 90 feet, with a trunk from 2 ft. to 4 ft. in diameter. The yellow Cucumber tree (*M. cordata*) is regarded by Professor C. S. Sargent in his magnificent work, "The Sylva of North America," as a variety of *M. acuminata*. It is a rare plant in a wild state, as it does not appear to have been collected since Michaux found it in Georgia.

*M. CAMPBELLI*, one of the most gorgeous of Indian forest trees, has not fulfilled the expectations of those who took so much trouble in introducing the species to British gardens. In a wild state it attains a height of 150 feet, and the fragrant flowers, varying from deep rose to crimson, are produced before the leaves appear. Probably the finest specimen in the British Islands is the one at Lakelands, near Cork, which ten years ago was 35 feet high. Perhaps Mr. Gumbleton would be good enough to inform us what progress the tree has made since then. In 1884 it flowered for the first time, and a figure was prepared for the *Botanical Magazine* from material forwarded to Kew by the late Mr. Crawford. Considering the beauty of *M. Campbelli*, it would appear worth while to treat it as a wall plant against some high building in a warm sunny position. As it occurs in a wild state along the outer Himalayas at elevations of from 800 feet to 1000 feet above sea level, there seems every probability that the treatment suggested would prove successful.

*M. CONSPICUA*.—In its typical form this has snowy-white flowers, which are produced in the greatest profusion in the latter part of April and beginning of May. Splendid specimens of this beautiful Chinese and Japanese tree are to be seen at Gunnersbury House, Syon House, Kew, &c. *M. Yulan* and *M. precia* are names under which this is found in some books and gardens. Several hybrid forms between this species and *M. obovata* occur in gardens; of two of these, *M. Lenné* and *M. Soulangeana nigra*, coloured plates have been published in *THE GARDEN*. *M. Soulangeana* has flowers similar in shape and size to those of typical *M. conspicua*, but they are deeply tinged with red; *M. Soulangeana nigra* has dark plum-coloured flowers. Both these bloom a week or ten days later than the type. Other seedling forms or slight varieties of the Yulan are *M. Alexandrina*, *M. cyathiformis*, *M. speciosa*, *M. spectabilis*, *M. superba*, *M. triumphans*, and *M. Yulan grandis*.

*M. FRASERI*, a native of the Southern United States, is easily recognised by its light green spatulate leaves auricled at the base; they each measure about 8 inches to 1 foot in length, and about 3 inches or 4 inches across at the widest part. The flowers, each of which measures 3 inches or 4 inches in diameter, are creamy white in colour, and are produced later than those of any other cultivated species. In a wild state the tree attains a height of from 30 feet to 50 feet.

*M. GLAUCA*, the Laurel Magnolia or Sweet Bay of the Eastern United States, is a delightful sub-evergreen shrub with oblong or oval leathery leaves, bluish green above and silvery below. The flowers are globular in shape, very fragrant, opening of a rich cream colour and gradually acquiring a pale apricot tint with age. In a wild state this species occurs in swamps and attains a height of 20 feet. A large-flowered form (*M. Thompsoniana*) originated, according to Loudon, about eighty years ago in the nursery of a Mr. Thompson at Mile End. It is figured in the *Botanical Magazine* as *M. glauca* var. *major* and in other publications. By far the most faithful and characteristic representation, however, is given in *Garden and Forest* for 1888. Professor Sargent there says:—

It has been considered a large-flowered variety of *M. glauca*, and by some authors a hybrid between *M. glauca* and *M. Umbrella*. It is probable that the latter supposition is correct, as, although the leaves of *M. Thompsoniana* cannot be distinguished from those produced on a vigorous plant of *M. glauca*, the leaf-buds are quite glabrous and destitute of the silky hairs which cover those of that species, while the broad, strap-shaped, reflexed sepals and obovate-oblong petals,



The Yulan (*Magnolia conspicua*) in the garden at Gunnersbury House. Engraved for *THE GARDEN* from a photograph sent by Mr. J. Hudson.

some, indeed, may be classed with confidence amongst the most beautiful objects to be met with in the gardens of temperate climates. A glance at the accompanying engraving, representing a very fine specimen of the Yulan (*Magnolia conspicua*) of China and Japan will show what glorious effects may be obtained in spring in the south of England, at any rate, by its use. It is true enough, unfortunately, that frosts sometimes injure the flowers and change their snowy whiteness into an unsightly brown. Perhaps the reason that this Magnolia and its allies are not more frequently met with in gardens is owing to the fact of their not transplant-

Magnolias can be planted with every prospect of success. Some species occasionally ripen seed freely in this country, and it is well worth while to sow this seed at once. If dried and kept like other seeds until the following season, all chance of germination will have passed. All the species of the natural order Magnoliaceæ have seeds which retain their vitality but a very limited period.

*M. ACUMINATA* (the Cucumber tree of the United States) makes a noble specimen when planted singly in the park or pleasure ground. It is deciduous, the leaves varying from 5 inches to 1 foot in length and glaucous green, the flowers



contracted into a narrow claw, distinctly belong to *M. umbrellæ*; the flowers, rather more than 6 inches across when fully expanded, being intermediate in size between those of the two species. They have, on the other hand, the delicious fragrance peculiar to those of *M. glauca*. So far as I know, *M. Thompsoniana* does not produce fruit, and it is a curious fact that it is much less hardy than either of its supposed parents, suffering here always, unless carefully protected in winter, and rarely rising above the size of a small bush, although Loudon . . . speaks of trees at Mile End more than 20 feet high. I shall be glad to see fruit of this plant, and to learn if it grows more vigorously in Europe than it does in this country.

*M. GRANDIFLORA*, the great Laurel Magnolia of the Southern United States, is—in England—best treated as a wall plant; under these conditions it thrives well and flowers freely. In order to form some idea of the beauty of this species it is necessary to see it in large symmetrical stately trees in the west of France, &c., where climatic conditions obtain which more nearly approach those of its native habitats. In Bartram's Travels, that enthusiastic lover of Nature exclaims:—

Behold yon promontory, projecting far into the great river, beyond the still lagoon, half a mile distant from me: What a magnificent grove arises on its banks! How glorious the Palm! How majestically stands the Laurel, its head forming a perfect cone! Its dark green foliage seems silvered over with milk-white flowers. They are so large as to be distinctly visible at the distance of a mile or more. The Laurel Magnolias that grow on this river are the most beautiful and tall that I have anywhere seen, unless we except those which stand on the banks of the Mississippi . . . Their usual size is about 100 feet, and some greatly exceed that. The trunk is perfectly erect, rising in the form of a beautiful column and supporting a head like an obtuse cone.

In *THE GARDEN*, Vol. II., p. 205, there is a fine illustration of the "Magnolia grandiflora at Home." Professor Sargent, in his "Sylva of North America," adopts the name of *M. foetida* for this species. In *Garden and Forest* for 1889, one writer urges the claims of this species as the national flower, and states that it

was among the favourite trees, if not the especial one of Washington. An imposing specimen over 75 feet high, known to have been planted by his own hands, still flourishes at Mount Vernon, and every year since this modern Mecca has been accessible to the public, each fallen petal of its faded blossoms, every glossy leaf of its rich foliage and every seed that drops from its fruit-pods have been carried away as precious souvenirs by the visitors to that hallowed spot.

*M. HYPOLEUCA*.—So far as we have been able to ascertain, the only figure of this beautiful species (excepting one in a Japanese publication which is not easily accessible) is in *Garden and Forest*, vol. i., p. 305. From an economic standpoint *M. hypoleuca* is perhaps the most important of all the Magnolias; the wood is straight grained, easily worked, and dull yellow-grey in colour. It is the wood commonly used by the Japanese in the manufacture of objects to be lacquered; it is preferred for sword sheaths, and the charcoal made from it is used for polishing lac. In the southern part of Yesso it is abundant in the forests and forms fine trees 60 feet or more in height, with a trunk diameter of 2 feet. The leaves are broadly obovate, a foot or more long and 6 inches or 7 inches wide, dark green and smooth above, and clothed with white hairs beneath. The flowers are creamy white in colour, deliciously fragrant, and when fully expanded measure 6 inches or 7 inches across, the brilliant scarlet filaments forming a striking contrast to the petals. There are no large specimens as yet in this country, but as the species thrives well in the North-eastern United States, it is fair to assume that it will do well in Britain.

*M. KOBUS*, a Japanese species grown in the United States under the name of *M. Thurberi*, is as yet very uncommon in this country, and we have not yet seen it in flower. In habit it seems to approach dwarf-growing forms of *M. conspicua*.

*M. MACROPHYLLA*.—This, unfortunately somewhat tender in a young state, is worth growing simply for its beautiful leaves, which are green above and clothed with white hairs beneath; they

attain a length of upwards of 3 feet. The open bell-shaped fragrant flowers are white with a purple blotch at the base of the inner petals and measure 8 inches or 10 inches across. In its native habitats, the Southern United States, it forms a tree from 20 feet to 40 feet in height, with a trunk rarely exceeding a foot in diameter.

*M. OBOVATA* is a native of China; in Japan it only occurs in cultivation. It is a dwarf-growing bush, perfectly hardy in the south of England, and bears freely its purple, sweet-scented flowers, though not in the same profusion as are those of the white-flowered *M. conspicua*. This species has a number of synonyms. Amongst these are the following, which are the most frequently met with in books and nursery catalogues: *M. discolor*, *M. denudata*, *M. liliflora*, *M. purpurea*, *Talauma Sieboldi*, &c. There are several varieties, but these differ so slightly from each other and from the type, that descriptions without good coloured figures would be next to useless. The best are *Borreri*, *angustifolia*, and *erubescens*.

*M. STELLATA*.—An excellent coloured plate of this very beautiful Japanese shrub was published in *THE GARDEN* in June, 1878, under the name of *M. Halleana*. This species is the earliest of the Magnolias to flower, and it should be extensively grown for the beauty of its starry white flowers. A variety with blush-coloured flowers sent from Japan by Mr. Maries has not yet been sent out by Messrs. Veitch, but it grows freely in their Coombe Wood Nurseries, and will doubtless become as great a favourite as the type. Both are dwarf-growing deciduous shrubs.

*M. TRIPETALA*, a native of the Southern United States, has large, slightly scented, white flowers from 5 inches to 8 inches across, and obovate-lanceolate leaves from 1 foot to 3 feet in length; in a wild state the tree rarely exceeds 40 feet in height. Philip Miller was the first to introduce this fine species to British gardens. Other names for it are *M. Umbrella* and *M. frondosa*.

*M. WATSONI*.—A coloured plate of this very beautiful Japanese species was published in *THE GARDEN* in December, 1883, under the name of *M. parviflora*; at that time it had not flowered in British gardens. It is quite hardy. It has large, creamy white, fragrant flowers with petals of great substance and deep red filaments, which add materially to the beauty of the blossoms. The true *M. parviflora* is probably not in cultivation in Britain. N.

**Pernettyas in bloom.**—*Pernettya mucronata* and its numerous varieties are usually considered more from a fruiting than a floral point of view, but at the same time they are wonderfully pretty when in full flower, as at the present time. The blooms are, as in many of the Ericaceae, of a wax-like texture, bell-shaped, and pure white in colour. They are borne for a considerable distance along the shoots, and their spotless white tint contrasts in a marked manner with the very deep shining green foliage and reddish leaf-stalks. A little variation is to be found in the blooms of different individuals, and it is possible by carrying out a course of persistent selection, such as led to the production of the numerous forms that differ in the colour of their fruits, to raise some varieties with distinctly coloured flowers.—H. P.

**Ph ladelphus Lemoinei.**—Among the smaller Mock Oranges a place must be assigned this hybrid form, which is this year flowering in great profusion. It is a hybrid between the little New Mexican *Philadelphus microphyllus* (illustrated last year by a coloured plate in *THE GARDEN*, Sept. 26, p. 288) and the European *P. coronarius*. *P. Lemoinei* is, as might be supposed, more vigorous than *P. microphyllus*, and less so than its other parent, while the blooms possess the pleasing fragrance of the North American representative. From its compact habit and great profusion of bloom *P. Lemoinei* may be successfully flowered in pots under glass, and so treated I have seen it this season in very good condition. This Mock Orange was distributed by *M. Lemoinei* in the autumn of 1887, and since

that time a second variety under the name of *P. Lemoinei erectus* has been sent out. I recently saw another of *M. Lemoinei*'s hybrid shrubs in full flower, viz., *Spiræa Bumalda ruberrima*, which was distributed last autumn, and announced as the result of a cross between *S. Bumalda* and *S. crispi-folia*. The new-comer was blooming under glass; therefore, little could be said as to the depth of colouring the flowers would assume when in the open air, but it was certainly very promising.—T.

**Golden-leaved Acacia.**—The common False Acacia (*Robinia Pseudacacia*) is very prolific in varieties, and among the best of them must be reckoned the golden-leaved form (*aurea*), in which the foliage is of a soft yellow tint, which combined with its light and elegant appearance renders it one of the most pleasing golden-leaved trees that we possess; while, what is more, the leaves do not burn with the summer's sun, nor do they become green as the season advances, which is the case with some other subjects. Mixed with trees of a deep green hue the lighter tint of this Acacia is very noticeable. To obtain the best results it must be planted where fully exposed to the sun, as in the shade it becomes much greener, this also taking place when growing in rich soil.—T.

**Spiræa splendens.**—The plant to which this name is applied in gardens is among the most select of the shrubby *Spiræas*, and its value in this respect is enhanced by the fact that it does not, as a rule, bloom till midsummer or even later, at which time most of our flowering shrubs are past their best. This *Spiræa* belongs to the *callosa* group and forms a dense-growing shrub about a yard high, while the flowers are borne in closely-packed terminal corymbs. The colour is a bright carmine-pink, and as the flowers are so numerous that the upper part of the plant is quite a mass of bloom, a specimen of it when in that stage is wonderfully bright and effective. As with the other members of the genus, a cool, fairly moist soil just suits the requirements of this *Spiræa*.—H. P.

#### BEAUTY OF OUR NATIVE SHRUBS.

The wild shrubs of our woodlands and hedges are, unfortunately, almost forgotten in the rage for those of foreign introduction. Take as an example the Guelder Rose (*Viburnum opulus*)—not the trim-flowered, berryless plant of our gardens—and I question whether any shrub can surpass it either in beauty of leaf, wealth and purity of flowers, or in the masses of the brightest coral berries that are so profusely produced. There is a specimen of this very shrub growing by the banks of one of the lakes at Holwood; true, it is a goodly proportioned plant of, say, a dozen feet high and as much through, and I am oft amused at the ignorance of tree and shrub lovers as to the name or even family that it belongs to. Puzzling indeed it is to one who has not before become acquainted with this species of Guelder Rose to tell what it is, but more particularly so when in autumn it is laden with its brightest of berries and showiest of autumn-tinted leaves. I do not know of another shrub that is equally valuable. To see it in its native wilds in the more open parts of the woodland either when in flower or fruit is truly a picture. Probably in the opinion of most persons the wild Clematis of our hedges and sunny banks on the chalk and limestone is not a bit behind the Guelder Rose either in beauty of flowers, curious inflorescence, or general aspect. On the chalky banks of Kent the Old Man's Beard, as the Clematis *Vitalba* is popularly called, is most at home, the roots, few in number, piercing far and deep into the layered calcareous formation. It is no uncommon occurrence in the chalky districts round London to see hedges rods in length almost smothered out of existence by the twisted massy growths of this pretty native climber. Twice in each year these hedges of Clematis are a sight not easily forgotten, first, when the countless numbers of the neatest flowers hang in long drapery, or again when the curious fluffy seed appendages attract one's attention from the roadside half a mile away.



In the Wayfaring Tree (*Viburnum Lantana*) we have another pretty shrubby tree, and one that is rendered very conspicuous in late autumn by the blackish fruit. Even the great flattened heads of white flowers betray the plant's secrecy for a long distance away, for a hedgerow studded with it, as not a few in Southern England are, is a beautiful picture in May and June. It, too, is worthy of garden culture, but, being a native shrub, is left unheeded. The Dogwood (*Cornus sanguinea*) is another native shrub of particular interest and value, not so much, however, for its flowers as for the pretty reddish tint of the bark, which the plant when leafless shows off all the more vividly. By a woodland stream or lake bank it is at its best and looks most at home. Both our native species of *Rhamnus* (*R. catharticus* and *R. frangula*), though rare in some districts, are fairly common in Southern and Eastern England. The Spindle Tree (*Eononymus europæus*) has few equals as an ornamental berry-bearing shrub, and is cultivated in many parks and grounds for this purpose. After the pale scarlet fruit has opened and revealed the orange-coloured aril of the seeds this shrub is most effective and ornamental. Few shrubs, too, are more effective during the early spring months than the Mezereon (*Daphne Mezereum*) and the Spurge Laurel (*D. laureola*), both native plants, although not very commonly distributed. A mass of the Mezereon when in full flower, and at a time when blossoms are few and far between, has a most beautiful effect. If only for the shining leaves and graceful habit the Spurge Laurel well merits a large share of attention. The Sweet Gale or Bog Myrtle is in some marshy spots plentiful enough, but its spicy fragrance is surpassed by that of no other shrub (native or foreign), if, perhaps, we except the Carolina form (*Myrica carolinensis*), and for that reason alone it is worthy of extended attention.

Of bog or peat-loving plants we have quite an array of native species, any or all of which from their floral beauty are worth our attention. The Heaths include such sought-after kinds as the Connemara species (*Menziesia polifolia*), of which there are two well-marked forms, purple and white-flowered. Then we have several showy species of *Erica*, the best known being *tetralix* and *cinerea*, though the Cornish form, *E. vagans*, well deserves the praise usually meted to it. *Andromeda polifolia*, with its pinkish bells and strangely silvery hued leaves, is a fit occupant for any bog garden, its pretty neat growth still further enhancing its value. Along some of the Irish bog ditches I have seen it not in abundance, but pretty frequently. *Menziesia cœrulea*, though now very rare, is an interesting shrub from the Perthshire hills; while the dwarf *Azalea procumbens* makes a fellow partner to it in the alpine garden. High on the hill-sides we find great masses of *Empetrum nigrum*, a low trailing plant of great beauty on account of the neat foliage and abundance of shoe button-like berries with which towards autumn it becomes covered. The Bearberry (*Arbutus alpina*) grows plentifully in a few districts of Wales and Scotland, and is interesting on account of the small white bell-shaped flowers and neat habit of the plant. It, too, is very suitable for rock gardening. *Ledum palustre*, another occupant of boggy grounds, is so distinct and pretty both in flower and foliage, that it well merits the attention of shrub lovers, particularly such as are interested in our native flora. The little creeping and rather insignificant *Vaccinium oxycoccos* is, too, an interesting plant, especially when we see it studding the *Sphagnum* patches with its deliciously flavoured crimson berries. Two other representatives of the same family—*V. Myrtillus* (the Bilberry) and *V. Vitis Idæa* (the Crowberry)—are interesting and ornamental in their own way. As a shade-loving plant we have the well-known St. John's Wort (*Hypericum*), which if only for its large yellow flowers is a most conspicuous object in the grounds of any estate.

But there are many others as well as the above that might be included here, such as the various species of *Rose*, the *Gorse* and the *Broom*, the two

latter in particular being excelled by no others for quantity and tint of flowers. The above are given merely to point out that our native shrubs are quite on a par, whether for beauty of flowers or neatness of growth, with at least many foreign species that are so much in demand at the present day.

A. D. W.

**Grafting Lilacs.**—The note on grafted Lilacs (page 544) is well timed, and should help to direct the attention of nurserymen to the disadvantages of propagating Lilacs by means of grafting, whether the stock employed is the Privet or the common Lilac, for, as is well known, this latter is very prolific in suckers, and therefore continual attention in their removal is necessary. This tendency to produce numerous suckers is often still further aggravated by the way in which the grafting is carried out, for the stock employed is frequently very much stouter than the scion, and consequently there is a great exuberance of sap when the plant relieves itself by pushing up additional suckers. Besides raising seedlings, which of course are not to be relied on for the increase of any particular variety, the Lilac may be propagated by cuttings, layers, or where a plant is on its own roots by the removal of rooted suckers. It is by no means difficult to strike the Lilac from cuttings, but it is certainly not so free in this respect as many other of our hardy shrubs. A very good way is to take cuttings of the half-ripened shoots about midsummer or soon after, dibble them into pots of sandy soil, and keep close and shaded in an ordinary garden frame till rooted. If the plants have been brought on under glass or forced in any way, the shoots then produced will be ready much earlier in the season, and as they do not take long to root, a good plan is to pot them off when ready, and early in the following spring plant them out. By this means they will grow away without any check and soon form nice plants. In selecting the cuttings, it should be borne in mind that the weak or moderate shoots strike root much more readily than the vigorous ones, while as far as possible short-jointed shoots should be chosen as cuttings. In mentioning the Lilac as an example of the evil effects of grafting, there is another subject to which the above remarks will apply with equal if not greater force, and that is the beautiful semi-double *Prunus triloba*, which is usually grafted or budded on to the common Plum. Suckers in this case are of course a great nuisance, and in time a sort of canker establishes itself about the point of union. The pretty little double Chinese Plum (*Prunus sinensis flore-pleno*) is another that behaves in much the same way.—H. P.

**Cassiope tetragona.**—Besides the two little gems, *C. fastigiata* and *C. hypnoides*, alluded to on p. 567, there is yet a third—*C. tetragona*, which is far less exacting in its requirements than the others, and is consequently a very desirable little undershrub, for it will flourish under conditions favourable to the smaller *Ericaceæ*. The specific name of *tetragona* is derived from the leaves being closely packed in four rows on the branches, and a prominent feature in connection with it is the fact that the foliage is of a rich green tint, which is retained throughout the year, provided it is not parched up during the summer. It forms a mass under a foot high and suggests one of the larger kinds of Club Moss, except when the branches are studded with little drooping bell-shaped blossoms of a pure white tint. It is perfectly hardy, and where favourably situated even the cold cutting winds of March do not affect it in any way.—T.

**Paulownia imperialis** (*J. C. Macdonald*).—The coloured plate to which you refer gives a truthful idea of the flowers of the *Paulownia*, but I will admit that at various stages of the flower development the colour, as might naturally be expected, varies a good deal. I see no reason why you should not plant out a specimen experimentally, plants being readily and cheaply procured. For a few winters you would, however, do well to cover the plant with a mat, for the *Paulownia* is one of those trees that becomes less influenced by

frost the longer it has been planted—at least, that is my experience. About soil, we have a specimen growing very rapidly where *Azaleas* and *Rhododendrons* thrive to perfection. But it will grow in almost any soil of fair quality, provided a rather sheltered situation is chosen for it. You ask where the *Paulownia* is to be procured, and in reply I would say at any good tree nursery, particularly in the southern half of these islands.—A. D. W.

**Maackia amurensis.**—Although as a flowering tree this is very inferior to its relative, the North American Yellow-wood (*Cladrastis lutea*), it is very beautiful when the young foliage is expanding, and is worth planting for the effect it produces in early spring, when the young leaves have a peculiar grey-green or mouse colour, and are very unlike those of any other hardy tree or shrub. *Maackia* is now well established in many northern gardens, where it flowers profusely late in June, the minute Pea-shaped yellow-green flowers being produced in slender upright spikes, which make a pleasing contrast with the rich dark green foliage. The seed-pods are small and do not compare in beauty with those of the Yellow-wood.—*Garden and Forest*.

**Weigela Looymansii aurea.**—Among the various hardy shrubs with foliage more or less of a golden hue this is one of the brightest of all, for where fully exposed to the sun the colour is retained throughout the entire summer, and while many golden-leaved subjects are by July nearly green, and others present at best a scorched appearance, this acquires a deep gold, almost orange-yellow tint, which is very striking. It is worthy of attention only for the sake of its foliage, as the flowers are of a pale washy tinge, being in this respect inferior to those of most of the varieties in general cultivation.—T.

## FLOWER GARDEN.

### TREE PÆONIES.

THE noblest flower of the present month is the Tree Pæony, and those who have not got it in their gardens should try and find room for it. For considerably more than 1000 years it has been cultivated by the Chinese, and they have raised hundreds of magnificent varieties and kept them carefully, so that they did not pass out of the country. In Japan, also, it is a great flower, and, like the *Chrysanthemum* and *Iris*, is abundant in that country in many fine forms, some of which are now at last being brought to us. But, fortunately, we are not entirely dependent upon such uncertain sources for our plants, as, for some years past, English and Continental raisers have been at work upon the Tree Pæony, and they have been rewarded with some sterling productions.

The first Tree Pæony was brought into this country rather more than 100 years ago, through the instrumentality of Sir Joseph Banks, who had heard of its existence and popularity in Chinese gardens. A few others were obtained later on, but down to 1850 there were not a dozen distinct kinds in cultivation. In recent years, however, the flower has been greatly improved. Doubtless there are a great many kinds much alike; but there are also magnificent varieties that we ought to possess and grow as we do good *Roses*.

Among the early varieties that came to this country was one with single flowers, which were white, with a dark crimson stain at the base of the petals. This was, and still is, supposed to be the type and parent of the now numerous and lovely progeny in existence. Occasionally, and often where least expected, one meets with a grand plant of this and a similarly coloured double-flowered variety. A short time back,



when passing along the road in a remote country district, we saw two magnificent plants of this kind, one on either side of the walk leading up to a farmhouse. They were each more than 4 ft. in height, almost as much in diameter, and bearing scores of blooms. Many years must elapse before a specimen of such dimensions is obtained, for although Tree Pæonies grow vigorously enough, three parts of the growth made dies back each season to where a prominent bud is formed. One great point in their favour, however, is that they commence to bloom in quite a young state, and plants that are little more than 1 foot high will bear four or five great flowers, and these, with the ample foliage that clothes the shoots, make even small plants appear of considerable size in their summer dress. Above all things they need good culture, and, as when once planted, they are very impatient of disturbance at the root, a thorough preparation of the site should be made. Some care must also be exercised in choosing the position, for, though the plants are in every respect quite hardy, they start into growth so soon that frost sometimes injures the young shoots. The risk of this is obviated by choosing a site where the early morning sun does not shine upon the plants, several degrees of frost not having the slightest effect upon the shoots if they thaw gradually. It is an easy matter, too, to arrange some temporary framework, over which canvas or some other light protecting material could be thrown should frost come during the critical time of young growth. In winter, protection must not on any account be given; the aim should rather be to retard growth, and even then it will start quite soon enough.

Another thing to consider in planting is that they lose their leaves in winter, and, therefore, a group or bed of plants ought not to be in a very prominent position. They will make a permanent feature, and nowhere look better than isolated upon the lawn in a nook backed up by evergreens. So placed and planted at a good distance apart in a deep well-prepared loamy soil, they may be let alone beyond giving them an annual top-dressing of manure, which, applied in spring, serves the double purpose of feeding the roots when buds are forming and swelling and conserving the moisture in the ground till flowering is over and the strain upon the plants is past. A little dryness with warmth later on will assist in the thorough ripening of the wood.

The method usually adopted for increasing Tree Pæonies by trade growers is that of grafting shoots upon the roots of herbaceous species. The common herbaceous Pæony (*P. officinalis*) has been largely used, particularly by Continental growers, but it is the most unsatisfactory stock of all, and so liable to send up suckers that some have planted Tree Pæonies and found the herbaceous stock spring up and take their place. Some other species, however, do not sucker so freely, and it is satisfactory to be able to state that growers of repute use these almost exclusively. Plants can be increased by layers and sometimes by division as they frequently branch out, and if planted deeply enough each branch forms roots. Raising from seed is a slow operation. It does not germinate for a year or more, and growth is so slow that five or six more years must elapse before the plants are strong enough to flower.

The colours embraced by the varieties now in existence are varied and lovely. There are pure white, pale cream, delicate pink, rich glowing rose and crimson forms, some so deep and dark as to appear almost black, also shades of lilac and purple. A selection of a few really first-rate varieties is here given: Blanche de

Chusan, pure white; Caroline Blanche, white with crimson stain at the base of the petals; Coelestis, white, large and very fine; Duchesse d'Anjou, rose and white; Louise Monchelet, salmon-pink, a lovely shade; Lord Macartney, crimson; Mme. de Vetry, rich glowing rose; Mme. Stuart Low, salmon shading to red; Osiris, dark maroon-crimson; Reine Elizabeth, deep rose, a magnificent flower and one of the very best kinds; Robert Fortune, rosy crimson; Samarang, vermilion red; Triomphe de Vandermael, bright rose, large and very double. —*Field.*

**Grevillea alpina.**—This has stood the severity of last winter and spring without any protection. I lately saw a plant in full bloom at Greenway, Dartmouth. It was a nice sturdy bush covered with pink flowers and was growing in light soil on the level. At Exeter the climate is not quite so mild, and a plant of the same variety succumbed during the second winter.—*F. W. M.*

**Shortia galacifolia.**—This lovely American plant belongs to the natural order Dispersiaceæ, and is still rare in gardens. A plant in a somewhat dry sunny position died last winter, while another in a moist and shady position sheltered by stones has not only survived, but has bloomed well on a rockery in Exeter. The flowers are bell-shaped, white shaded with rose, on stems 4 inches to 6 inches high, forming an excellent contrast against the leaves, which are of a very distinct reddish-bronze, turning to crimson.—*F. W. M.*

**Planting Gentiana verna.**—Much has been written of late in these columns about this beautiful Gentian and the best mode of growing it, but one important fact I have not seen mentioned anywhere, and that is that when being planted it should have the soil around it pressed as hard and firm as it is possible to ram it with a blunt stick or hammer. After many failures I planted *G. verna* in this way. The soil around the plant is as hard as a threshing-floor, but the plant is evidently quite at home and has flowered most abundantly. By its side is a *Gentiana bavarica* planted in the very opposite manner in loose spongy soil, with an abundant admixture of Sphagnum Moss. This is in a most flourishing condition.—*F. W. M.*

**Silene virginica (Fire Pink).**—Without doubt this is one of the most brilliant flowering plants to be found among hardy perennials. Under cultivation, however, it is not of that robust constitution that one would desire, or such as would make it one of the most popular of choice perennials. A mixture of peat and loam, rough and fibrous, and freely mingled with old mortar rubbish, sandstone, or charcoal suits it fairly well, and planted on the higher parts of the rockery where its roots can come into contact with the stone blocks, it is, generally speaking, content for a time. But in whatever position or soil it may be found to succeed best, let it be encouraged to the full, for we have very few plants possessed of such brilliancy as this.—*H. M.*

**Sempervivum arachnoideum.**—In or out of flower there is always something to interest one in the several kinds of webbed Sempervivums. I think, however, that at this season in particular the non-flowering rosettes are more striking than usual, because of the snowy whiteness of their silken webs. A fresh crop is being spun, as it were, just about this time, and when the rosettes are well covered the plants are very attractive. In early spring the leaves of the above variety have a reddish purple hue. On the open rockery in a high and dry position, and surrounded by small stones to prevent the rains washing the soil into the web, it is very attractive. The position can hardly be too hot or too dry. To have it in its best form the rosettes should be pricked out singly an inch apart, carefully avoiding planting in lines, and in this way covering a large irregular space on the rockery in a sunny position. Make the ground firm before pricking out the plants, and when planting is completed, sprinkle some clean fine

gravel or similar suitable material among the rosettes. Given this treatment, the plants will flower more freely, it is true, and though some may object to this because of the obvious result of such flowering, it should be remembered that only a few of the largest would flower in the first year, and that the remainder would form a very pleasing feature for a long season, while those that bloom may easily be replaced when flowering is complete. Offsets are produced in plenty; consequently some large patches may readily be formed. *S. a. Lageri* and *S. a. Powellii* are two good kinds worthy of attention.—*E. J.*

#### ASTERS.

WE have pretty safely got through what has been a somewhat critical time for annual Asters, because the ordinary season of transplanting was a dry time and conducive to the production of aphids. It not unfrequently happens that Asters, ere they can become well established, are badly infested with aphids. The leaves then become stunted, and the side shoots, which at once break up prematurely, are never capped with fine blooms. Generally this season so far, and in spite of the earlier drought, Asters are very good, and we may look for a full bloom in due course. It is difficult when Asters become blighted to dislodge the insects, because they usually favour the undersides of the leaves. Perhaps the best plan is to water liberally with soapy liquid in such a way that much of the water will splash up under the leafage and render it obnoxious to the aphids. If this be done at night and a good dressing of soot added, it will prove very efficacious. The soot should, however, be partially washed off by sprinkling with clean water next morning ere the hot sun scorches the foliage; these waterings thus serve a double purpose, as whilst checking the fly they also help to manure and stimulate the plants, so that very soon new roots are formed. Stout growth ensues and a wonderful change is presented. It is not at all satisfactory to sow Asters where they are to bloom, not only because owing to our late, cold springs germination must be both late and uneven, but also, unless transplanted, too thick to be of any use. Aster seed, if of a good strain, is also too expensive to be sown in any offhand fashion; hence the rule invariably followed of raising the seedling plants in boxes or pans or in frames, of course, under glass, is at once the wisest and most economical. I can remember the time when in a large nursery in the south of England it was the rule to raise the tender annuals on long hotbeds covered with soil, and which were protected from the weather by hoops of Ash or Hazel, and covered with mats. That was the practice some 50 years ago when glass was not so cheap and frames not so plentiful as now. In the area of a frame some 8 feet by 6 feet it is possible either in shallow boxes or by sowing the seed in shallow drills in a soil bed, that is, near to the glass, to raise plenty of stout plants. There is, perhaps, no better way, because plenty of air can be afforded as desired. Drills may be 7 inches apart, and the seed should not be sown thickly, as if such be the case the end of the grower will be largely defeated by producing an excessive quantity of weak plants rather than fewer stout sturdy plants. The same rule applies to raising Asters in pans or boxes. Once the plants are 3 inches in height they need immediate transplanting into other frames or where they can have shelter from cold winds and frosts. The soil should be specially prepared with plenty of short manure or leaf-soil to promote abundant root growth, and some shading can be given if required until the plants have become established. Even in preparing for this first transplanting it is poor policy to pull the plants bodily from the seed bed or pans to the manifest injury of the roots. The best course, as in all similar cases of seedling plants, is to employ a small hand fork to assist the roots coming up freely and without injury. When so much trouble is taken, the plants are far less likely to be attacked with aphids than when roughly used. If then dibbled out carefully at some 3 inches



apart all over the frame in prepared ground, they will soon form strong plants. If seed be sown early in April even in a cold frame, for bottom-heat is rarely needed for good Aster seed, the seedlings will be ready to dibble out in five weeks, and again may be finally transplanted where to bloom early in June, being then very strong, sturdy, and well-rooted. Each plant lifted with a trowel will have a good clump of roots and soil attached, and planted also with a trowel will, if well watered—that is, if the weather be dry—hardly suffer at all, and, making good growth all the summer, carry in the early autumn fine heads of flowers. In the case of growers of thousands of plants either for market sale or seed-production, it is the rule to transplant once only, that is from the seed boxes or frames direct into the open ground. Where that course is performed followed, it is best to sow seed thinly in shallow boxes, getting it to germinate quickly in frames; then so soon as the plants are well in rough leaf, leaving them fully exposed to light and air except at night, so that the plants in no way become drawn and are rendered hard and wiry. These plants have to be put out when comparatively small, and, of course, presenting an easy prey to slugs; therefore the harder the stems before being exposed to that danger the less likely are they to be attacked. If, however, after being well watered in, a dusting of soot be given some two or three times during a fortnight, very few indeed will fall a prey either to slugs or aphids. Once well established in the open ground, Asters can take good care of themselves and in due time give a superb show of bloom. Truly beautiful indeed are the colours to be found in the various sections. We may, if we want variety, have a dozen diverse sections and a dozen of diverse colours or markings in each. Growers for ordinary garden decoration like plenty of variety; growers for market like a few striking colours, such as white, blue, purple, carmine, red, and crimson. Of this last hue, some sections give most brilliant shades, and masses of them growing in the broad sunlight are indeed beautiful. The crown or edged flowers are pretty, but not so constant or, on the whole, so useful as are the self flowers. Striped flowers also are more or less pretty, the white and blue and red and white of the Victoria and Pæony-flowered sections perhaps being the most effective. These two sections give the best flowers for exhibition, the dwarf Chrysanthemum, dwarf Victoria, and the Bouquet the best for market work, lifting the plants and clumping them into pots for sale. The Mignon is the best section for cutting from. Those who like quilled Asters will find them easy to grow, but the flat-petalled forms are on the whole showier and more effective.

A. D.

**Achillea Clavennæ.**—This is one of the most beautiful and attractive of plants on the rockery just now. The whole plant is not more than 10 inches or so high, possessing a tufted and spreading habit, while the rough, jagged and silvery leaves render it at once attractive whether in flower or not. The flowers, which are pure white, are produced in corymb-like heads. Sufficiently abundant are they to almost hide the foliage. Altogether it is a very pleasing plant and one to be encouraged, for it may be put to an extensive use in many gardens. Roughly speaking, a rather dry position suits it better than the reverse, and in winter-time it is apt to succumb to continued wet and fog, particularly when planted on the level ground.—E. J.

**How not to plant herbaceous plants.**—A lady in the midlands has just written me saying her herbaceous border is a perfect failure this year. Early last autumn, consequent upon its crowded condition, the whole of the plants were taken up, the border dug and manure added, and the plants divided and replanted. Unfortunately, a jobbing gardener was called in to do the work, and in place of the fine masses of flowers which had been the rule for years past, many things have only sent forth a few leaves. The soil of the garden is heavy; the plants had been cut up into the merest

fragments, put into the centre of a piece of earth, and then moulded into a hard ball and planted. As plant after plant only put forth a few leaves instead of a renewed vigour, as was expected, a search was instituted with the above result. The tiny fragments, with their roots thus hermetically sealed, found it impossible to get through, and death in many instances resulted as a matter of course. No method of planting deserves stronger condemnation than this, and nothing is more fatal. Should any readers of THE GARDEN receive plants thus moulded up, my advice is to put them in a pail of water and wash the roots bare prior to planting.—E. J.

#### CATANANCHE CERULEA.

THESE charming plants, closely allied to the Lettuce family, are not nearly so often seen in gardens as might be expected, considering their showy flowers and striking habit of growth. The species figured in the accompanying cut is the most common, and although perennial in light soils, I am afraid it is at the best but short-lived, and in heavy soils at any rate gives most satisfaction as an annual or biennial. We have doubtless much to learn about the longevity of South European plants especially, and



Catananche cerulea.

may often discard a good plant simply because it refuses to live more than a couple of years or so in our borders, when the same treatment afforded to annuals and biennials would enable us to indefinitely keep the particular species. The species in question is an excellent border plant; the everlasting-like flowers of an intense blue give it a decided character, and as it may be depended upon in a light sandy soil, it could readily be made a feature by being planted on the margins of the shrubberies or even naturalised in semi-wild places. There are a white and a bicolor form, and the three mixed together would be very effective. The stems rarely exceed 2 feet to 2½ feet high, the leaves narrow, lance-shaped, with a few small teeth on each side, and usually glaucous. The three forms are natives of Southern Europe, and were introduced as early as 1596. *C. lutea* is a hardy annual, and is similar to *C. cerulea* in every respect excepting its bright yellow flower-heads. It is a useful border plant, and makes showy patches when liberally treated. The seeds should be sown in the open border about the beginning of April, the seedlings being thinned out to the required distance, which should never be less than a foot.

D. K.

**Violets for winter flowering.**—The practical comments of "Caledonian" on the above (p. 512)

should be noted by all who would be successful in the cultivation of Violets for winter blooming. His excellent summing up in the last three lines of his article are worthy of being repeated: "A fine, moderately rich, firm tilth and rather firm planting are also essential to the high culture of Violets." There is the *modus operandi* for us in a nutshell.—J. R.

**Tufted Pansy White Swan.** It is probable that this capital tufted Pansy is sometimes taken for Countess of Hopetoun. I think it may have been so at Claremont, where I saw it growing in huge clumps on the borders last week. No white variety could possibly have bloomed more profusely, and although Snowflake may be a trifle whiter, it could hardly be more effective. White Swan is one of the varieties raised at Bedford some ten years since, but I had lost sight of it for some time, and was pleased to see it doing so finely at Claremont recently.—D.

**Dianthus plumarius.**—What delightful gems these single rock Pinks are! On the rocks good clumps of varied colours are neat, graceful, and effective. They are also attractive in the borders, and most useful for supplying cut blooms for the decoration of vases. Considering their many merits and the ease with which they can be grown (a shilling packet of seed gave us the start), for they grow freely from seed, and can afterwards be increased by pipings if required, it is surprising they are not more often seen than is the case.—J. R.

#### HINTS ABOUT PLANTING DAFFODILS.

LAST autumn I promised to give the results of certain experiments I was making in Daffodil planting. I have now lifted a large part of those I planted then, and as the result I strongly recommend those who have been in any way unsuccessful hitherto to try the effect of sulphate of copper. A pound, finely powdered and mixed with a peck of sand, will be sufficient to plant 100 or 200 bulbs. After the hole for them is made, the sulphate should be spread so that the base of the bulb rests upon it. I think it better not to mix it with lime or bone, or anything but sand, and though I dare not say that it will cure or even prevent basal rot, I feel sure that it helps to produce a healthy growth without unduly exciting the bulbs, as some manures might do. Let planters try near to one another a row with this dressing and a row without of the same variety of Daffodil, and compare the result. One or two more hints may not be out of season. As Virgil tells his readers that different varieties of Vine like different soils—some strong and rich, some light and poor—so it is with varieties of Daffodils. No absolute rule can be laid down which will apply to all Mr. Barr's 500 varieties, but it may be said, generally, that *Narcissus poeticus* and the short-crowned Daffodils which are hybrids of it flourish best in a stiff retentive soil, and the trumpet Daffodils in a lighter and more open soil. There are many exceptions; for instance, soil is seldom too strong for Emperor or Horsfieldi, and may easily be too retentive for Sir Watkin, but for all it should be well drained and well worked and pulverised both above and below the bulb, though the soil below should not be loose, as all the tribe like a firm bed to root in. As for depth, I plant deeper than is usually prescribed; 6 inches or 8 inches above the top of the bulb is not too much for the largest kinds; in this way they produce larger flowers, but do not multiply so fast. Three or four inches is deep enough for pallidus precox and minor. The lighter and deeper the soil, the deeper should be the planting. *N. maximus* especially likes a light soil and to be well covered in it. Near Bayonne, where maximus grows wild, some of the land on which it grows is ploughed in May for sowing



Maize, and so deep are the bulbs, that they flower every March in spite of it, though probably the flowers would be finer if the leaves were allowed to mature unmolested. As for the time of planting, do not let any dealer persuade you that bulbs planted in October will thrive and become established as well as bulbs planted in August, and the earlier in August they are planted the better.

Edge Hall.

C. WOLLEY DOD.

### MULLEINS.

THE article upon these and admirable illustrations in THE GARDEN of June 18 are appropriate in that they call attention to the merits of a noble family of flowering plants at a time when they may be seen at their best. This, however, is not possible in many gardens, for so few grow them. They are among the noblest and showiest of early summer-flowering plants, and were they perennials instead of biennials, I have no doubt they would be more popular. It is true a few kinds are perennial, such for example as *V. vernale*, but this is rare in gardens. I have only seen it in Mr. Thompson's garden at Ipswich, and there in light soil it does well and a bold group is a striking feature every year when in flower. The article on p. 551 errs on the side of brevity, as I think "D. K." might have set forth the merits of some kinds more fully, and he as well as anyone could have told us of any special peculiarities affecting particular species. Take for example *V. phoeniceum*, a perennial and "one of the best species for mixed borders in small gardens." With this I fully agree, but if we see it at its best we must choose the site for it. It must have an eastern aspect for preference, but in any case one in which it does not receive much sunshine. Under the bright early summer sun which brings out the yellow kinds in their brilliancy, the flowers of this species droop as though the plant was dying. True, they freshen again at evening, but give the plants the aspect advised above, then if a bold group is planted it will be a lovely feature throughout the day and for many weeks. Our gardens would be better adorned if, instead of making a great border and putting such a variety in it, we gave more consideration to the wants of things, and with preparation planted them where they were most likely to thrive. Although perennial, this variable and lovely kind ought not to be scarce, as it is easily raised from seed as an annual and seedlings flower the second year. I suppose "D. K." thought that the name *V. nigrum* var. *album* (see illustration p. 551) was sufficiently descriptive, as nothing is said about the kind. From the name it would appear to be a white form of the common, but beautiful *V. nigrum*, and as such it must be a decided acquisition. The kind that gives the least trouble of all is *V. phlomisoides*. Once introduced and allowed to seed, one can rely with certainty almost in sufficient plants appearing. Self-sown plants of this in rich soil make handsome specimens. *V. olympicum* has been the most conspicuous plant in our great terrace garden for the past fortnight, and it promises to continue, as some of the plants are rather later than others. Though the flowers are not individually so large as those of other species, I think this before all others makes the greatest show. The flower-spike is a pyramid of blossom, and some of those now in bloom are more spreading and have more branches than the spike so truly depicted on page 555. It is hardly correct to call this kind a biennial, and yet it is not perennial. I do not know of anyone having ever flowered it the year after raising it, but it dies after blooming. The plants now in flower are exactly three years old, as they were raised in June, 1889. They stood in the seed-bed all that summer and winter, and in the succeeding spring I planted them at the foot of a terrace wall. Till this year their great tufts of woolly leaves have been charming, and perhaps the flowers are the more appreciated by reason of the length of time we have had to wait for them. This

species has one disfiguring pest. Caterpillars have appeared each year in June, and but for hand-picking would have eaten up every leaf. In the early part of the month (June) I killed scores whilst they were small, being less than 1 inch in length.

A. H.

### NOTES ON HARDY PLANTS.

**Iris reticulata.**—The fungus which attacks the bulbs of this early Iris is in process of development about this time of the year. I believe that if the bulbs are examined in May and June, the black patches will be found mostly near the apex of the bulbs. In a short time the fungus spreads down to the base. It is easily known by its coal-blackness and unpleasant smell. A remedy in part is to lift the bulbs early, say the last week in May, and dry them in a cool, airy place. There may be a little greenness at that date in the foliage, but most of the grass will have turned brown. The badly-infested bulbs should be destroyed at once. The best remedy of all is, besides lifting early to lift annually. I do not know what the nature of the fungus may be or its name, but I have watched it and tried to deal with it for a few years, and next year I propose trying a little sulphate of copper as a top-dressing after the bulbs are planted, for I am strongly of opinion that the fungus is transmitted downwards from the foliage, as in the case of the Potato disease.

**Primula sikkimensis.**—The chief cause why so many plants collapse suddenly in the midst of their blooming is an attack at the root by the common garden weevil grub. The fibre of this *Primula*, like that of *P. rosea*, seems to be a favourite food for the grub. It rapidly eats its way up to the base of the plant, devouring the crown and killing it. Plants may often be saved if closely observed and attended to promptly. At the first sign of one or more of the outer leaves drooping, whilst the others remain stiff, you may suspect the grub at work; bare down to the base of said leaves, where almost to a certainty you will find the grub. If left for a day or two it eats right through the crown when there is not much chance of saving the plant. I believe that plants grown in very boggy soil are not much troubled with this pest, as the weevil shows a preference for drier places.

**Daphne alpina.**—This grows freely in a well-drained light soil, but still the position, I fancy, should be one where atmospheric moisture will be assured. Such positions are gained in the close vicinity of other shrubs, where, owing to the large amount of leaf surface, the moist air-loving *Daphnes* are at home. This is a deciduous species with small ivory-white flowers that last for many weeks in the earlier part of spring and summer, and they are remarkable for their fragrance.

**Daphne rupestris.**—This is even a more difficult species to grow well. It is a most desirable kind owing to its shining dark evergreen foliage, and it has a stature of but a few inches. All are agreed as to the charms of this plant. Yet we rarely see it in a thriving state. Basing my remarks upon a plant that is in fairly good health, and which has considerably improved during the last twelve months, I venture to say that it is a shade lover. Indeed, I feel pretty decided on that point. Owing to my plant being near several dwarf Rose species, it has become surrounded by the growths from running stems of *Rosa spinosissima* and the double *Rosa lucida*. Perhaps no plant more than this has at once charmed and disappointed alpine plant growers. I hope the above observations may meet the case of others with regard to its culture, as I feel sure that the accidental shade which the plant has obtained here is to its advantage.

Woodville, Kirkstall.

J. WOOD.

**Picking the seed-pods off plants.**—The chief things among shrubs now requiring attention in this respect are *Rhododendrons* and *Azaleas*, which have just gone out of flower, and, as usual, have set only too freely. If left, every

pod will swell, the result of which will be to prevent young shoots from forming. The readiest way of getting rid of the seed-heads from the plants mentioned is to take the branch in one hand and the truss in the other and give it a quick bend over, when it will snap at the base and the whole will come off together, and the work be carried out more expeditiously than if a knife is used to remove them. The seed-spikes of *Delphiniums* should also be taken off, and likewise those from any other border or bedding plants, as soon as they form, as it is only by such attention that a succession of bloom can be maintained.—S. D.

## KITCHEN GARDEN.

### CABBAGES FOR SPRING.

It is strange that now that the cultivation of garden produce has made such strides there should still be differences of opinion as to the best season for sowing the seed of what is known as the main batch of spring Cabbages. True enough the culture is simple enough, for by raising seedlings at a suitable time and duly planting them out in good ground Cabbages of fine quality should be easily procured. The value of a bed of spring Cabbages is gauged by its earliness, and this cultivators should endeavour to secure. The Cabbage certainly in many gardens does not receive that attention which it deserves, and which it is fully entitled to. No other vegetable requires so good a soil. Whenever the leaves take on a bluish tinge, it is a sure sign that nitrogenous matter is deficient, and nitrate of soda will make up this deficiency where lacking when applied at the right time. Old gardeners depended for this largely upon soot, and in days gone by it was no uncommon occurrence to see large quantities being sown over the plants at the turn of the day just as they were making a spurt for spring growth. Plenty of hot steaming manure would be dug in, and then by a free use of the draw hoe and giving a dressing of soot at the time stated, the plants would go ahead.

The date of sowing has certainly a marked effect upon the successful growth of Cabbages. In my earlier gardening days from August 19 to 21 was looked upon as the correct date, and as long as the plants could be planted out by the middle of October, it was considered quite early enough. On heavy soils there would also be a difficulty in getting the plants in if a wet time should ensue. If anyone has any misgivings as to the practice of what I may term early sowing, let him sow now a half of the crop for planting the intended plot, and the other half at the usual time and note the result. For this early sowing there are a few special kinds which are admirably adapted, and to which attention has recently been called in the pages of THE GARDEN. These are Ellam's Early Dwarf and Mein's No. 1. Webb's Emperor is supposed to be another excellent early kind which has been spoken very favourably of. I have not grown it myself, but I recently saw specimens on Messrs. Webb's stand at the Royal Horticultural Society's show at Warwick. It is much larger than Ellam's and bore a marked resemblance to Mein's No. 1. About the middle of July is a suitable time for making the first sowing, and as we come further south another week or a fortnight may be allowed. In any case the first sowing should be made by the end of the month, and as a safeguard an extra sowing may well take place from August 16 to 20. At this date the above kinds with other larger growing varieties may be sown. It was no uncommon occurrence for the older



kinds, even when sown at this latter date, to bolt if the winter turned out very mild.

The raising of the seedlings must have special attention if plants worthy the name are to be secured. Very often not nearly enough plants are raised, and what are, are upon poor soil, and perhaps huddled together in a mass, with the result that poor puny plants struggle with each other for existence; consequently they spindle up and the first stage of bolting is laid. It may not show itself until far on in the season, and then the wonder is why they bolt. It is a mistaken opinion that hardier and better plants can be raised upon poor ground, and the sooner such is dispelled the better. I generally raise the plants on borders cleared of early Potatoes, the soil in this case being friable and rich, but not too much so. I do not favour sowing broadcast in beds, and the garden must be very small or closely cropped indeed where space cannot be found to sow the seed in drills a foot apart. The seed, if sown thinly, will germinate and grow away sturdily. Where there is danger of small birds, the seeds may be damped and rolled in red lead, but the best course is to stretch a net over the site directly the seeds are sown. It will also be necessary to keep a sharp look-out for the fly, this quickly devouring the young seed-leaves, the plants being weakened accordingly. Timely hoeing and dusting with soot and fine wood ashes are the best antidotes, but if care is taken to sow only on fertile and finely-pulverised soil, this destructive little pest is not likely to be very troublesome. If the soil should happen to be rough, the drills, after being opened out and sown, should be filled up with finer and better soil. With this simple precaution even it is astonishing how freely the seeds germinate and grow away. At this late date it is more the club than the larvæ from the Cabbage fly which is apt to prove destructive, at least where this is known to be troublesome. Whilst in the seed-bed the seedlings should be dusted over with powdered charcoal and wood ashes, this assisting in keeping off the fly. The usual precautions must also be taken of picking off all excrescences previous to planting, and also dipping the roots in a puddle formed of soil, soot and lime; but changing the site, burning all refuse, and otherwise giving good soil preparation are the cures for all such ills the Cabbage tribe is heir to. Deep digging and plenty of manure are what the Cabbage plot requires. Merely hoeing over the surface after the previous crop has been cleared, clearing off rubbish, and loosening the surface will not do. The plot, if possible, should be away from the influence of trees, the near proximity of these having a tendency to cause a growth which will quickly succumb to frost. On light soils the plants are best put out in lightly drawn drills, whilst on heavy land plant on the level. The distance apart will depend upon the variety more than anything else and whether the plants will be further required for secondary sprouts. Ellam's may go out at 18 inches apart both in the rows and between the rows, but where room is scarce 15 inches in the rows is sufficient, the larger growers at 2 feet, and these also 6 inches less in the rows where the most must be made of the room.

A. Y. A.

**Early Beet.**—The ordinary Egyptian or Turpin-rooted Beet has long been grown by me solely for early use, the roots becoming coarse and badly coloured before storing time arrives. The improved form, in addition to being quite as soon fit for use and better in quality, or at any rate far more reliable as to colour, also keeps better, the roots not

growing to such a great size as in the case of the old form. Our seed of Crimson Ball was not sown till April 20, and we commenced drawing roots about the size of tennis balls on June 21. When properly cooked these young roots prove of good colour, very tender and agreeably flavoured, giving a welcome change in the appearance and taste of a summer salad.—I.

### CELERY TRENCHES.

THERE ought to be no fixed rule as to the depth of trenches for Celery, so much depending upon the position of the garden, nature of the soil, time of planting, and the variety grown. In cold low-lying positions, and also in all cases where the soil is of a heavy clayey nature, deep trenches are a mistake, and that whether dug for early, midseason or late Celery. Nor are they to be commended for shallow soils. Cultivators would appear to be under the impression that the Celery does and ought to derive its sole support from the trenches in which it is planted; whereas, the best produce, as far as quality is concerned, is had when the roots spread out well into the surrounding soil. If the latter is warm and has been recently manured and trenched, then the roots will spread out into it freely, but when it is of a cold sterile nature, the Celery roots will be principally confined to the trench. In cold sunless summers Celery planted in deep trenches starts badly and subsequent growth is of an unsatisfactory character, and rather than plant in trenches from 10 inches to 15 inches deep, I would prefer to put out the plants nearly or quite on the surface. Deep trenches, if frequently unsuitable for early and midseason Celery, as well as dwarf varieties generally, are still more, or always, so for the late crops. Buried deeply in saturated soil, the soft sappy stalks and the hearts, as a matter of course, are liable to decay prematurely, even during mild winters, while should we experience severe frosts, Celery planted high and well moulded up is not so liable to be badly damaged.

Nor am I a great believer in the efficacy of solid manure when used to excess, as it very often is in Celery trenches. That this crop revels in a rich and moist root-run there is no disputing, and it must also be admitted that a deficiency of moisture at some period of the plant's growth is very often the principal cause of premature bolting. By all means let the Celery have plenty of water and also liquid manure at the roots, not merely when first put out, but more especially after the moulding up has been partially completed, this being often the time when the plants suffer the most. Properly attended to in respect to watering, it is not so very much manure that is needed, the plants foraging for themselves right and left, and instead of the top-growth being soft and rank, the flavour also being much too strong, a solid, crisp, and sweet stick will be built up, this keeping better and proving altogether superior to that obtained with the aid of so much manure and deep trenches. What I consider deep trenches are any wholly cleared of the first deep spit of soil. The latter being distributed on each in the form of a level topped ridge certainly makes the trench appear to be much more below the level of the surrounding soil than it really is, but it is, as a rule, too deep all the same. In many cases a depth of from 6 inches to 9 inches of manure is thrown into the trench, a very little soil being brought up to the surface or mixed with this mass of manure, and this is supposed to be exactly what meets the requirements of Celery. I hold that the trenches ought not to be at any time cleared of more than half a spit of top soil, and that a depth of

3 inches of good manure is ample for mixing with what good top soil is still left in the trench. When ready for the plants most of our trenches are filled with this mixture of soil and manure to within 10 inches of the top of the ridge, and the sides being made sloping, shrinkage is prevented, while the sunshine can reach the bottom of the trench throughout the greater part of the day. Those trenches intended for the latest crops are still more shallow, but as they are fully 4 feet apart, there is plenty of soil between for banking up with. From the very first the plants do well, no matter how small they may be when put out.

After having tried trenches or beds 5 feet wide, these to hold four rows of plants, and others 18 inches or rather more in width to take two rows of plants, I long since arrived at the conclusion that in all cases where garden room is not very limited in extent and labour scarce, trenches 15 inches wide and single rows of plants are the best in the end. As far as the double rows are concerned, there is very little gain in the number of plants in a trench, especially seeing that in a single row they may well be put out not more than 8 inches apart. It is not huge "sticks" or such as gladden the heart of the exhibitor that are the best for home consumption—they are really very wasteful—but neat solid stuff, having hearts large enough for anything. In each and every case it is of the greatest importance that the trenches be got ready some time before they are wanted, as they will then be in much better condition for the reception of the plants than is the case when only dug as required. It is also most unwise to defer planting till the pricked-out plants have overgrown and spoilt each other, and having the trenches early dug does away with any excuse for not getting out the Celery at the proper time. If the plants are sturdy and moved with a good square of soil and roots, they flag only slightly in quite hot weather, and being freshened up with water occasionally soon recommence active growth.

I. M. H.

### THE POTATO DISEASE.

THE Board of Agriculture has just published a very instructive and exhaustive pamphlet of 183 pages on "Recent Experiments in Checking Potato Disease." It commences with a short report by Major Craigie, the director of the Intelligence Department, to the President of the Board of Agriculture. Then follows the general report, which is divided into four parts: 1, Notes on the History and Cause of the Potato Disease; 2, Experiments for Checking Potato Disease and on Potato Culture in Great Britain and Ireland; 3, Experiments, &c., in Foreign Countries; 4, Experiments, &c., in the Colonies. The value of these experiments is somewhat lessened by the fact that they were not all carried out under exactly the same conditions, so that it is not altogether surprising that the results are in some cases conflicting. Major Craigie says in his report, which forms a preface to the whole, "The English experiments in the counties of Devon, Chester, Lincoln, Bedford, and Carmarthen form the most complete and uniform series of trials attempted in this country with copper dressings." The general conclusion suggested is that, although the advent of disease was not anywhere prevented, the dressings with sulphate of copper bouillie clearly reduced the percentage of disease and increased the yield of tubers. It is pointed out, however, as must be—indeed apparent also from the varied results given in the mass of information now brought together—that no confident opinion as to the general efficacy of the treatment can be formed by generalisation from the experiments of a single year. The information collected in the present volume from various sources in a form convenient for reference will, it



is hoped, prove of material assistance to those engaged in continuing further investigations. It is obvious that, notwithstanding the numerous facts now presented and the preponderance of foreign evidence in favour of the use of copper dressings, some conflicting experiments have been put on record, while questions of much scientific interest still remain for discussion. A continuance of experimental effort will, therefore, be necessary to determine the practical efficacy of the suggested remedies for Potato disease. In the chapter on the history and cause of the disease a very interesting account is given of the life history of the fungus, and three woodcuts are given, one of which, a section of the leaf magnified 100 times, shows the manner of growth of the fungus very clearly. It does not appear quite certain what the exact action of the lime and copper is, as the opinions of different chemists differ on this point. It seems, however, that when the mixture is made with hot water the dressing is not of much use, and that if no lime is employed the leaves will be burnt by the acid nature of the sulphate of copper, which the lime neutralises, and that injury instead of benefit may result from using lime of bad quality or in insufficient quantity; so that it may require some years of experimenting, as it did in the case of the Vine disease on the Continent, before the exact proportions and the best method of supplying the mixture are arrived at. At present the most favourable proportions seem to be equal parts of lime and sulphate of copper; 40 lbs. of this mixture to be used with 200 gallons of water. The cost of spraying with one of the portable spraying machines, including the cost of the Bouillie Bordelaise, appears to be about 8s. 6d. per acre when 100 gallons are used per acre. The results of the experiments carried out by the Royal Agricultural Society are very carefully tabulated. The experiments were made in Devonshire, Cheshire, Lincolnshire, Kent, and Bedfordshire. In all except Cheshire there was a considerable gain in the value of the crop, varying from 6s. 6d. to £12 7s. 6d. per acre. "The experimental plots were portions of large Potato fields which had been already planted. The varieties to be operated upon were not selected by the society, but the particular variety planted by the farmer for his ordinary crop was made the subject for experiment." Three plots were used in each case. One was twice sprayed in July, with an interval of about a fortnight before the disease showed itself, to prove what preventive power the mixture had; the second was sprayed once after the disease showed itself, and the third was not treated in any way, so that the gain or loss in the other plots might be tested. In Devonshire the plot treated after the disease showed itself gave a larger return than that which was "sprayed" earlier. In Kent the reverse was the case, the preventive method having the advantage. In Bedfordshire both systems were equally successful. The experiments in Cheshire were the reverse of successful, the plots which had been sprayed not producing such a good crop as that which was left to Nature. This is accounted for by the variety of Potato (Main-crop) being a tender variety. "The mixture shrivelled up the leaves, turning them brown, and it so affected the plant that it did not flower, though flowers were abundant on the untreated crop." Another group of experiments in Kent and Bedfordshire show that an efficient drenching with a weak mixture is more efficacious than applying less of a stronger one. A series of experiments were carried out in Scotland under the auspices of the Highland and Agricultural Society of Scotland. These did not show that the spraying was of any use in checking the disease, and it is thought that perhaps the application was made too early in the season, and there would have been a better result had it been applied later, and it is evident that the mixture was not made quite as it should have been, and that it was not sufficiently applied to the undersides of the leaves. In some experiments carried out by Messrs. Sutton and Sons the results were decidedly unfavourable to the use of the bouillie.

Messrs. Veitch and Sons' experiments at Exeter

showed exactly the reverse result. "In short, the French remedy proved with us an unqualified success, for it acted as a preventive where the disease had not yet appeared." Experiments conducted in Ireland do not seem to show any very definite conclusion. The third part of the report consists of information concerning the cultivation of Potatoes and the results of various experiments with the Bouillie Bordelaise on the Continent; the latter are decidedly in favour of the sulphate of copper mixture. Some experimenters found that a mixture of molasses with the bouillie gave somewhat better results than the bouillie *pur et simple*, as the mixture adhered to the leaves better. Part 4 treats on the cultivation of Potatoes in the colonies, but no details of the use of the bouillie are given. It is evident from these reports that in the application of this Bouillie Bordelaise there are several points to be considered. The materials should be of the best quality and be mixed in a certain manner, and care be taken as to the proportions. The kind of Potato and the general healthiness of the crop should also be taken into account, or weak plants of a delicate kind might suffer when strong plants would not. The weather, too, at the time of the spraying may make a difference as to the success of the dressing; heavy showers falling soon after the application may wash the plants so clean, that they do not derive any benefit. For this reason, and from the fact that the fungus shows itself mostly on the undersides of the leaves, the spraying should be if possible so carried out that the leaves are well wetted beneath. This report should be read and studied by all who grow Potatoes on a sufficiently large scale to make it worth their while to take preventive measures, and its low price (ninepence) places it within the reach of everyone. It is published by Messrs. Eyre and Spottiswoode.

G. S. S.

#### COMPARATIVE EARLINESS OF FIELD AND GARDEN CROPS.

SOME years ago the remark was made to me by an old and observant gardener that after a certain date in spring, crops of various kinds come on much more quickly in open fields than in gardens where they enjoy a more or less amount of protection from cold winds and frosts. At the time I scarcely credited this assertion, but am now compelled to admit its truth. As the season comes round I have occasion to note the disparity in progress from the beginning of May onwards in much sheltered crops and those fully exposed. Through the early spring months up to May the sheltered places seem to have the advantage, but from the beginning or middle of that month, according to the amount of sunshine, a considerable change is noticeable, and by the middle of June field crops will often be found to be even more forward than those in enclosed gardens. Every season I have occasion to notice this disparity in progress in the case of Strawberries. I have some in positions screened from east winds and some in a field close by where they are fully exposed to the north and east. All through the early spring months, especially when cold winds prevail, the temperature appears to be lower by quite 10° in the field and the plants are proportionately slower in starting into growth. In most years, however, the fruit there begins to colour first. Peas are much grown in this district for market, and it is noticeable that the first gatherings can be had quite as soon, if not earlier than in sheltered gardens. These are facts that would seem difficult of explanation, but a little observation furnishes a solution thereof. In enclosed gardens the sun often does not come on to the plants until several hours after it has been shining fully on open fields. Walls, buildings, trees, the very things that create shelter, obscure the sun's rays.

Through May I have occasion to rise at peep of day, and during the latter part of that month and onwards I note that in the open, where trees do not hinder, field crops get the sun in fine weather shortly after 5 o'clock. I have also been impressed with the comparatively slow progress of things in cold frames at the same period of the year. I

have some fronting south, and every year I find that I gather the last fruits from them just as the first fruits are ready in the open. The plants come fully into bloom some weeks before the outdoor plants; every attention is paid to economising the sun's heat by early closing and they are covered with mats at night. With these advantages I might, one would think, finish gathering at least ten days before the fruit begins to colour in the open; but this is not the case, as the outdoor crops come on so rapidly at the close of May. In this case the same causes are at work, as one may easily see. The plants in a house or frame fronting south do not catch the sun fully until 8 or 9 o'clock, the woodwork obstructing its rays up to that time. One would think that the greater heat under glass during the middle of the day would more than counterbalance this disadvantage, but nothing seems to make up for the loss of the sun in the early morning. It may be urged that some localities noted for the earliness of their produce are naturally sheltered from cold winds, and that without this shelter they would possess no special advantages. But a more or less wide area protected in a natural way is quite different from a small extent of land artificially protected. I am acquainted with a locality about five miles from my own garden where Strawberries ripen nearly a fortnight earlier than with me. Hills and woods keep off cold winds, but they are at sufficient distance to allow of the sun shining on the land all the day through.

J. C.

*Byfleet.*

## GARDEN FLORA.

### PLATE 865.

#### FLAMINGO FLOWERS.

(WITH A COLOURED PLATE OF ANTHURIUM ATROSANGUINEUM. \*)

THE Anthuriums have been great favourites in gardens since the year 1862, when I brought the first plant of *A. Scherzerianum* to Kew and flowered it there for the first time in England. I obtained it in Hanover from the King's gardener, Herr Wendland, its discoverer and introducer. Soon after this, the stock of plants, then in the hands of M. Wendland, was purchased by the Messrs. Veitch, of Chelsea. The variations and improvements have been astonishing. M. Wendland himself has told me upon more than one occasion that he never thought the plant would turn out so well, and that in a wild state it always had small flowers. Now we have such varieties as *Wardianum* and *maximum*, two noble and massive kinds. The white-flowered kind named *Williamsi* came next, and the reason why larger varieties of this kind have not come to the front is because white-spathed varieties are not so popular as the kinds with red flowers. The largest of the white-spathed kinds which has come under my notice is named *maximum*. This was shown some time since by Mr. F. Sander, of St. Albans. Then come the forms of *Rothschildianum*, with their striped and freckled spathes. Recently I saw many magnificent seedling Anthuriums in the collection of Sir Trevor Lawrence under the charge of Mr. Bain. Some few years later M. Linden, of Brussels, introduced the wonderful and magnificent *A. Andreanum*, and it was quickly followed by others. The kind here figured was drawn in the nursery of Messrs. John Laing and Sons, of Forest Hill. It is a plant of the greatest beauty, and remarkable for the depth of colour in its large spathe, for it must not be forgotten that the

\* Drawn for THE GARDEN by Gertrude Hamilton, in Messrs. Laing and Sons' nursery at Forest Hill. Lithographed and printed by Guillaume Severeys.











Anthuriums are not remarkable for their showy flowers. *A. Luingi*, also named after Mr. Laing, of Forest Hill, is another plant of great beauty, having spathes of the purest white. *A. ornatum*, with large spathes of the purest white, should find a home in every collection of these plants. *A. Lindenianum* is another species with white spathes, which ultimately change to a bright rose. *A. Dechardi*, also with white spathes, is an extremely useful plant for decoration. *A. ferrierense* is another beautiful plant, having large bright spathes; so also is *A. Reine des Belges*, with spathes of a soft rose colour. *A. Clarkianum* is also a fine variety with spathes of a soft rosy salmon. *A. eburneum* has a large pure white spathe. There are many others of great beauty and of various colours.

Anthuriums are easily grown into good and

Sinkins, but they are equally as sweet-scented, of a much purer white, and earlier. If only for this latter quality it ought to be grown where Clove Pinks are appreciated. —J. R.

## THE WEEK'S WORK.

### ORCHIDS.

We have now arrived at a period of the year when we look with greater interest to the Orchids which may be expected to flower during the next few months. There are at the present time in our Orchid houses very few flowers, but we are anticipating the development of many beautiful *Cattleyas*. *C. gigas*, *C. Sanderiana* and *C. imperialis* are probably all geographical forms of *C. Warscewiczii*, a superb species discovered by Warscewicz about the year 1848. Some varieties of them are much more

them for producing good growths for next season. *Epidendrum nemorale* is now producing its graceful flower-spikes in the *Cattleya* house. As I write these lines the first blooms on a handsome specimen are about opening. I have tried various ways of growing it, and have had the greatest success by simply tying the plants on to a teak raft—that is, rods of teak about a foot in length or more bound together with copper wire, but leaving a space about an eighth of an inch between the rods. The end of the raft is placed in a flower-pot and kept in its place by clean pieces of broken flower-pots. No Sphagnum, peat, or any organic matter should be used, and this being so, the plants should be fairly well supplied with water when in growth. Distinct and useful plants which may also be expected to flower now and onwards in the *Cattleya* house are *Zygopetalum maxillare* and *Z. rostratum*. They are both free-flowering, and the distinct colours, such as greenish, chocolate-brown, bluish, and bluish purple, are not seen in such combinations in any other Orchids, and they will with care continue in flower for two months. The garden hybrids, *Z. Sedeni* and *Z. Clayi*, are much alike, being of the same parentage—lovely hothouse plants. They want plenty of pot room for the large fleshy roots. Peat and Sphagnum well drained is the best material to plant them in. *Epidendrum prismatocarpum* usually flowers with us in July, and the best varieties are very distinct and handsome; a few plants should be in every collection. Some of the species of *Mormodes* are excellent plants for July and August. *M. luxatum eburneum* has flowers as if they were turned out of ivory or formed of wax, and the blooms last in good condition for two weeks. *M. pardinum* and the variety of it named *unicolor* are both handsome plants. They require more water now than at other seasons, but when in growth avoid wetting the partly-formed pseudo-bulbs. They may be left to become quite dry during the resting period. Passing from the *Cattleya* house into the cool department, we may now have a few very choice and beautiful Orchids in bloom, and a veritable queen amongst them is the Queen of Table Mountain (*Disa grandiflora*). This fine Orchid is now more often seen well cultivated than it used to be. Some growers can boast of it growing “like a weed,” but I believe that the climatal conditions of the district have much to do with its success or failure. I remember some fifteen years ago having healthy strong plants to start with, but all I could do either in the cool Orchid house or a cool greenhouse, I could not get them to grow well in a garden four miles from here. Mr. John Ward, at that time a celebrated Orchid cultivator, had also well established plants of this *Disa* sent to him, but failed to grow them in his garden at Leyton. I have seen them taken from a garden where they did well, and fail in another garden under exactly similar conditions. They are more likely to do well in an airy part of the cool Orchid house at this season than anywhere else. *Odontoglossum coronarium* is a lovely plant and may be expected to bloom now or later if it flowers at all, but this is problematical. Its peculiar habit of growth is such that a long teak basket is needed to take in the rhizomes, which push so far ahead that they will not conform either to basket or pot culture. Its nature at home is to grow on the decaying trunks of trees that may have fallen through age. Plant in peat and Sphagnum, keep it near the roof-glass, and well on the moist side at all seasons. *Oncidium macranthum* is a well-known species, lasting long in good condition during the months of July and August. I have before alluded to the treatment this plant requires. Its long rambling spikes, studded at intervals with its showy yellow flowers—like golden butterflies perched on twigs—take so much out of the plants, that the effects are soon apparent to the most ordinary observer. See that the plants have a good supply of water at this season and are well looked after to prevent slugs from eating the young roots, of which they are very fond. *Odontoglossum Edwardi* does not flower until the spring months, but it is now making its growth and must also be freely watered. It



*Anthurium Scherzerianum*.

handsome specimens. They require plenty of heat and moisture in the growing season, nor must either element be curtailed too much in the winter, or the fine foliage will become damaged and serious loss will be felt in the following season. Drain the pots well, and see that the drainage is always kept in perfect working order, and use for soil good fibrous peat and turfy loam made fairly sandy. Let the plants stand in an ordinary stove with an abundance of moisture in the atmosphere. The thermometer should never be allowed to fall below 60° during the night.

WM. HUGH GOWER.

**Clove Pink Clifton White.**—I never see a word in the horticultural magazines about the above and seldom see it grown, so I presume it is not in general cultivation. True, the blooms of it are not so large as those of the indispensable Mrs.

vigorous in growth than others, and some will produce flowers freely, while others seldom bloom, whatever precautions may be taken with them. As a general rule, they are the most robust of *Cattleyas*. *C. Dowiana* will also be showing the flower-sheaths this month or next. Ours are very late this season; they seem to be showing signs of exhaustion after about ten years' growth under the cultural conditions of our hothouses. The yellow colour of the flowers is very plainly seen in the suffusion of yellow in the leaves, and this tint seems to get deeper the longer the plants are under cultivation, and *Cattleyas*, like Carnations, are not so robust when the flowers are yellow. *C. Hardyana* I have not yet had under cultivation, but it seems to be a cross between some form of *C. Warscewiczii* and *C. Dowiana* or *C. aurea*, which is nothing more than a form of *C. Dowiana*, with more yellow on the labellum. All of them may now be expected to bloom, which they will do in the *Cattleya* house, and after flowering, a lengthened season of rest is necessary to fit



ought to be repotted every second year at least as they pass out of bloom. We have yet a goodly display of *Epidendrum vitellinum majus* in the cool house. Near the roof glass and well attended to with water when in a growing state, this fine plant establishes itself and takes more kindly to cool house treatment than to any other. Its brilliantly-coloured flowers are always highly valued, both for their effect in the house as a contrast to the more sober-tinted *Odontoglossums*, and as cut flowers to arrange in small glasses. During the present hot weather little artificial heat is needed anywhere, but the cool house must be kept as low as possible.

J. DOUGLAS.

#### HARDY FRUITS.

**FIGS.**—Many unprotected trees were killed nearly or quite down to the ground last winter, and these have since pushed up numerous sucker growths. The latter are usually far too sappy to be hardy, but if freely thinned out so as to expose those reserved to all the sunshine, light, and air going, much will be done towards making them sufficiently firm. In but few instances, however, will these long shoots produce fruit next season, but the trees should arrive at a more productive state in 1894. Where the young wood only was injured by frost there will now be abundance of back shoots, and if these are freely thinned out and duly protected next winter, fruit should be plentiful the following summer. Whether kept neatly trained to the walls or not, it is of the greatest importance that the young wood, or that which is to produce fruit next season, be kept well thinned out, this also favouring the ripening of what fruit there may be on the trees this summer. The fruit is mostly produced at the points of stout, yet short-jointed wood, and the reserved shoots ought not, therefore, to be pinched back, as breaks from this would not have time to mature properly.

**EARLIEST STRAWBERRIES.**—These are best obtained from borders sloping rather abruptly to the south or south-east and with the aid of one-year-old plants. It is possible to have comparatively heavy crops of large, early fruit from plants put out late in July or early in August, and it does not pay to leave them on the ground to fruit a second time, extra early sites being of far too much consequence to be given up to any but quite the earliest crops of anything. Directly the bulk of the crop is gathered from the earliest plants, the latter should be retained till a sufficiency of well-rooted runners has been obtained from them and then be unhesitatingly hoed up. They can be followed closely with *Endive* and late *Lettuce*, early *Potatoes* being planted after these, and the same site be again occupied if need be by *Strawberries* in 1893. If the wall borders are somewhat flat, and that part devoted to vegetable and *Strawberry* culture does not unduly infringe on the space that ought to be given up to the roots of the fruit trees, there is nothing to prevent and much to be said in favour of forming a raised bed for the *Strawberries*. A fall of 12 inches in a width of 6 feet is none too much for early *Strawberries* or *Potatoes*. If the wall borders are narrow, then they ought not to be raised at the back till the fruit trees can be lifted and replanted, deeply burying the stems of the latter being a sure way to ruin the trees. A very rich root-run is most undesirable for early *Strawberries*; therefore avoid the use of much strong solid manure, but substitute as much fresh loam as can be got hold of, adding mortar rubbish and half-inch bones freely, all being made very firm prior to planting the *Strawberries*.

**METHODS OF LAYERING STRAWBERRIES.**—The favourite method with most private gardeners is to layer a given number of runners into 3-inch or slightly smaller pots, selecting the strongest plants thus obtained for shifting into larger pots and planting out the rest. That, however, is not the best plan to adopt. Plants that have never seen the inside of a flower-pot invariably take the most readily to the open ground, and give by far the

best results in the end. Nor are squares of turf very much better, and, besides, very few cultivators can procure material suitable for the purpose. A far simpler and better plan than layering in either pots or turves is to root the runners in loose and rather rich soil, out of which they will move with abundance of strong spreading roots in a comparatively short space of time. First clear away all strawy litter that may have been used as a mulch, and between the rows distribute a layer, 2 inches deep, of any good loamy compost procurable. Next select all the best runners and fasten these down 4 inches clear of each other by means of stones or good-sized pebbles in preference to pegs. A gentle watering being given frequently or every evening after a bright day, the runners soon become well rooted, and should be detached and replanted before the roots have spread very far. Every plant will move off the hard bottom with a good ball of soil and roots, and will transplant without flagging.

**LATE STRAWBERRIES.**—These promise to be finer than the early varieties, *Loxford Hall Seedling* and *Eleanor*, or *Oxonian* being extra fine. This is mainly due to the flowers opening late and escaping injury by frosts, rains also having fallen at an opportune time. In many places, however, there has not been enough for the *Strawberries*, and in all such cases a good soaking of pond or softened water should be given if possible, otherwise the fruit will ripen prematurely, being also small and acid. Plants growing at the foot of north walls are so abundantly fruited as to necessitate thinning out being resorted to. In all such positions the fruit ought to be raised up above the foliage, or at any rate well off the ground, or they may fail to ripen well, being particularly acid when left low down among the foliage. The plants frequently fail to bear well a second time in such cool positions, but if a limited number of runners is pegged down about them to take their place, abundance of fruit will be had, and if annually mulched with manure there is no necessity to change the site for several years. Sir Joseph Paxton is about the best variety that can be grown on north borders. Forced plants turned out into the open ground with a view to having a second crop from them in August and September must be kept well supplied with water, especially during the first month after being planted, a mulching of short strawy manure being also given early.

W. IGGULDEN.

#### THE KITCHEN GARDEN.

**LEEKs.**—Leeks for ordinary use during the winter must now be planted in their final position, that is if they are large enough. The soil for this crop must be deeply dug and also well manured. Where a quantity of Leeks is grown, set them out in rows 15 inches apart and 9 inches between the plants in the rows. Insert the dibber well into the soil, making a round hole, into which drop the plants. A little soil may be trickled in to settle the roots, but leave the hole about the plants intact. The hearts will soon draw to the surface and the shanks will fill out the holes. Merely dibbling the plants in on the level will not do, this lessening the depth of blanched stem. If they are growing on the level, earth up like *Potatoes* directly the plants are strong enough. Blanching must take place whilst the Leeks are in full growth, as when fully grown it is useless to try to do this. Leeks, to be worth the name, must be well grown on rich soil.

**PLANTING IN TRENCHES.**—This is the best system to resort to where the soil is poor and manure lacking. The trenches should be taken out to the depth of 15 inches, in which place the manure, filling up the remaining space with the best of the soil, leaving a space of about 2 inches. The Leeks must be inserted the same as if planted on the level, the soil being further levelled off as soon as the hearts have drawn well out. The Leeks which are now growing in trenches must be well fed with liquid manure if those of the largest size are looked for, and for special purposes or for

exhibition Leeks cannot well be too large. The best liquid is that formed from fresh cow manure and soot.

**BROCCOLI.**—The recent beneficial rains are bringing the plants on apace, and they very soon will be fit for their respective positions. If it can be possibly avoided, do not plant between rows of *Potatoes*, this causing a drawn and weakly growth, which quickly collapses during the winter. Generally, ground which has been occupied with a previous crop is chosen, all that is necessary being a hoeing and clearing off of rubbish. Not that this always leads to the best results, as in any case the soil is best dug over and manured if necessary. Loose and overmanured soil is certainly an evil, and must be avoided. Allow ample space between the rows, 30 inches both in the rows and between the rows not being any too much; in fact less than this on strong soil would be too little. In taking the plants up, do not pull them up roughly. If club is troublesome, do not neglect the ordinary precautions of either dipping the roots in a puddle, or the simple remedy of whitening the surface over with fresh lime. Plant firmly, pressing the dibber well to the roots.

**LATE FRENCH BEANS.**—At the close of the season when summer vegetables are on the wane, any kinds which may be prolonged so as to help on the supply are sure to be appreciated. Amongst these *French Beans* form a very important crop. Not that they will withstand early frosts, but these must be anticipated by planting in a position where they can be easily protected. For instance, instead of planting in one long single row, they should be grown so that they may be easily protected if needed by either mats or oiled canvas. Select a vigorous grower, either *Canadian Wonder* or *Ne Plus Ultra*, and locate the rows on an open and sunny spot. A south border recently cleared of *Potatoes* is a very good position, for here the plants will derive the full benefit of the sun, at the time most needed, *i.e.*, the close of the summer months. The soil if in good heart for the *Potatoes* will suffice for the *Beans*, a deep forking over being sufficient. Arrange the rows of *Ne Plus Ultra* 2 feet apart, and *Canadian Wonder* 30 inches.

A. YOUNG.

#### PLANT HOUSES.

**FIRE HEAT.**—Thus far this summer season we have been favoured with more congenial weather, on the whole, than last year, although we have had considerable fluctuations. For instance, for a few days during the early part of June we had warm weather, then there was a spell of several days with a much lower temperature all round. Some may have been induced to let the fires go out when the warm weather set in; this, it is true, would do no harm as long as the same continued, but as soon as there was a change then would the plants feel it and experience a check. When, therefore, the fires are let out for a night or two when the temperature outside rises high, it must not be inferred that they can be dispensed with when a change takes place; yet this is what is sometimes done, and that to a sufficient extent to injure the plants. When the fires are out there is less need of artificial moisture, for the simple reason that evaporation is neither so rapid nor so continuous. If, therefore, there is no distinction made as regards syringing late in the day and otherwise damping down, it must follow that the moisture will be in excess of the requirements. This can be easily seen upon entering a stove early in the morning when the pipes are cold; the plants will be found quite bedewed, as out of doors. Then if a dull day ensues and syringing, &c., is followed up as when the fires are alight, the situation becomes worse and injury from damping will soon take place. I have noted this to a serious extent, particularly where plants have previously been grown on briskly. The better course to pursue when we are going through a period of more than usually warm weather is to always have the fires laid in readiness for lighting at any moment, provided, of course, that no great extreme in the other direction is allowed to take place.



For my own part I have never been an advocate for dispensing with fire heat in stove houses to any great extent, for with good management it is possible to keep a fire just smouldering with the least amount of warmth, which can be revived sufficiently without much difficulty. On the other hand, if the fire is quite out it is thought to be a good chance to have the furnace thoroughly cleaned out, flues included, quite irrespective of the requirements of the season—very necessary work as far as it goes, but when done so as to cause the fires to draw sharply when re-kindled, it often happens that more heat is created than is reasonably required. I would rather light a little fire upon the remains of an extinct one than that this should be the case. After an excessively hot day the best way is, I consider, to let the fires run down of their own accord; this will do the plants good, but when the first change to more moderate weather takes place, then go back at once to the fires, especially if the weather be not very bright with rain threatening. It is not, of course, advisable to excite the fires the first thing in the morning when there are indications of a fine day, but they can be kept alight with dusty coal or fine coke, or even with ashes. Even after having ceased to keep the fires going for a few successive nights it will be as well to light one for a night occasionally, when it will be an easy matter to leave a little top air on, whilst such ventilators as air bricks may also be open; in fact, at any time when the temperature at nightfall approaches 75° it is just as well to have ventilation in a moderate way. The early morning ventilation should be attended to rather in advance than otherwise of the actual requirements when it is probable that a warm day will ensue. More injury is done by scalding early in the day when the temperature has risen rapidly than towards the afternoon, even if the thermometer in the latter instance ranges the higher of the two. After a hot day a thorough damping down, with a liberal use of the syringe upon the plants where practicable, will greatly refresh them, regulating it, of course, according to the case whether there be a fire alight or not. Watering should be looked over closely early in the morning, or, at any rate, before 10 o'clock; sometimes it is not altogether an easy matter to judge of the requirements the very first thing, but an hour or two later a better opinion can be arrived at. A close examination should be made for all signs of damping amongst flowers (and foliage too) when the weather is not so very bright, especially where the growth is dense and the fires low or quite out.

**PROPAGATION.**—The propagating pit can still be kept filled with cuttings of various useful plants, but with a little fire-heat success will be all the more certain. *Ixoras*, for instance, will strike readily from wood of this current season's growth. The propagation of this handsome family of plants not half enough attended to in gardens. If it were attended to more and young plants grown on, there would not be any necessity for keeping old or scrubby plants, which, instead of being an ornament, are an actual disgrace, more particularly where the mealy bug is in the ascendancy or probably master of the position. These cuttings should be struck singly in small pots rather than several in one pot with a check in store or more nursing when potted off. *Gardenias* should be similarly treated, a young stock of these being always welcome. *Poinsettias* should still be struck; the cuttings taken with heels from old stools will be the best. For these latter a moderately close pit will be better than too much moisture. Earlier struck plants should be potted on in good time and be gradually inured to a more buoyant atmosphere.

JAMES HUDSON.

**Gladioli from seed.**—Some growers of this flower sow early in spring in warmth, others later in cold frames. Judging from the free way in which seeds have germinated in the open ground, so much care and labour would appear to be misapplied. Two years ago I was surprised to see a number of young plants come up where the pre-

vious summer some of the *gandavensis* section had bloomed. The autumn not being fine I did not think that the seeds were good, so they were allowed to remain ungathered and the decayed stalks laid on the ground through the winter. They were allowed to remain undisturbed, and some, I think, bloomed the second year. They naturally made much stronger growth than if they had been raised in pots. At some little distance from the parent plants there bloomed a lot of the hardy hybrid kinds, and it was curious to note that all the seedlings of the *gandavensis* varieties were of mixed parentage. Some of them were very pretty, but they were not hardy enough to resist the hard winter that followed, and scarcely a bulb came up in spring. Last summer, as will be remembered, was very inclement and I did not gather any seeds of the hardy kinds, thinking they were not good. I was mistaken, however, for I see that a quantity of young plants has come up where the old bulbs flowered. They seem to have germinated quite as well as if I had sown them under glass. In the future I shall certainly give sowing in the open ground a fair trial. I shall sow in well-stirred ground about the middle of March, choosing a dry time for so doing and just let the seeds take their chance. I have found that many things come up well if sown early in dry weather, the first genial rains bringing them quickly to life.

—J. C. B.

## ORCHIDS.

### VANDA TERES AND ITS VARIETIES.

THIS peculiar-looking plant was first found by Wallich in the early days of the present century. It is now more than sixty years since it was first introduced in a living state to the gardens of England, and some six or seven years afterwards the first flowers of this species opened in the gardens of Syon House, Isleworth, famous in those days and for many years afterwards for new and rare tropical plants. *Vanda teres*, however, remained a very shy-flowering plant for many years, and indeed it is so still. As the plant is a quick grower, no doubt the majority of the plants in the country were from the same stock, and it was not until some fresh importations were made that a free-flowering variety was found and received the name of *Vanda teres Andersoni*, after the then famous gardener to Mr. Dawson, of Meadowbank, Uddingstone, near Glasgow. When I was with Mr. B. S. Williams at Holloway, he had plants of this variety which flowered profusely when not more than 2 feet in height. This variety I afterwards saw flowering freely in the gardens of Mr. J. Broome, of Wood Lawn, Didsbury. The same season I saw this variety in the gardens of Manley Hall, and the gardener (Mr. Petch) told me that it bloomed in the same manner every season, and, moreover, as the variety bore more flowers on the racemes and these more brightly coloured than those of the typical plant, it was a decided acquisition. I used to know the Manchester gardens well in those days, and this variety *Andersoni* was a great favourite, and in many of the collections scattered round about I have seen it flowering more or less profusely. It is well figured in Warner's "Select Orchidaceous Plants," iii., t. 2. I may briefly describe the plant as having stems not thicker than an ordinary pencil, and its terete leaves are some 5 inches or 6 inches in length and deep green. The flowers, produced on racemes as long as the leaves, measure from 3 inches to 4 inches across; sepals and petals broad, rose with a whitish border, the lip three-lobed; lateral lobes yellow, spotted freely in the

interior with crimson, the front lobe deep rose colour, the disc yellow with crimson lines running through it. I am in receipt of a spike of bloom from Mr. J. Broome, now of Llandudno. He says, "I send you a spike of *Vanda teres* which looks to me like a good variety. What do you think?" It certainly is very beautiful, and it occurs to me that it is the variety *aurea* of Rchf. f. The flowers measure just upon 4 inches across, the sepals being white faintly tinged with rose, and the large petals rosy purple with a broad marginal border of white. The hooded portion of the lip is buff colour, strongly ribbed on the inside and faintly spotted with crimson; front lobe rose colour bordered with white—altogether a very handsome flower. In addition to these we have the variety *candida*, which was first flowered by Mr. Whittaker (gardener to Lord Crewe) at Crewe Hall, and afterwards by Mr. Whillans (gardener to the Duke of Marlborough) at Blenheim. It is figured in Williams' "Orchid Album," t. 409. In this the sepals and petals are pure white, the hooded portion of the lip white on the outside, pale yellow within; front lobe white faintly tinged with rose. With three varieties we can be contented, even supposing we never see the flowers of the typical plant, the colours of which are very similar to those of the variety *Andersoni*, but somewhat less bright.

During the growing season *Vanda teres* should be kept close to the glass in a very hot and moist house, the pots plunged in Sphagnum and frequently syringed, shading only during just the very hottest part of the day, and then very slightly. After growth is finished the temperature should be reduced and only a little water given from time to time, so as not to allow the leaves to suffer. The plants are frequently topped, and the tops when sufficiently established are placed alongside the older plants and all bloom together.

WM. HUGH GOWER.

### SHORT NOTES.—ORCHIDS.

**Vanda suavis** (Woodlands variety).—A flower of this almost unique variety comes to me from Mr. Measures, of Streatham. The sepals and petals have a ground colour of creamy-white, freely spotted with chocolate, and in addition a broad marginal border of violet; the lip is rich deep violet, white at the base, where it is streaked with violet. It is a magnificent variety of Veitch's *suavis*.—G.

**Masdevallia Harryana Denisoi.**—A superb flower of this fine variety, marked the Bull's Blood variety, comes from Messrs. Seeger and Tropp, of Dulwich. This absurd name, I think, should be dropped. The flower sent was large, and of the richest and deepest crimson-purple flushed with bright magenta.—G.

**Orchids from Bath.**—From the Rev. Mr. Handley's collection come two forms of *Cattleya Mendeli*. Both are extremely fine flowers, but I cannot see anything in them by which they could be known if named. The *Vanda cœrulea* is also a very good flower, but it is deficient in size and very much wanting in colour when compared with that received last year from Mr. Woodall, of Scarborough.—W. H. G.

**Cattleya Mastersoniæ.**—J. Hill sends me a fine flower of this superb hybrid, which flowered first, I think, some fourteen years ago in the nurseries of Messrs. Veitch and Sons, of Chelsea, its parents being *C. Loddigesi* and *C. labiata*, the true old form named by Lindley. The plant bears a pair of leaves similar to *C. Loddigesi*, but its habit is stronger and its pseudo-bulbs are more clavate. It bears several flowers on the scape, each of which, as in the one now before me, measures nearly 5 inches across, the sepals and



petals being soft rosy purple, the lip having the whole front lobe of a deep rich purple, in which it resembles the old labiata, the throat and side lobes being soft clear yellow, the outer edge of the side lobes being white. It is a grand flower, and is very rare.—W. H. G.

**Cattleya Sanderiana.**—"G. H." sends a flower of this for an opinion. It is a very fine form, measuring 9½ inches across, which is half an inch more than the very pretty and compact flower which I saw and reported upon a short time ago. That variety I much prefer to the one sent, the petals of which are somewhat narrow, thus making a starry flower, added to which it was much bruised and broken through having too much space. Flowers packed tightly in a small box travel best.—W.

#### MARKET GARDEN NOTES.

**PEAR PITMASTON DUCHESS.**—One of, if not the finest orchards of this Pear is near Sittingbourne, in Kent. It is several acres in extent, and the quality of the produce may be judged by the fact of the fruit making from 4s. to 6s. per dozen in the London markets, the total amount realised last year being about £600. This season the fortunate owner has again a fair crop. The trees are in pyramid form and are about 12 feet high. The history of this Pear orchard is peculiar, and affords an insight to the conditions most favourable to the welfare of this and doubtless other choice Pears. The natural soil was loam resting on stiff clay. The latter was dug for the purpose of making bricks, the loam being put aside for the time being. When the clay was all dug, the owner gave permission to deposit any kind of rubbish that would fill up the space. This in due course was done, and the loam being replaced the trees were planted. There can be no doubt that the health and fertility of the trees were assured by the perfect drainage as well as the character of the subsoil thus created. Had they been planted on the clay subsoil, the probability is that the fruit would have been much inferior in quality and the growth would have been more rank and less matured. Pitmaston Duchess, like so many good Pears, varies wonderfully in flavour, as well as appearance, according to the locality in which it is grown. No doubt climate has much to do with this variability, but the character of the subsoil must always influence the fertility and flavour of this Pear. I am told that even in Kent and in localities at no great distance apart the character of the fruit varies so much as to cause a wide difference in its market value. The great deterrent to Pear planting for profit is the time required to bring the trees into a thoroughly fertile condition. A man can scarcely hope to reap the full reward of expense incurred in forming a Pear orchard in the most approved manner. The plantation above referred to was made many years ago, and the principal profits are being taken by one who had nothing to do with the work. Still, if not deferred until too late and with a thorough preparation of the soil, one might reasonably expect a fair percentage on the outlay, and it must be remembered that every year of careful culture adds to the value of the trees, and in their earlier stages of growth the ground between them can be utilised for other things.

**STRAWBERRIES.**—For many years we have not had so favourable a season for bringing on this fruit under glass. The bright sunshine strengthened the plants and rendered the task of pushing them along an easy matter; consequently the market samples of the fruit have been in marked contrast to those brought into Covent Garden last season when good berries were the exception. The great bulk of the Strawberries produced in the London market gardens is grown on the earth floor of span-roofed houses, a position very different from that in which Strawberries are forced in private establishments and where the warmth passes round the roots. In a dull time the plants

being so far from the glass and on the cold earth are sure to become in a measure enfeebled during the application of artificial warmth. In weather such as we have had during the last two months it has been practicable to push the plants along and at the same time keep them dwarf and robust. It was thought that Noble would supplant Sir J. Paxton as the main-crop kind under glass in market gardens, but this does not appear to be likely to take place. The opinion of a large London fruiterer is that it will be less and less grown, and will eventually become extinct as a forcing kind. Although such a free-growing strong-rooted Strawberry, the berries are liable to come rather deformed, and, like all Strawberries with soft flesh, there is some difficulty in inducing them to take on the bright rich colour that can alone give them the best market value. Grown in the genial temperature of a heated glasshouse, the fruit comes to a great size, but the want of colour does not compensate for the greater weight obtained. That it can be coloured well under glass I have this year had good proof. I have sent a quantity of it this season to market, the berries being larger than average samples of Paxton and hardly distinguishable in other respects from this variety. In spite of all that one can do, however, in imparting to this Strawberry a high degree of finish, it does not sell so well as the older kind. Retailers find that consumers generally are sufficiently discriminating to appreciate the difference in flavour between it and Sir J. Paxton, and my experience is that the latter will make a shilling a pound more in the London markets, no matter how well one may grow Noble. These facts must be taken into consideration by those who may be thinking of growing Noble for profit. It requires less heat to bring it to marketable condition and crops very heavily, but in spite of these advantages, I should not advise anyone not acquainted with its peculiarities to force it for profit. For open-air culture its earliness must ensure it a place in market gardens, for a difference of ten days in the ripening must always materially affect the value of an outdoor crop. One of the most experienced Kentish growers last spring planted twenty acres with Noble, and he would not have done so unless quite convinced of its value for market.

**HARDY FRUITS.**—The severe frosts experienced when most hardy fruits were in bloom appear to have been more than usually eccentric in their visitations. In some places the Plums, Cherries, Currants, and Raspberries have been almost annihilated, as may be judged by the fact that one man in the home counties, and pursuing what is termed "top and bottom culture," that is, standard trees with bush fruits between, does not expect to gather twenty pounds' worth of fruit from upwards of 25 acres of land all planted with the best kinds and well done. It must be sad for a man to see the work and expense of a year rendered useless in a single night. It is not often with this form of culture the whole crop is so severely visited, for bush fruits often escape when Plums and Damsons are badly hit.

Raspberries in some places are quite ruined, the shoots being withered by the frost. Complete as the destruction has been in many localities in others not so far removed but few traces of injury are to be seen. The supply of Damsons, Black Diamond Plums, and Cherries promises to be on the whole fairly abundant, and from the west of England the London markets have been well furnished with green Gooseberries. Where frost has not been severe the produce will probably be good, as the showery weather which came just as the fruit was setting gave it a good start, and refreshed the foliage. This was especially the case with Apples, which came into bloom so late. Never have the blooms looked finer, and the probability is that we shall get an abundant crop of this fruit. Strawberries were badly hit in the home counties generally, so many of the first blooms being destroyed, that gathering has in many places been thrown back a week. The dry weather too must materially lessen the weight of produce as well as lower the quality of the berries. With the

enormous breadths of this fruit now under cultivation, however, there is no danger of our large towns lacking a supply. J. C. B.

## ORCHARD AND FRUIT GARDEN.

### COMPARATIVE HARDINESS OF FRUITS.

A VARIETY of causes contributes to the hardness or non-hardiness, as far as the flowers and newly-set fruit are concerned, of species and varieties of fruit, but the constitution of the flowers and habit of growth of the trees have also much to do with either good or bad results. This season has been unusually productive of surprises, agreeable and otherwise, and a few instructive facts must have been brought out in very many instances. When several trees are in flower at one time and in most other respects closely resemble each other, we might reasonably anticipate similarity in productiveness. It is not often, however, that such is really the case, and at the present time the contrasts are most marked. Plums are particularly variable. A number of trees against a south-east wall, and which are just now in their prime, were all beautifully in flower when severe frosts were experienced, and in spite of the protection afforded by double fish nets, sad havoc was played among them. I should not have been surprised if the Plum crop on that particular wall had been a complete failure, though, as it happens, such is by no means the case, as a considerable amount of thinning out has had to be done. Dry's Seedling, a variety seldom met with, but which rarely fails to bear well, is carrying much the heaviest crop of all, and this result is entirely due to the dense thick foliage it forms. Although of stout growth, it invariably forms less breast-wood than any other variety I am acquainted with, short or natural fruit-spurs prevailing. The mass of leaves which develop early on these effectually protect the blossom first and subsequently the newly-set fruit. Of the protective character of this habit of growth I have still further proof, inasmuch as the trees of Green Gage on one side and Victoria on the other are only bearing good crops just where they cross or are only slightly overhung and protected by Dry's Seedling. The last-named is a reddish purple variety of large size and moderately good quality, and, owing to its productive habit of growth, ought to be used as a seed parent by raisers of new varieties. Victoria, although it flowered most abundantly, is yet but thinly fruited, owing to its comparatively thin habit of growth, and the same remark applies to Transparent Gage, Green Gage, De Montfort and Kirke's. Oullin's Golden forms very stout wood and bold foliage, but the natural spurs are few and far between, and as a consequence the crops are exceptionally light this season. Jefferson's is also a failure on all but a very late wall; but Coe's Golden Drop is of a hardier nature, and on the south-east wall already mentioned a good crop is hanging on the only tree planted there. Guthrie's Late Green is surprisingly hardy, and this quality must be inherent, as in our case there is plenty of fruit where it could not possibly have been protected by leaves. Damsons would appear to be naturally much harder than Plums, as in this district none of the trees of the latter, if we except the Damson-like Rivers' Prolific, are carrying good crops; whereas Damsons are much more prolific.

Apricots are not nearly so hardy as Plums, as only the trees well protected by glazed coping



and blinds are bearing abundance of fruit, the rest, or those treated more like Plums, being failures. As far as my experience goes, there are no varieties of Apricots of marked hardiness, though the Royal, Large Early, Kaisha and Shipley's are usually more surely productive than the choicer Moorpark and Hemskirk. Nor can I detect any difference in the relative hardiness of the flowers of Peaches and Nectarines, but we have ample proof, if this be needed, that they are far more hardy than those of most other kinds of fruits. There were several quite severe frosts while the Peaches and Nectarines were in flower and again after the fruit was set, and yet the thinning-out has had to be most severe. It is also a noteworthy fact that trees in this neighbourhood, not protected as ours were by doubled fish-nets, are nearly or quite as well furnished with fruit, and seeing also that the trees generally are in better health than usual, an addi-

cropped, while adjoining these are to be seen others of Manks Codlin too heavily laden. Braddick's Nonpareil, a favourite of mine, flowered grandly, but not a dozen well-formed fruits are now to be seen on the trees. The flowers of Lemon Pippin, Cox's Orange Pippin, and Blenheim Pippin are also too tender, as the trees, although they were well furnished with buds, are only lightly cropped. Near at hand are other trees of Duchess of Oldenburgh, King of the Pippins, Beauty of Bath, and Quarrenden bearing great bunches of fruit all over their surface, severe thinning out being most imperative. More instances of failures and successes with Apples might be added, but I have given enough to strengthen my theory that there is a great difference in the hardiness of the flowers of respective varieties. Pears apparently are not so variable this season. They bloomed at a most unfortunate time, and on some walls and positions in the open, though

tered by the taller growing sorts. Most of the early or largest Strawberry flowers were blackened, no variety proving of superior hardiness, and extra fine samples have been fewer in number accordingly. Of Gooseberries the hardiest or surest bearer in bad seasons is found in Whinham's Industry. W. I.

Somerset.

### PEAR CITRON DES CARMES.

THE early Pear here illustrated is not so much grown as in former years, owing, no doubt, to its soon going over. With medium-sized trees this difficulty may be got over by gathering a few fruits daily. This is not one of our best Pears, but it is a useful kind and bears freely in most seasons, at least in the southern parts of the kingdom. The tree is a great cropper, and, as shown in the illustration, bears its fruit in bunches. The fruit when ripe is yellowish green with a slight tinge of red on the sunny side, and comes into use the third week in July in favourable localities. It is an excellent variety for a small garden, as it makes a good pyramid and is equally good as a standard. The growth of the tree is distinct from that of many others, and when grown as a pyramid it makes a handsome tree. Of late years I have grown two or three cordons for an early supply, and it is an excellent Pear for the purpose, as the habit of growth lends itself readily to this system of culture. When I advise growing it as a cordon, I do not mean against a wall, though a few trees on a wall are valuable, as the fruits grown in such a position are superior in flavour and of larger size than grown otherwise. I have had it trained as a cordon and also as an espalier. It may be that some would object to grow Pears as above when they succeed as standards. My reply is that all Pear trees repay for good culture, and when given a wall or trained as cordons, the crop can be regulated or thinned, the tree better fed and the fruit much improved in size and flavour. I have seen this variety suffer badly from canker when the trees have been grown as standards and occupied the same ground for many years. I grew this variety well at one time as an orchard house Pear in pots, and it always finished a crop of nice sized fruits of fine flavour. As early varieties, Doyenné d'Été and the above are useful kinds. There is often much fault found with these early Pears that they lack flavour, but they have not the same treatment as the later Pears, which are gathered some time before they are ripe and stored. If the early kinds are gathered a few days before they are used and stored, the flavour is greatly improved. I find them far more serviceable if gathered a few at a time and placed in the fruit room or a cool vinery. Our earliest Pear is Doyenné d'Été, being a few days earlier than Citron des Carmes. On a light soil Pears require more attention than in good sound loam, and to get size, mulching the surface in the early summer with manure must be resorted to. The question of stock on which these early Pears are grafted has much to do with size and flavour, and those which are required to grow freely or fill a large space are best on the Pear or free stock; those for a restricted space do better on the Quince, so that I always use the latter for the above variety when growing it as a cordon tree, and I think that the flavour of the fruit is better on the Quince than on the Pear stock.

G. WYTHES.

**Open-air Peaches.**—It seems singular that with such a bad cold spring tender fruit should be



Pear Citron des Carmes.

tional incentive to the open-wall culture of this valuable class of fruit will be given. Cherry blossom is naturally very tender, and although the trees against walls flowered grandly, the crops are light, the one exception being the Morello, which was sufficiently late-flowering to escape destruction. Low standards and pyramids, not many of which are to be seen hereabouts, are well cropped, the flowers in this case, in addition to being later in opening, also not being so much exposed to frosts and sudden thaws.

Apples flowering later apparently escaped the most severe frosts, but in not a few cases the centres were damaged, though the showy cases were not injured. As a consequence of this the flowers shattered off wholesale without leaving any fruit behind. Long rows of trees were a beautiful sight at much about the same time, yet some are heavily laden with fruit and others almost without any. For instance, in our case the trees of Keswick Codlin are very lightly

some flowers escaped frosts, the fruit that followed was frozen through. Easter Beurré is somewhat early flowering, the buds opening long before the petals unfold, yet it proves surprisingly hardy, and we have good crops on trees in two very different positions. Marie Louise against a north-east wall opened late and escaped, Vicar of Winkfield, near at hand, also being well set with fruit, but Beurré Diel is a comparative failure for the first time during the past six years, though I can scarcely attribute this to the non-hardiness of the flowers.

Filberts bloomed freely, and in spite of being long exposed to severe cold, more blossoms escaped destruction than I expected to see, and the flowers of Black and Red Currants have proved surprisingly hardy. Not so Raspberries, Strawberries, and Gooseberries. The flowers and nearly-set fruit of Raspberries growing in rather low positions have recently been badly damaged by frosts, the only exception being where rows of Baumforth's Seedling were shel-



more abundant than the hardier kinds, but so it is this year, as Peaches and Nectarines have set good crops and have had to be thinned, while Plums and Pears are almost a failure, and Apples are scarce. Some trees of the last mentioned have none at all on them, others very few, and some a fair quantity, but the foliage of all looks well. What told in favour of the Peaches was the short spell of heat just when they were in flower, causing them to set well, and the failure of the others resulted from frost killing the stigmas. I doubt, however, if the fruit of the Peaches and Nectarines will be large, as it is not warm enough for the trees, and yet they could not look better than they do at present, as they have made good growth and are clean, fly having been little or no trouble up to this date. The only unsatisfactory kind I have is Royal George, which for the last few years has had mildew, and though an old favourite of mine, I shall have to discard it.—S. D.

#### EARLY CHERRIES.

CHERRIES are not grown so much as standards and pyramids in gardens as formerly, owing to various causes. Of late years choice varieties have suffered badly from canker, and as the tree flowers so early the bloom is frequently injured by frosts, so that a poor crop is the result, while birds in most gardens are so troublesome, that only under the most favourable circumstances can a crop be secured. In orchards with a quantity of trees the last named difficulty can be minimised by scaring, but does not pay with a few isolated trees, so that there is no better plan than wall culture, as the trees can be protected from frost and from birds by netting. One great advantage with wall trees is the long time the fruit will hang without shrivelling if the trees are in a healthy condition with ample foliage and kept clear of black-fly, which is a great pest, and attacks most Cherries on walls. Unless stringent measures be taken in time, the whole crop is disfigured and the trees crippled for the following season. By planting Cherries in different positions a supply of fruit can be kept up for a considerable period. The earlier kinds when planted on a warm south wall will give nice dishes in June. One of the best is Early Rivers, a large shining black handsome Cherry (indeed, one of the best of all the black kinds), of rich flavour, with a great quantity of flesh and but little stone. It is equally good indoors or out, and the tree grows vigorously, rarely failing to bear a heavy crop. It is a seedling from the Early Purple Gean, a good old variety. The fruit of the Early Gean is richly flavoured, but the tree is very delicate and does not do well in many gardens. The Early Frogmore Bigarreau is another valuable wall fruit that can be relied upon, and though classed as a second early kind, with me on a warm wall it ripens during the second week in June in a good season. The tree is a vigorous grower, of good constitution, and an abundant bearer, and if only two or three varieties of Cherries are grown, this one should find a place. It does not canker so badly as some kinds, and keeps well if there is not too much moisture at the roots after the fruit is ripe. Governor Wood is also a favourite variety. It is a large pale red fruit, richly flavoured. It is a useful variety for wall culture and equally good for pot or indoor culture. This last named is not quite so hardy as others, and to do it well it must have a warm wall, as in cold districts I have found it gum badly. On our light soil in a sheltered corner it crops heavily and makes plenty of clean wood. Belle d'Orleans is an early rich fruit of medium size. It comes into use early in June, but I prefer Early Rivers to this variety. Early Lyons is also superior, and a free grower and heavy cropper. Bigarreau, commonly called Amber Heart, is a sterling variety, and one of the best wall Cherries grown; our trees are old and bear heavy crops of fruit of rich flavour. This is grown in quantity in Kent and other counties as a standard for orchard culture. The fruit on a south wall is large, red and yellow in colour. The tree

is very hardy and vigorous and a great cropper. Though one of our oldest and best-known Cherries, it is worth wall space in every garden. This is a good variety to plant on a north wall, as it gives a later crop and is a free grower on that aspect. May Duke does equally well on a north aspect, and should be included in the list of good early kinds. Duchesse de Palluau, a large dark red kind with a brisk flavour, is a good north wall variety to form a succession to earlier kinds. Bigarreau Baumann's May and Belle de Choisy are early kinds, but I do not think they are so good for general cropping as those more fully described. For later purposes we have a wider selection of excellent kinds. The great drawback with these fruits is that the choicer early thin-skinned varieties crack badly in wet seasons. If the heavy rains can be thrown off them when fully ripe they last in condition much longer. On walls this is more readily done. I use the Vine border shutters or corrugated zinc covers for the purpose. In dry seasons when the trees are swelling their fruits, moisture is equally necessary, or the fruits fail to swell and are soon attacked by black-fly. A good mulch early in May of decayed cow manure greatly assists the swelling of the fruits on light gravelly soils, as the trees do not thrive long in such positions without good feeding. With the roots in a good depth of loam less manure is required, but drainage is necessary, and in all cases the roots of Cherries should be kept as much on the surface as possible and be encouraged to come to the top by feeding with liquid and top-dressing. When this is seen to there will be less loss of trees from canker and gumming, a freer growth being secured if due attention is paid to summer pinching of the shoots and extension of the main branches.

G. WYTHES.

**Raspberries.**—Now that Raspberries are fruiting is the time to take notes as to sorts and exchange opinions regarding merits. I am growing four varieties and I find that Hornet is the earliest and a great cropper, as every shoot is laden with fruit, which is a good size and round. Baumforth's Seedling is a little later and not so prolific, and I prefer Fastolf to it, as Fastolf is fine and a free bearer and of excellent flavour. My favourite, however, when it comes in is Superlative, but it is quite a fortnight later than those mentioned, and therefore it is necessary to grow other kinds for first supply; but leaving that out, the lateness of Superlative adds to its value, as by growing that, one has a much longer succession. In habit it is very strong, and the canes are so woody and stiff that they support themselves without stakes if they are just crossed and tied together at top. Superlative is an exceedingly prolific Raspberry and bears long, large, handsome fruit that is of fine flavour. The way we treat our Raspberry beds is to mulch heavily in winter or spring with half-rotten manure, so as to encourage surface roots and retain the moisture, and we never dig or break the ground between the plants beyond hoeing or what is necessary for destroying the weeds. If the suckers that stand away from the crowns are not likely to be wanted for planting, they should be pulled up, and only three to five of the best situated left to take the place of those that have fruited. Thus thinned, the canes grow strongly and ripen up well.—S. D.

**The treatment of Morello Cherries.**—Rarely have I seen Morello Cherries so healthy and fruiting so abundantly as this season. The north wall appears to be the ideal position for the successful growth of the Cherry under notice, as rarely do the trees ever miss fruiting. This note, however, is not intended to refer to the merits, or even the positions, in which the Morello Cherry thrives best, but to show how best to manage the trees so as to assist them in bringing the fruit to maturity, as well as retain them in good health. I am decidedly of the opinion that the trees, as a rule, are denuded of too much foliage during the early summer months, and, considering the amount of nourishment such trees require to bring a full crop of fruit to maturity, a fair proportion of healthy foliage is necessary to do full justice both to the

fruit and trees. Seeing how some trees are shorn of the young wood at this season of the year, it is not to be wondered at that the fruit is small and the trees collapse early. The best course is to go over the trees now—I am referring to those on walls—and shorten back any shoots which are unduly crowding each other, leaving sufficient for the future furnishing of the trees with young bearing wood, and also some others to assist in bringing the fruit to maturity. Any of these latter, if not required, should be cut clean out or shortened back after the fruit is gathered and whilst the leaves are still healthy. Nailing in of the shoots at this early season interferes with the fruit. The only shoots which I nail in at this season are the leading ones of young extending trees. These have no fruit in their way to impede the work, and being on the outer edge of the tree, are more exposed to direct light. The trees should now have a thorough washing with water through a hose or garden engine, this clearing away all dead petals and other rubbish.—Y. A. H.

#### THE SUMMER MANAGEMENT OF FRUIT TREES.

IMPORTANT and necessary as winter pruning may be, summer stopping is doubly so, for if due care and attention are bestowed at this season trees are got into a much more fruitful condition, for by judicious pinching or removal of superfluous shoots, flower-buds are induced to form; but if growth is allowed to go on unmolested, the strength of the trees is expended in the formation of wood. It will therefore be seen how requisite it is to prevent this and divert or direct their energies in the proper channel. Supposing, then, that we take a pyramid Pear tree that has been properly trained, we shall find it with well-regulated branches radiating or running out up the main stem from base to summit, and the branches all at a uniform distance ranging from 1 foot to about 18 inches apart. A pyramid so shaped and furnished would form a perfect tree if run tapering from the bottom to a point at top, and the Pears it bears will be fully exposed to the light and sun, the influence of which is necessary to ripen them up and finish them off of high quality. The branches referred to will, of course, be furnished with spurs, and it is from these spurs that annual shoots are produced, and the shoots should now one and all, except the leading one at the point, be nipped off low down, leaving only three joints at the base. This constitutes summer stopping, and if carried out little winter pruning is left to be done. With Pears on walls or when grown as espaliers, trained to strained wire or otherwise, the treatment requisite is much the same, that is, the wall trees should have all breast-wood removed, also all the shoots that have been sent out along the main branches of the espalier or cordons, leaving only those to run on at the points if the trees do not meet. Enough, I think, has now been said with regard to Pears for even the veriest tyro to manage his own trees, and if he is starting with young ones, or has any faulty in shape, it only remains to leave a shoot where it is wanted for making a branch to fill up the vacant space, or by the aid of a stake and ties to draw a shoot there and secure it in the position required, and then trees may be formed of the shape already referred to. Apples that are grown as bushes or espaliers need precisely the same treatment as Pears, and the fruit of both, if set at all thickly, should be thinned out by removing all the small and malformed in order that those left may swell up to their full size, and the trees be not distressed by having too much of a load, as not only will they suffer now, but they will be unable to form blossom-buds, and must therefore be barren next year.

Dessert Cherries, Plums, and Apricots on walls all require summer stopping, and the remarks already made apply to them—that is, they must have all shoots nipped back and the spurs kept short, or the fruit they bear will be poor. Peaches and Nectarines are the most difficult to manage, as they bear on the young wood and need thinning,



and have only just sufficient shoots left and tied or nailed to trellis or wall to fill up vacant spaces without at all crowding each other. Where the difficult part comes in is to keep the trees clean.

The insect that generally attacks them is the aphid or green-fly. Red spider is often troublesome, and more especially is this so if the weather sets in hot and dry. The best remedy against red spider is to well soak the soil by giving a heavy watering at the roots, freely syringing the trees every evening, as red spider cannot endure wet or a cold bath. The way to deal with the aphid is to either dip the ends of the shoots in tobacco juice or dredge them with tobacco dust, the first mentioned being the most certainly fatal to the insects, as the whole can easily be immersed and wetted; whereas some are sure to escape the dust by being so well sheltered under the leaves. In preparing the juice all one has to do is to steep common, cheap tobacco in hot water, half a pound being quite sufficient for two gallons, and if about four ounces of soft soap be added and dissolved, it will increase its strength and pungency, and make it so that it will kill any aphid, be they green or black. It is not often, however, that they affect Peaches and Nectarines, but, unfortunately, Cherries are seldom without them, and I find that they are particularly bad on Morellos this year. Those who are troubled with them should at once have resort to the tobacco, and if they place a quart or so in a light tin bowl they can go quickly over their trees and dip the ends of the shoots in by just bending them down, and soon after the fly will be dead. Red Currants are often quite spoiled by green aphid, as when numerous they coat and discolour the fruit by the excreta they exude, which being sticky, and called by some "honey dew," dust accumulates on it and the Currants become quite dirty and unfit for use. To dip Currant shoots which are so stiff is almost out of the question, and the better way of dealing with them is to snip off the tips, as the fly is only on the tenderest leaves, the foliage lower down being generally free from their ravages. Next to the importance of carrying out the work referred to, mulching should have the first place, but it is only required when trees have a good crop of fruit on, and then in addition to the ground being dressed with a coat of half-rotten manure as far as the roots are supposed to extend, a soaking or two of sewage or clear water should also be given. S. D.

#### CHERRY TREES IN BUSH FORM.

NEARLY everybody grows Apple, Pear, and Plum trees as pyramids or bushes, but very few think of growing the Cherry in the same form. The prevailing opinion appears to be that Cherries away from walls can only be grown as standards. This is a mistake, for in the west of England at least I know of several instances where large bush trees of such sorts of Cherries as the May Duke and Bigarreau are as certain and as profitable as any other fruit grown. They are more profitable than standard trees, because they bear more regularly, as the blossoms are not so much injured by spring frost, and the fruit is more readily protected from the birds. Owing to the more rigid character of the growth, the May Duke makes the handsomer bush tree, but with a little management the other sort I have named is equally prolific. When I started with my own trees I secured young vigorous maidens with a single stem. These I cut down to within 18 inches of the ground, which induced four and five branches to be sent out from the stem. In the following winter these shoots were shortened to half their length, with the result that the tree was furnished with seven or eight branches to form the foundation of vigorous plants, which are now developing into erect bushes. There is a decided advantage in growing the trees in this form, besides those I have already given, as a bush can be placed in any sheltered corner that is quite unsuitable for a standard. I must, however, caution the intending planter not to attempt to keep the trees down to a low stature by hard pruning, or they will surely resent the treatment by refusing to

be productive. If a suitable number of branches is secured in the first place, and trained out with the assistance of some stakes until they can support themselves so as to effect a fair balance between the roots and branches, the after-growth will not be excessive, and only moderate pruning will be required. Trees grown in this form 6 feet to 8 feet high are easily managed, and in proportion to the space they cover they bear a fair return of fruit. J. C. CLARKE.

#### CRACKING IN MELONS.

As the Melon season comes round it brings with it its usual complaints as to the cracking of the fruit. It is very vexing to have the finest Melons spoiled by cracking, and as it happens it is generally the best fruits which suffer. Various are the remedies applied and suggested to overcome the evil. The most vigorous plants are generally the worst to contend with. This has led some people to adopt the starving process, thinking by so doing that it is better for Melons as a whole both for flavour and the general finishing up of the fruit. By starving the plants, however, the best flavoured fruits will never be obtained, as unless the plants are healthy, the flavour will not be fully developed. Melons to be of full flavour should ripen upon the plant, and what we have to consider is which is the best means to adopt to secure fully grown and well flavoured fruits. With the plants full of health and vigour the flavour must certainly be more fully brought out, and any attempt to check this by drying off the plants beforehand must end in failure.

Cutting half through the stem is of no use whatever, for unless the cut is deep enough to stop all supplies of aliment, when the fruits might just as well be cut off as not, the cracking will keep on as before. I have proved that cracking is entirely due to atmospheric influence. Growers of Madresfield Court Grape are aware that cutting through the stem will not check cracking in that fruit, neither will lessening the supply of water at the roots, and it is the same with Melons. My belief is that cracking is due to sudden rises of temperature either through closing up the structure too early in the afternoon, or through not having sufficient ventilation on in the morning before the sun has considerably raised the temperature. As the fruit begins to ripen reduce the ventilation at intervals of about twice, so as to guard against a sudden rise, not wholly taking it off through the night, when, unless I am very much mistaken, cracking would be unknown. We had two cracked fruits in our first crop cut this season, the first and the last. The first fruit cracked through my not noticing the ripening was so far advanced, and the last through the structure being closed to hasten on another crop, and also to prove whether closing up the structure to cause a sudden rise in the temperature would crack the fruit or not. If there is a remedy for the evil, it should certainly be adopted in preference to either drying off the plants or cutting the fruits a few days before they are ready. The best time to cut the fruits is just as they commence to crack around the stem, and with the interval of a couple of days or more in the fruit room the flavour is all that can be desired. By cutting the fruits before the time stated they quickly become soft at the base; consequently they keep but very little time afterwards.

Abberley Hall.

A. YOUNG.

#### STRAWBERRIES FOR FORCING.

I READ with pleasure the note at p. 2 on the selection of pot Strawberries. I must confess I cannot get on with Noble as a first early; my second and third attempts are similar to Mr. Iggulden's first. They all ended in a bad set and badly-shaped fruits. When I say early Strawberries, I mean those ripe in the months of February and March. When grown in cold frames, Noble is grand for later use. So far I cannot find a Strawberry to equal Vicomtesse Héricart de Thury for a first

early, followed by La Grosse Sucrée, a splendid doer when given plenty of time to ripen its fruits, that is by removing it to a cooler temperature to finish. This last-named is one of the best forcing Strawberries for dessert when flavour is considered, but requires care at the blooming period to get a free set. With Auguste Nicaise I have found the same difficulty as described, as this season requiring a quantity of fruit for a special date, this last-named variety was kept cooler for a time, and when placed in heat was some time in colouring. When grown cool, however, the fruits come very large; indeed, often coarse. I do not think it will ever make a market fruit; though an excellent variety where mere size is everything, it will never oust older and better-flavoured kinds. Another variety seldom recommended for pot culture is James Veitch. It bears a large fruit, and does not take nearly so long to finish and the foliage does not get so dirty as that of Auguste Nicaise. Sir J. Paxton and President are good varieties difficult to replace. I still grow President in quantity for the April supply. Its greatest drawback is its tendency to mildew and its elongated foliage if far from the glass. Last year I grew twelve varieties for forcing, and I determined before the season finished to grow next year less than half the number, including the good old Keens' Seedling, a variety which never fails to give good returns. I have a great liking for Keens' for small houses or shelves close to the glass, and when finished in a cool house the fruit is much admired for dishing up direct for the table, but to send long distances it is not so useful. I have heard serious complaints as to this variety failing in some places, but with me it is all that could be desired. British Queen I cannot do well, though it is grown well in the neighbourhood. The secret of success in Strawberry forcing is allowing the plants plenty of time to form their fruit and to crop lightly. If large fruits are desired, take off all not required for the crop as soon as possible; indeed some do not even allow the blooms to expand, but remove the weakest as soon as formed, and give their plants plenty of time to mature their fruit. I think after reading Mr. Iggulden's note I must again give Noble a trial. I certainly meant to omit it from my shortened list this year, but shall not now do so. S. H.

**Sharpless Strawberry.**—I am very pleased to see the good opinion I expressed of the above so ably and strongly confirmed by such an authority as Mr. J. Watkins, Pomona Farm Nurseries, Hereford (p. 557), and hope it will lead to its being given a more extended trial than has evidently been the case hitherto. From his description of it, his variety and mine are identical.—J. R.

#### FERNS.

##### NOTHOCLÆNAS.

I HAVE received from a person signing himself T. Jarrold a nicely dried frond of a Fern marked *Acrostichum velleum*. The sender says he cannot find the name anywhere, and asking for information respecting the plant which he says he obtained during a hurried visit to the island of Madeira. The name given above is a very old one for *Nothoclæna lanuginosa*, and it is now entirely dropped by Fern authorities. Yours is a very pretty species, and is well deserving your care. It is found in the Cape de Verd Islands, in Teneriffe, and also in the south of Europe. *Nothoclænas*, a genus of small growing plants, are found in apparently dry and rocky places, but in these places their roots are buried down in the moist cool rocks and soil, so that the plants do not feel the aridity in the atmosphere. They are usually spoilt under cultivation by keeping them too hot, and by overloading their roots with soil. Some of the kinds require the heat of the stove house, but



the majority of them thrive best in the temperate fernery, and in quite a shady position. These plants are best grown in thoroughly drained pots in a mixture of peat and loam made sandy, and they should be planted between lumps of sandstone rock, and whilst giving them abundance of water in the summer months, one should be very careful of watering them overhead; especially is this necessary in the case of the species

*N. LANUGINOSA*. This may be distinguished at once by its bipinnate fronds, which grow some 6 inches or 8 inches in length. They are rich green above, but beneath they are clothed with long white woolly hairs, which make it a very conspicuous object and one of great beauty. It is evergreen, and deserving every care and attention.

*N. MARANTÆ*.—Another plant from the same district as *N. lanuginosa*. It is a very handsome species, but it is quite different from the above named; it has fronds some 9 inches long, pale green; beneath they are thickly coated with a reddish brown tomentum. This should be grown in a cool house.

*N. ECKLONIANA* is a South African plant, but it thrives best in the cool house. Its fronds when young are covered with long white scales on the lower side, but when mature these turn brown, the upper side being rich green. In well-grown specimens the fronds attain to 1 foot in height.

*N. TRICHOMANOIDES*.—This plant is a native of Cuba and Jamaica; consequently it requires stove heat, and is most effective when grown as a basket plant. It should not be grown in a basket of too great diameter, or its fronds, which seldom exceed 1 foot or 15 inches in length, do not extend sufficiently over the edges. The pinnæ are rich deep green on the upper side, the under side coated with white hairs, which turn brown with age. The pinnæ are covered with a dense white farinose powder, and the edge is ornamented with black sori.

*N. RUFA* is another elegant small basket plant. Its fronds grow somewhat longer than those of the previously named kind. The pinnæ are deeply toothed, light green above, and clothed beneath with a short white tomentum. The plant requires a warm stove.

*N. SULPHUREA*.—This is an elegant species which should be grown as a pot plant. It is very rare, and is perhaps better known by the name of *Cheilanthes Borsigiana*, as by the latter name it first appeared in cultivation. The plant comes from Peru, perhaps some warm part, for it requires stove temperature. The fronds are some 6 inches or 8 inches high and with jet-black stems, the upper side deep green, beneath furnished with golden yellow farina.

The above are some of the principal kinds in cultivation. There are also others, such as *N. lævis*, *N. brachypus*, *N. mollis*, *N. distans*, &c., all of which are very beautiful.

WM. HUGH GOWER.

#### MAIDEN-HAIR FERNS FOR CUTTING.

WHERE there is any great demand for cut fronds of these Ferns, the earlier started plants will no doubt have been run upon somewhat hard from the time their fronds were fit for use. It will do these plants a considerable amount of good if they are for a few weeks kept quite cool and comparatively dry at the root, only just sufficient water being given them to prevent actual suffering. Whilst this is being done all the shabby fronds may with advantage be cut off; in fact when the plants are quite dry at the roots it will not do them any harm to cut off all the fronds that have been left, although thinning out would be safer where the plants are at all over-potted. These plants after a few weeks' rest will again start into good growth and perfect a crop of most useful fronds for the winter season. It will not be advisable to repot any plants from such a stock now, this would rather tend towards a too

soft growth—in fact Maiden-hair Ferns are frequently far too much over-potted when this object of a cut supply is the chief and all-important point. When sufficient rest has been allowed them, the plants should be given a fair amount of warmth, but not with too much moisture in the atmosphere. A pit, for instance, from which a crop of Melons has been taken would be a good position; here they would be tolerably near the glass with probably the chance of a slight amount of fire-heat if needed. The all-important matter, however, is to secure a hard growth; this is best done by free exposure to light with a liberal amount of ventilation, and, as before advised, not too much moisture. When the growth becomes free and plentiful, then it must be seen to that they do not suffer at the roots from want of water. In the case of a stock which has not been run upon hard and which has been grown on in the usual way without early starting into growth, the fronds will now be well hardened and in good condition for cutting. These plants will continue to grow

is so in my own case) be somewhat of a difficulty, particularly where the majority of the houses are specially devoted to fruit culture, the occupants of the roofs thus imparting too much shade. Rather than attempt to grow the plants in such positions, it will be a better plan to keep the stock in cold frames with a light shade upon the glass if much exposed. Frames can usually be spared at this season of the year; in some instances they are not nearly all to be found in actual use about now, the lights often being for the time stacked away upon their sides. Here, then, those who have a good stock of plants may safely place them when so situated as not to be able to give them a fair chance in their houses. If this were done more than it is, we should not see so many Maiden-hair Ferns drawing out a miserable existence in places totally unfit for them. As an instance of this, I would only allude to the one fact, viz., that of still continuing to grow the plants in the heat and moisture of a stove house at all times of the year, frequently over-potted and



*Magnolia obovata*. Engraved for THE GARDEN from a photograph sent by Mr. E. E. Peacock, Bewdley Villa, Bath. (See p. 22.)

for a long time to come, thus forming a good succession of fronds. As in the case of the others, too much shading is a great mistake; this, combined with a moist atmosphere, produces large pinnæ, with fronds also that are frequently much too large for use, whilst they never last nearly so long as the smaller ones when cut. Plants grown in this way might, it is true, be considered to be well developed; but this is what is not required from a practical point of view; besides, light-coloured fronds are always the most sought after by floral decorators as being the most effective. These can only be had when the plants are not grown in too kind a manner. Another point which is by some growers overlooked or not given enough consideration is that of the soil; if too much reliance is placed upon peat, there will always be a tendency towards vigorous growth. On the other hand, by using a light fibrous loam or heavier loam that is corrected by the addition of a little peat, the results will be found far more satisfactory. I have previously alluded to keeping the plants in a fairly light position. This may in some cases (it

as much over-watered. Another fine place for securing a good enduring growth is upon shelves, whence the plants have always a free circulation of air playing around them. In such positions they will, of course, be found to dry up quickly, but this should not be any drawback in the least. The basket culture of these Ferns should be more practised where possible. By this mode of culture a good stock of fronds will frequently be in hand when the pot plants have been hard cut, simply because the basket plants are not so accessible at the moment. The smaller growing Maiden-hairs which assume a roseate tint will be found to be further intensified in colour when grown fairly well exposed to the light and air, although most of these require rather more warmth than the common kind. *A. tinctum*, *A. rubellum*, and *A. Veitchi* are three of the best of these to supply occasional fronds in a cut state. Where seedlings of any kinds are seen to be springing up they should be well cared for, a young stock of these being always useful to supply the place of the older and somewhat exhausted plants. Wherever it is possible



and practicable also, I would advise the extended culture of Maiden-hair Ferns planted out. This may be done upon bare walls hitherto unsightly by merely fixing some wirework to the face with a little soil; margins also to stages may be planted with decided advantage. Besides *A. cuneatum* for cutting, note should be taken of *A. elegans*, *A. mundulum*, *A. deflexum*, *A. Williamsi*, and *A. Bausei*. FILICES.

## SOCIETIES AND EXHIBITIONS.

### NATIONAL ROSE SOCIETY.

CRYSTAL PALACE, JULY 2.

THE annual exhibition of the National Rose Society was held at the Crystal Palace on Saturday, and fulfilled expectations, as the heat of the previous days had brought on the flowers hurriedly and expanded them fully before they had an opportunity to obtain that fullness and substance characteristic of the blooms in cooler seasons. The competition was keen in some classes, the entries being quite on an average with years gone by, but, as a rule, the flowers if of bright colour were undersized both in the Teas and Hybrid Perpetuals, but making up for this deficiency by a certain finish, not so fully, however, as to atone for massiveness and what rosarians call quality. Such an exhibition as this, representative and comprising classes to suit all growers, is always interesting, but this year it was rendered additionally so by reason of the schedule being split up into divisions according to the number of plants grown by the exhibitor. Thus amateurs were restricted, and the large growers could not snatch prizes from those who are not so blessed with large gardens to cultivate a big collection. Those who grow less than 2000 plants had their own section, and so on, a thoroughly fair method to secure a representative show and encourage the smaller growers hitherto frightened away from the exhibition through the large growers. Of course, as in the case of all Rose exhibitors, there was little attempt at an artistic display. It consisted of a set number of boxes arranged as formally as is the custom at English shows; but the exhibitor prides himself rather in the individual beauty of a cut flower than the effect as a mass. A critical analysis of the exhibition on Saturday revealed the fact that certain varieties came out strongly. This is always the case; certain kinds are good in certain years. Gustave Piganeau amongst the Hybrid Perpetuals was conspicuous. This Rose was present in many stands, and as a rule of surprising quality. This is quite a new Rose, sent out about two years ago by Ducher and Levet, the French raisers. The bloom shown by Mr. B. R. Cant, and that won the silver medal of the National Rose Society for the best Hybrid Perpetual flower in the nurserymen's classes, was splendid for colour, size and form—rich crimson, the petals broad, massive, and composing a bloom of great depth and beauty. The same exhibitor also had a very fine boxful of it in the open classes. This variety is now undoubtedly one of the Roses of the future, being equally as fine as a pot Rose and in the garden as it is for the exhibition stand. Souvenir d'Elise amongst the Teas won the silver medal for the best blooms in both trade and amateur classes, whilst it was in several other collections represented in good character. Mme. de Watteville, Comtesse de Nadaillac, Niphetos, Ernest Metz, Marie van Houtte, Mme. Cusin and Cleopatra were of note, the last-mentioned in particular, this kind throughout the exhibition being in splendid condition. The reason is doubtless that this fine Rose of Mr. Bennett's raising is of remarkable substance, braving well such a season as the present. We have seldom seen a closer fight than between Mr. Benjamin R. Cant and Mr. Frank Cant for the first place in the great trade class of seventy-two varieties. There were few if any points of difference between them, and if it were possible should have equally divided the honours. The southern growers had it all their own way. The Yorkshire growers

did not appear on the scene, at least were not victorious, and in the Tea classes a large share of the prizes, as usual, went to Mr. Prince, who again scored well with his matchless flowers of Comtesse de Nadaillac. In the amateurs' classes Mr. Hill Gray, the amateur grower at Bath, was the most successful.

The classes for garden Roses are always a very pleasing feature at the exhibitions of the National Rose Society, and on the present occasion there was fortunately a strong competition. Messrs. Paul and Son had a lovely collection of thirty-six bunches, but the flowers were packed too closely together. *R. macrantha*, varieties of *R. rugosa* and many old-fashioned types were represented. A note also should be made of the delightful button-hole Roses from Mr. Mattock, quite one of the best features of the show; Ma Capucine and Mme. de Watteville were exquisite for colour and form.

There were several new varieties, but nothing of apparently great merit, although it is very difficult to judge from a few blooms, as we have other points to consider besides colour and form. A Rose must now be of a distinct shade to be worth much, but in the classes for new Roses, at least those that were offered in catalogues of 1890, several varieties now well known were observable. The Bourbon Mrs. Paul was delightful for colour and finish, whilst its perfume also recommends it. Violet Mee, with its violet-purplish shade, is not a Rose to admire; we do not want this kind of colour; but Gustave Regis, a new Rose to which an award of merit was given at the last meeting of the Royal Horticultural Society, is a charming flower, sweet and of beautiful shape, a Rose that we should think would become popular.

**Nurserymen's classes.**—Mr. Frank Cant, Colchester, was after a close scrutiny awarded the first prize in the large class of seventy-two varieties, with in all a grand lot of blooms; some of the best of these were Mrs. John Laing, Etienne Levet, Dupuy Jamain, Souvenir d'Elise, Jeannie Dickson, Gustave Piganeau, Ulrich Brunner, Duke of Edinburgh, Star of Waltham, Her Majesty, Mme. Cusin, Maréchal Niel, Marie Baumann, Baroness Rothschild, The Bride, Niphetos, Prince Arthur, Comtesse de Nadaillac, Marchioness of Lorne, Pride of Reigate, and Ernest Metz, the last calling for special mention. Mr. B. R. Cant was an exceedingly close second; his best blooms were Cleopatra, Etienne Levet, Lady Helen Stewart, Horace Vernet, La France, Lady William Fitzwilliam, Crown Prince, Marie Finger, Souvenir d'Elise (silver medal), Princess of Wales, Mrs. Paul, Mme. de Watteville, Violette Bouyer, Mme. Hoste, Comte de Paris, Jean Ducher, Mrs. Baker, Duke of Teck, Comtesse de Nadaillac, and A. K. Williams. Messrs. Paul and Son were third in this class.

Mr. F. Cant was again first for forty-eight trebles. Here, besides others named previously, he had Mme. Gabriel Luizet, Mme. Isaac Perière, Merveille de Lyon, Souvenir d'Elise Vardon, Innocente Pirola, Hon. Edith Gifford, Souvenir d'un Ami, and Cleopatra. Mr. B. R. Cant again followed his namesake very closely, being the winner of another silver medal for the best bloom of a Hybrid Perpetual amongst the trade classes with a splendid flower of Gustave Piganeau, which kind gained the same position last year. Of others, he had fine blooms of Lady Mary Fitzwilliam, Horace Vernet, Francois Michelin, Prince Arthur, and Princess of Wales. These two exhibits were grand features in the show. For forty-eight singles Messrs. Cooling and Sons, Bath, were placed first. Here were to be seen fine flowers of Mme. Kuster, Etoile de Lyon, Victor Lemoine, Baroness de Rothschild, Pride of Waltham, Mlle. S. Rodocanachi, Magna Charta, and Maréchal Niel. Messrs. Burch, Peterborough, also had good stands, and were awarded the second prize. The finest flowers here were Reynolds Hole, Merveille de Lyon, Innocente Pirola, Her Majesty, Xavier Olibo, Viscountess Folkestone, Gustave Piganeau, and Alfred Colomb. For twenty-four singles Mr. W. Taylor, Osborn's Nursery, Hampton, was first, some of his best blooms being those of Ulrich Brunner, Mrs. John Laing, Mrs. G. Dickson, Gloire d'Yonnaise, Ches-

nut Hybrid, Countess of Pembroke, and Catherine Mermet. Mr. Mattock, Oxford, came in second, and Mr. G. W. Piper, Ridgewood, Uckfield, third, Mme. de Watteville, Fisher Holmes, Anna Olivier, Souvenir d'Elise Vardon, Reine Marie Henriette, A. K. Williams, Comtesse de Nadaillac, and Dupuy Jamain being amongst the best blooms. In the class for twenty-four trebles the first prize again went to Colchester, but in this instance to Messrs. Prior and Son, who showed La France, Lady Mary Fitzwilliam, Viscountess Folkestone, Niphetos, Catherine Mermet, and Etienne, all of good quality, the Teas being the stronger of the two. Messrs. Burch were placed second with a good selection, including amongst others Innocente Pirola, Her Majesty, and Mrs. John Laing. Mr. Mount, Canterbury, came next in this, a very even class altogether.

**Amateurs.**—Open to all irrespective of the number of plants they grow.—In the large class for forty-eight singles, Mr. E. B. Lindsell was first in a close competition. Here were fine blooms of Francisca Kruger, Princess of Wales, Souvenir d'Elise, Mme. Cusin, Catherine Mermet, Comtesse de Nadaillac, and Innocente Pirola among Teas, and Etienne Levet, Her Majesty, Star of Waltham, Mme. Gabriel Luizet, and Charles Lefebvre among Hybrid Perpetuals, the former section counting many points. Mr. S. P. Budd, Bath, another old exhibitor, was a good second with several similar kinds and Souvenir de Thérèse Levet, Horace Vernet, Ernest Metz, The Bride, La France, Grand Mogul, and Mme. Margottin. Rev. J. H. Pemberton also showed well, and was awarded the third prize with a good selection. The silver medal for the best Tea or Noisette amongst the amateurs' classes was awarded to an exhibit in this class from Mr. Tate, Leatherhead, for a superb bloom of Souvenir d'Elise Vardon, although he was not successful in being placed with his entire exhibit. For thirty-six trusses, the first and second prizes both went to Reigate, Mr. Brown, Great Doods, and Mr. Haywood, Woodhatch, being the winners in the order named; the former had Mrs. John Laing, Marie Rady, A. K. Williams, Marquise de Castellane, Marie Cointet, Viscountess Folkestone, and Her Majesty in good form, whilst the latter exhibitor had Francois Michelin, Maréchal Niel, Mme. Hippolyte Jamain, and Horace Vernet, all well represented. In the class for twenty-four single trusses, Mr. Drew, Ledbury, was placed first, showing Merveille de Lyon, Niphetos, Her Majesty, and others in excellent condition. Mr. A. H. Gray, second, with several Teas in good form. Mr. Lindsell was again first in the next class for sixteen trebles, having Souvenir d'Elise, Mme. Cusin, Caroline Kuster, La France, and Dupuy Jamain, all in good order, the last particularly so, the silver medal being awarded to it for the best bloom of a Hybrid Perpetual in the amateurs' classes. Mr. S. P. Budd, second; and Mr. Slaughter, Steyning, third. With twelve trebles, Mr. Drew was again the most successful, showing a fine selection, the best being La France, Ulrich Brunner, Duke of Edinburgh and Dupuy Jamain, Mr. J. Brown following very closely for second place. For twelve single trusses of any Hybrid Perpetual, the last-named was first with Mrs. John Laing, Mr. A. H. Gray following with La France, and Mr. S. P. Budd with Ulrich Brunner. Three other sections were provided, viz., for those who grow less than 2000, 1000 and 500 plants respectively. In these classes the most successful exhibitors were Rev. W. J. Romaine, Old Windsor, Mr. Bethune, Hordsham, Mr. W. H. Fowler, Taunton (this exhibitor being strong in Teas), and Mr. Wilkins, Sutton, who each took first prizes in their classes in the larger section; whilst in the next, Dr. Tucker, Swanley Junction, Rev. H. B. Biron, and Mr. Grahame, Croydon, were the most successful, notably the first named. In the smaller division the best flowers came from Messrs. Foster and Horne. For Roses grown within eight miles of Charing Cross, Mr. Langton, Hendon, was first; Rev. J. H. Pemberton taking the same award for six new Roses.

**Teas and Noisettes (nurserymen).**—Mr. Prince, Oxford, was first for twenty-four distinct



kinds, showing a grand lot of blooms, the following being a few of the best: Niphetos, Mme. de Watteville, Comtesse de Nadaillac, Adam, Rubens, Mme. Cusin, Souvenir d'un Ami, Marie van Houtte and Ernest Metz. Mr. F. Cant was second in this class, Jean Ducher, Devoniensis, Souvenir d'Elise Vardon and Niphetos being the finest flowers. In the next class for eighteen kinds, Mr. Mattock was first, showing Mme. de Watteville, Catherine Mermet, Souvenir d'Elise Vardon, Comtesse de Nadaillac, Caroline Kuster, and Hippolyte Jamain in capital condition; Messrs. Prior and Son being second with good blooms of Jean Ducher, Mme. Lambard, Marie van Houtte and others. For twelve trusses of any one kind, except Maréchal Niel, Mr. F. Cant won with Mme. de Watteville, being followed by Messrs. Burch with Niphetos, and B. R. Cant with the first named again. For three trusses, eighteen kinds, Mr. Prince was first, Amazone, Boule d'Or, Princess of Wales, and other kinds previously named being well shown. Mr. Mattock was a good second.

**Amateurs' division.**—In the open section, Mr. A. H. Gray won the first prize and trophy for his fine exhibit of eighteen distinct kinds. Rev. F. R. Burnside was an exceedingly close second, the judges only being able to make more than one point difference between them. For twelve single trusses, Rev. Mr. Berners was first, being closely followed by Mr. Bethune and Mr. Lindsell. The next class again created a keen competition between Mr. A. H. Gray and Rev. Mr. Burnside, the former winning as before, taking also a piece of plate. In the classes limited to growers having less than 500 and 200 plants, the competition was also keen, more exhibitors by this arrangement being induced to enter. In the open classes for individual kinds there were several specially fine exhibits, those named being popular with growers.

Miscellaneous contributions were made to the show by Messrs. Veitch and Sons, who had a fine assortment of cut Roses of the best kinds, their style of setting up being very commendable. Messrs. Laing and Sons also had cut Roses and a group of miscellaneous plants of fine and showy character, including a few good Orchids, the same firm also showing a good selection of hardy border flowers. Messrs. Barr and Son made a fine display with herbaceous plants, showing many choice kinds, as *Malva moschata* alba, *Amaryllis longifolia rosea*, and *Lilium davuricum*. From Messrs. Carter and Co. came a very interesting collection of Cacti and other succulent plants; from Messrs. Cheal and Sons herbaceous plants, cut Roses and Pansies, all in fresh condition and well grouped together. Messrs. Cannell and Sons made a new departure in their method of arranging cut blooms of their fine strain of double tuberous Begonias. On this occasion they showed them in bunches, producing an excellent effect, whilst it gave a good idea of the merits of each kind. Messrs. Peed and Son showed a miscellaneous group, amongst which several *Caladiums* of the newer kinds were conspicuous, some of the best being *Charlemagne*, *Reine de Danmark*, and *J. R. Box*. These several miscellaneous exhibits have full scope at the Crystal Palace; hence the displays that are made are more attractive than usual.

#### INTERNATIONAL HORTICULTURAL EXHIBITION.

JULY 5 AND 6.

THE display of Roses at this gathering must in every respect be considered an excellent one. It was remarked by those well able to form an opinion that it surpassed in many respects the annual meeting of the National Rose Society on Saturday last at the Crystal Palace. This may have been the case as to the competition in the several classes at Earl's Court, but as there were only nineteen classes in this instance as compared with sixty at the Crystal Palace, the display, it will be seen at a glance, could not be so extensive. The quality of the flowers shown fully equalled that of those at Saturday's show, whilst in several

of the classes the competition was very keen. Mr. F. Cant and Mr. B. R. Cant again proved the most successful exhibitors in the trade classes. Between these doughty champions there was but little to choose in several instances. Of the amateurs, Mr. Lindsell showed exceedingly well; finer, in fact, than at the National, being awarded, in addition to the first in the large class, the higher prize of a gold medal. Tea Roses were present in strong force, being of the two even finer in quality than the Hybrid Perpetuals. The two large buildings in which the show was held were filled to overflowing with the Roses and other productions, chief amongst which were the floral arrangements and the tuberous Begonias, with a good quantity of fruit in addition. It was an excellent idea on this occasion to shade the roof of these large and lofty structures with canvas, giving the show the appearance of being held in immense tents, thus making the effect all the more pleasing, whilst it was considerably better for the preservation of the flowers. A large space was occupied outside of these two structures, and at the West Brompton entrance other groups were staged.

#### Roses.

**NURSERYMEN'S CLASSES.**—For seventy-two varieties, Mr. F. Cant was first with a grand lot of blooms, very fresh and of good size and colour; some of the most striking were Etienne Levet, Souvenir d'Elise Vardon, Dupuy Jamain, Niphetos, Horace Vernet, Sir Rowland Hill, Mme. Hoste, Her Majesty, Maréchal Niel, Comte de Raimbaud, Mrs. Harry Turner, Catherine Mermet, Gustave Piganeau, Comtesse de Nadaillac, and The Bride. Mr. B. Cant who was a good second, had flowers which on the average were slightly smaller, but otherwise as fresh and bright. Here were to be seen Niphetos, Horace Vernet, Marie Finger, Hon. Edith Gifford, Her Majesty, Viscountess Folkestone, La France, and A. K. Williams all in good form. Messrs. Paul and Son were third with smaller flowers. For thirty-six varieties, Mr. B. Cant won a most creditable victory over his namesake, being evidently stronger than in the former class; his finest blooms were those of Ulrich Brunner, Charles Lefebvre, Comte de Raimbaud, Mme. Welche, and A. K. Williams; Mr. F. Cant who came second had grand flowers of Etienne Levet and Duc de Wellington, amongst many others of fine quality; Mr. Prince, Oxford, came in a creditable third in this class. For twenty-four single trusses Mr. Chas. Turner was up to his usual good form of past years and won the first place with an even collection; some of his best blooms were those of Her Majesty, La France, Ulrich Brunner, Comtesse d'Oxford, Abel Carrière and Lady Mary Fitzwilliam; Messrs. Burch and Sons, Peterborough, were second with some excellent Teas, as Mme. Willermoz and Mme. de Watteville amongst others; this was a strong class. For forty-eight trebles Mr. B. R. Cant was again first, having grand flowers of Maréchal Niel, La France, Ernest Metz, Comtesse de Nadaillac, Etienne Levet, Horace Vernet, Mme. de Watteville, Lady Mary Fitzwilliam, Souvenir de S. A. Prince, Souvenir d'Elise Vardon, Mme. Bravy and Charles Lefebvre; Messrs. Paul and Son were a good second in this class, showing fine blooms of Mrs. Paul, Her Majesty, Viscountess Folkestone, Catherine Mermet, and Elise Fugier (extra). With twenty-four trebles Mr. F. Cant was again victorious, having flowers in his usual style, the best being Mme. Cusin, The Bride, Victor Hugo, Her Majesty, Lady Mary Fitzwilliam, Ernest Metz, Duke of Edinburgh, and Innocente Pirola; this was a superb exhibit. Mr. Chas. Turner came in a good second, having Merveille de Lyon, A. K. Williams, La France, Ulrich Brunner and Duchesse de Vallembrosa in good form. For twenty-four Teas Mr. B. Cant was again first with blooms of extra size and fine colour; Ernest Metz, Souvenir d'Elise Vardon, Devoniensis, Innocente Pirola (extra), Ethel Brownlow, Souvenir de S. A. Prince, Madame Hoste, Maréchal Niel and Etoile de Lyon were all worthy of notice. Mr. F. Cant came a close second in every respect; his best flowers were those of Catherine Mermet, Cleopatra, Souvenir d'Elise, Comtesse de Nadaillac and The

Bride. With eighteen singles, Mr. Mount, Canterbury, won the first prize, having Ethel Brownlow, Hon. E. Gifford and Jean Ducher as his best; Mr. G. W. Piper, Uckfield Nurseries, came a close second, having Souvenir de Mme. Pernet, Mme. de Watteville and Catherine Mermet in capital form. For twelve Teas of one kind, Messrs. Keynes, Williams and Co. won with a grand boxful of climbing Niphetos, being followed by Mr. B. Cant with Mme. de Watteville of fair size. For twelve trebles, Mr. F. Cant was again in the front with a good all-round exhibit; mention should be made of Jean Ducher, Souvenir d'Elise, Ethel Brownlow, Niphetos, Mme. Cusin and Marie van Houtte, with Caroline Kuster, Ernest Metz and Mme. de Watteville; Mr. Prince was second, his best being grand flowers of Comtesse de Nadaillac, with good ones of Anna Olivier and Catherine Mermet.

**AMATEURS' CLASSES.**—In these Mr. Lindsell was the champion exhibitor; his exhibit of forty-eight varieties would have given either of the trade growers all their work to beat him; so good was this collection, that it was, as before alluded to, awarded a gold medal. The finest flowers were those of Ulrich Brunner, E. Y. Teas, Horace Vernet, Pride of Waltham, Captain Christy, Ethel Brownlow, A. K. Williams, Souvenir d'Elise, Grand Mogul, The Bride, Louis van Houtte, Charles Lefebvre, Mme. Verdier, Francois Michelin, Innocente Pirola, and Anna Olivier. Rev. J. H. Pemberton was second with smaller blooms, the best being those of Sir Rowland Hill, Marie Baumann, and La France. These two exhibitors occupied the same positions in the class for eighteen trebles; Her Majesty, Francois Michelin, Niphetos, Charles Lefebvre, and Ulrich Brunner shown by the former, and Sir Rowland Hill, Horace Vernet, Maid of the Mist, and Mrs. John Laing by the latter were the finest. For eighteen single trusses, Mr. Knight, Sittingbourne, was first, having excellent flowers of General Jacqueminot, Le Havre, Alfred Colomb, Innocente Pirola, and Camille Bernardin. Mr. Perry, Middleton Hall, Bren'wood, was second with very fresh blooms. With eighteen Teas Mr. Lindsell won again, staging La Boule d'Or, Mme. de Watteville, Souvenir d'Elise, and Mme. Hoste, all in fine condition. Rev. J. H. Pemberton followed with smaller flowers. Mr. Knight was first in the class for a dozen kinds.

**OPEN CLASSES.**—The prize for twelve blooms of any Hybrid Perpetual was awarded to some fine examples of Lady Mary Fitzwilliam shown by Messrs. Perkins and Son; the second to Her Majesty, from Messrs. Paul and Son; and the third to Mr. B. R. Cant for Gustave Piganeau. With a dozen Teas, Mr. B. R. Cant won with superb flowers of Innocente Pirola, very clear in colour; Mr. F. Cant following with Mme. de Watteville, and Mr. Prince with Maréchal Niel. For nine single trusses of any new variety of Tea or Noisette introduced since 1889, Mr. Prince was first with Souvenir de S. A. Prince, extra fine blooms; Messrs. Paul and Son following with Ernest Metz. For three trusses of any new seedling Rose or distinct sport either not yet in commerce or not first distributed earlier than November, 1891, Messrs. W. Paul and Son were first with good blooms of Corinna, the blooms of a deeper shade than those of Comtesse de Nadaillac, but not so large; Messrs. Paul and Son following with Paul's Early Blush, with imbricated petals. Mr. Charles Turner also exhibited in this class his new climbing crimson Rose called Crimson Rambler, which promises to be a splendid garden variety. For thirty-six bunches of garden Roses in variety, Messrs. Paul and Son were easily first, showing large bunches of each kind. Of Mosses were included Eillet Panaché, Celina, Gloire de Mousseuses, Old Pink, Cristata; also White Provence, Hybrid Tea Camoens, Noisettes W. A. Richardson, Gustave Regis, and l'Idéal; Polyantha Mignonette and Hybrid Tea Longworth Rambler—in all a most interesting and decidedly instructive exhibit. Mr. Such, Maidenhead, was second with York and Lancaster, Homère, Celine Forestier, and Ma Capucine as his best kinds.

Messrs. W. Paul and Son were awarded a gold medal for a very extensive display of cut blooms



representing all the best kinds; these were not exhibited altogether in the orthodox fashion, some being in boxes, whilst others were in circular baskets and others in vases. Note should be taken of White Lady and of Spenser, whilst older kinds were well represented; dwarf plants of Roses in pots, well flowered, with Palms and other foliage material greatly added to the effect, which gained many admirers. Messrs. Laing and Sons also showed cut Roses of good quality, but not for competition.

**PLANTS.**—The two large trade groups of Begonias made a splendid display, the competition lying between Mr. T. S. Ware and Messrs. Laing and Sons; there was hardly any perceptible difference between these two fine groups; of the two Mr. T. S. Ware had the most flowers, but the balance of quality was with Messrs. Laing and Sons. The former exhibitor was placed first, he having come very rapidly to the front with Begonias; the background to his group of another exhibitor's fine-foliaged plants enhanced the effect as compared with that of his antagonist, whom he will find it is not easy to shake off. For a group of fine-foliaged Begonias, Messrs. Laing and Sons were first; in this case the effect was too sombre, wanting lighting up with a little colour. Messrs. Peed and Sons appeared to be the only exhibitors of Gloxinias, having a good selection of kinds, but lacking more Maiden-hair Ferns to give a finish to the group as a whole. Hardy Ferns evoked no competition—a matter that calls for some surprise, considering their utility and easy culture. The same must be said of hardy annuals, although in each case good prizes were offered both to the trade and amateur growers.

Plants for the dinner-table were shown in good numbers by Messrs. Peed and Son and Messrs. B. S. Williams in the trade class, and by Mr. Lane, Burntwood, Upper Caterham, and Mr. Portbury, Ripon House, Putney. Nothing out of the usual kinds of material could be noted as particularly effective. Two of the best Crotons were *C. Cheloni* and *C. aigburthensis*. In nearly every case the 6-inch limit of pots was kept up—a great mistake as far as practical utility is concerned, whilst it detracts from the effect the plants would otherwise produce.

The competition for cut herbaceous and bulbous perennials produced a good display. In the trade class Mr. T. Ware staged a grand selection and was worthily awarded the first prize. Some of his best things were *Lilium Lowi*, with white bell-shaped flowers, spotted chocolate inside; *Lilium Grayi*, red spotted; *L. maritimum*, a small red; and two forms of *Lilium elegans* named *alutaceum* and *Prince of Orange*, both extremely dwarf. *L. giganteum* and *L. Hansonii* were also finely shown. Other good things consisted of *Achillea The Pearl*, *Triteleia Murrayana*, *Gillenia trifoliata*, *Coreopsis grandiflora*, and *Alstromerias*, with varieties of *Eriogonon* and *Eremurus*. Messrs. Paul and Son were a good second, showing large bunches of popular and useful garden kinds in excellent selection. In the amateurs' classes Mr. Sage and Mr. Gibson were the most successful, both showing extremely well.

### Fruit.

There was some excellent fruit staged at this show, Grapes in a few classes being specially good, the Madresfield Court from Hattonhurst, Hounslow, being far ahead of all others in size and finish. Strawberries and Melons were shown in quantity; Pines and Nectarines only sparsely represented; Peaches were good and in larger quantities. For the collection of fruit (twelve dishes) there was only one competitor, and here the committee made a mistake in not offering a better prize, as it is impossible for exhibitors to come a long distance for a poor prize. Mr. Robins, gardener to Col. Lee, Hartwell House, Aylesbury, took the first prize, having Black Hamburg and Buckland Sweetwater Grapes, Rivers' Early Orange and Spenser Nectarines, good Dymond and Violette Hâtive Peaches, Brown Turkey Figs, two Melons, May Duke Cherries, Strawberries and Valencia Oranges. For a collection of fruit (six dishes), Mr. A. Ocock, gardener to Mr. McIntosh, Havering Park, Romford, was the only competitor. In this

lot the Peaches were the best, the Grapes being hardly ripe. The same remarks apply to the value of this prize as in the larger collection. In the class for three dishes of Strawberries some good fruit was staged, Mr. A. Gibson, gardener to Mr. T. Burnaby Atkins, Halstead Place, Sevenoaks, was first; Mr. Sage, gardener to Earl Dysart, Ham House, Twickenham, second, with good fruit of Dr. Hogg; third, Mr. J. Gibson, The Oaks, Carshalton. For a single dish, Mr. Divers, Ketton Hall, Stamford, was first; second, Mr. Sage; third, Mr. Allis. The class for three bunches of Black Grapes brought out more competitors. Here Mr. Thomson, gardener to Messrs. Wells, Hattonhurst, Hounslow, was easily first, he showing in his old form, the variety being Madresfield Court, the berries very fine and grandly coloured, reminding one of the Grapes shown at the International at Edinburgh last year; second, Mr. J. Taverner, gardener to Sir A. Macdonald, Woolmers, Liphook, Hants, with very good bunches of Black Hamburg; third, Mr. J. Bowerman, Hackwood Park, Basingstoke. In the class for white Grapes, Mr. Bowerman was easily first with fine Buckland Sweetwater; second, Mr. Osman, Ottershaw Park, Chertsey, with smaller bunches of the same variety; third, Mr. Thomson with Muscats, fine berries but not ripe. In the single bunch competition some splendid fruit was staged, Mr. Thomson again showed the Madresfield Court in fine condition; Mr. Taverner taking second with very fine Hamburg well coloured and of large size. For a single white bunch, Mr. Bowerman had very fine Buckland Sweetwater; second, Mr. Osman with Muscat of Alexandria; third, Mr. Ocock with the same variety. The class for Peaches was well contested, Mr. Divers, gardener to Mr. J. T. Hopwood, Ketton Hall, Stamford, taking the premier award with Stirling Castle and Royal George.

In the class for Nectarines Mr. Robins was first with good Stanwick Elruge and Spenser, all finely finished; second, Mr. P. Blair, gardener to the Duke of Sutherland, Trentham, with good specimens of Violette Hâtive and Lord Napier. In the class for Melons Mr. C. Griffin, gardener to Miss Christy, Coombe Bank, Kingston-on-Thames, was first with a medium-sized seedling; Mr. T. Coomber, The Hendre, Monmouth, second with Blenheim Orange. Pines were only poorly represented as far as numbers went, but those shown were excellent samples, Mr. Coomber being first with a very fine Queen; second, Mr. Slade, gardener to the Duke of Newcastle, Clumber, Notts, with a little smaller Queen of good shape. Tomatoes brought out a nice competition, Mr. Sage being easily first with Conference, Ham Green, and Perfection; Mr. F. Le Poidevin, La Porte, Castel, Guernsey, second with ribbed fruits of deep colour, the varieties being Bashford's Tomato, Large Red, and Hathaway's Excelsior.

For the prizes for market fruit there was not much competition. For the best basket of Figs Mr. F. Le Poidevin had forty-four fine fruits of Brown Turkey, taking the first prize. He was also awarded third prize for best packed basket of Grapes. For a shallow or flat basket of black Grapes Messrs. Parsons & Bourgaize, Covent Garden, were placed third. The same exhibitors were first with three huge bunches of Bananas with fine pods, and first for a shallow of white Grapes, showing grandly finished Muscats. For a collection of English and Channel Island fruit for market Messrs. Parsons & Bourgaize had a superb lot, easily taking the first award and gold medal. Mr. F. Le Poidevin was a close second. In the non-competitive classes some good things were staged, Mr. Thomson sending a basket or flat of his superb Madresfield Court Grapes, for which a silver medal was awarded. Mr. Allan, gardener to Lord Suffield, Gunton Park, Norwich, staged a grand lot of Strawberries, including his new varieties Gunton Park, to which a first class certificate was awarded, Lord Suffield and Empress of India. He also showed large boxes of Countess, Sir J. Paxton, and Jas. Veitch (silver medal). Mr. T. Sharpe, Virginia Water, sent fifty punnets of Comte de Paris Strawberries of good size (bronze medal). From the Horticultural College, Swanley, came three dishes of

Peaches of Royal George and Noblesse, nice fruits. A full prize list will be found in our advertisement columns.

## [PUBLIC GARDENS.]

**Kidbrook Green.**—The Earl of St. Germain has offered, and the London County Council has accepted, the gift of a meadow known as Kidbrook Green, near Eltham, for the purposes of an open space for the use of the public. The land covers 5 acres, and is situated between Blackheath and Eltham.

**West Wickham Common.**—The Coal, Corn, and Finance Committee reported on the petition of the committee formed for the preservation of West Wickham Common, praying the court to render them such assistance as may seem meet in the preservation for the public use of the said common, and recommended that, conditionally on the consent of the lord of the manor being obtained, the corporation should complete the purchase of the common at a cost of £500, and maintain the same as an open space.

**Battersea Park.**—We regret to see that someone has caused some commonplace sculpture, part of so ne building apparently, to be placed in the once charming garden in Battersea Park. The park is much cut up by tea and gingerbeer houses and by other structures of the kind, supposed to be essential to the people's happiness; and we regret the more to see this rubbishy sculpture put in this gracefully little garden. The bedding out was not completed by Midsummer day and is still going on, and, as is too usual, nearly everything is sacrificed to it—costly housing in the winter and fresh preparation of the rich soil every year; so that bedding plants get the best of all attention, and repay it by a few months of brilliant flower and growth before the frost comes to end the show, while plants of our own regions have to take their chance. The fine shrubs crowd upon and try to kill each other, and many of them are dead or sick. The ground under the shrubberies, and which might carry colonies of beautiful hardy flowers, is bare in the middle of summer. Sometimes the shrubberies are covered with rank weeds. All the care is for tender things, which are put out in the most commonplace and ugly way. There is no improvement whatever since Mr. Gibson's time, but a great falling off in the shrubs, to which he paid much attention. The system as at present carried out will not do, and we hope the County Council will look to it, as the amount of public money spent upon this park is a large one, and the least we can ask is good gardening for it.

**New or rare flowers for drawing.**—Readers will kindly remember that we shall be greatly obliged for any specimens of new or rare plants, or information concerning them.

**Wood for Orchid baskets.**—Kindly state in your next issue what are the best woods in the absence of a good supply of teak wherewith to make your own Orchid baskets, or rafts, &c., and whether there is any objection to Oak.

**Names of plants.**—*W. G.*—1, *Oncidium Lancanum*; 2, probably a *Gongora*; cannot name it from leaf only; 3, *Sedum*; send better specimen.—*T. Broome*.—*Cattleya Warscewiczii*, the same as *C. gigas*.—*A. Crombie*.—1, *Davalia ciliarata*; 2, *Antrophyum reticulatum*; 3, *Hypodermis Brownii*; 4, *Diplazium Franconis*.—*Name Missing*.—Cannot make out the *Adiantum*; *Oncidium obryzatum*, *Bifrenaria inodora*; *Selaginella* too much shrivelled; send again.—*T. Jesse*.—1, *Cattleya Mendeli*; 2, *C. Warscewiczii*; 3, *C. Warocqueana*, good form.—*Mrs. Pearce, Weedon*.—1, *Oenothera rosea*; 2, *Alyssum alpestre*; 3, *Vincetoxicum officinale*.—*Constant Reader*.—*Arthropodium cirrhatum*.—*E. M. G.*—1, *Cratogeomys tomentosa*; 2, *Actinidia* sp.; send better specimen.—*W. B.*—1, *Spiraea aruncus*; 2, *Campanula rhomboidalis*; 3, *Aconitum lycoctonum*; 4, *Alchemilla alpina*; 5, *Fumaria officinalis*.—*J. B.*—Please send better specimen, that sent having been shrivelled up.—*F. Semper*.—*Calycanthus laevigatus*.—*Flowers*.—1, *Dennstaedtia* sp.; 2, *Pteris serrulata cristata*; 3, *Pteris cretica*; 4 and 5, send fertile fronds; 6, *Selaginella*; specimen too shrivelled to identify.



## WOODS AND FORESTS.

## TREE NOTES.

THE SCARLET-FLOWERED HORSE CHESTNUT (*Aesculus rubicunda*) has flowered unusually well this season, and it is unquestionably one of the handsomest of our rather limited number of flowering trees. Being of small growth, rarely exceeding 26 feet in height, it is peculiarly suitable for planting where ground space is rather limited and where one has to be careful in choosing trees of small and compact growth. This Chestnut has a most telling effect when placed in front of taller-growing trees, and for this reason it has been largely employed for ornamenting the margins of woods and plantations, but particularly such as are visible from park roads and drives. The beautiful scarlet flowers, produced in great abundance at the branch tips, are very conspicuous against the dark green leaves. What is of particular interest in the scarlet-flowered Horse Chestnut, and what has attracted much notice, is the pretty shape of almost every specimen. It is well worthy of extended culture, for it is at once showy, neat of habit, occupies little space, and is perfectly hardy and easily managed.

THE SILVER LIME (*Tilia argentea*) is by far the handsomest species that is at present in cultivation in this country. The leaves are large and silvery beneath, a peculiarity that is shown off to advantage when the tree is disturbed by the wind. In the habit of growth, too, we have something quite unlike that of our common Lime, for the foliage is pendent and the flowers are produced much later in the season. For its distinct and effective appearance it is well worthy of being planted, but it shows to best advantage when three or five specimens are grouped not too closely together. One occasionally sees finely-developed specimens of this particular Lime on the outskirts of London, but it is not plentiful enough, and might well take the place of other inferior kinds that are perhaps too commonly planted.

THE UMBRELLA MAGNOLIA (*Magnolia tripetala*) is just now at its best, and is flowering with unwonted freedom. It is the most remarkable species of the family, the pea-green leaves each measuring fully 16 inches long, and arranged in tufts at the branch tips, while the large sweet-scented flowers are conspicuous a long way off. On the Holwood property, Kent, it has flowered well for the past five years, and is growing in good deep loam on gravel by a rivulet.

THE FLOWERING ASH (*Fraxinus ornus*) delights everyone with its big panicles of Spiræa-like and sweetly-scented flowers. There is a fine specimen at High Elms (Sir John Lubbock's country seat) which flowered well this season. It is growing where only a few inches of loam overlie the chalk, and in company with many fine and as yet rare trees that were chosen and planted by Loudon. Few trees, it must be admitted, are more beautiful when in flower than the Manna Ash, and it is a matter much to be regretted that it is not oftener seen. It would not seem to be at all particular about soil, as we have it here flowering yearly on loam resting on a bed of gravel.

Holwood, Kent.

A. D. W.

The Sycamore for economic planting ranks very high, the demand for first-class timber being constant and well sustained. The Sycamore is a most accommodating tree, growing freely on high

ground and on widely different classes of soil, while it reproduces itself under certain circumstances freely enough. For the best class of timber I have frequently got 2s. 6d. per foot, and never sold the general run of trees at less than from 1s. 6d. to 1s. 8d. per foot. Special trees of large dimensions, straight and without flaw or blemish, often bring a higher price than is here quoted, but the general average in this country for a number of years back has been about 1s. 8d. per foot. As a hedgerow and field tree the Sycamore is of great value, it not casting too dense a shade nor impoverishing the ground in its immediate vicinity to too great an extent, while when grown on exposed hillsides, it affords a great amount of shelter to farm stock. A free sandy loam of rich quality would seem to be the soil that suits the Sycamore best, but it will also grow with great freedom even where little but sand or gravel is present in the soil, and for this reason it is valuable for sea-side planting. As an ornamental tree the Sycamore is justly prized, its massive outline and richness of tint being peculiarly distinct.—A. D. W.

Thinning is a subject of long past and present controversy, and the highest authorities differ widely; some advise early and regular clearing, others advocate thick plantations, and a most extensive and practical forester told me he would not thin his plantations until they reached the age of twenty years. As a close practical observer and a lover of woods, in which I have spent a good part of my life, I advise early and regular thinning, the first, say, in seven years after planting the lowlands, and in nine years the exposed land, and afterwards as common sense will prompt. Scotch Fir in after years will bear a little crowding, but Larch should be kept well cleared.—X.

## BASKET WILLOWS.

THE species of Willows are numerous, and much confusion exists in their classification. There are, however, only about six species, with their numerous varieties, that are of any commercial value, or worth cultivating with a view to profit. Three of those species are essentially basket Willows. The forms or species of basket Willow most in use are *Salix viminalis*, *S. triandra*, *S. purpurea*, and their numerous varieties, about sixty of which are in cultivation, but at least two-thirds of this number might be discarded with advantage to both grower and consumer. *Salix viminalis*, or the Osier proper, is the most important variety under consideration. This class may be easily distinguished by its long narrow leaf, widest near the base, but seldom exceeding three-quarters of an inch at its widest part; the leaves are slightly dentated at the edges and of loose texture; they are smooth above, covered with a white, silky pubescence below, and entirely destitute of stipules. The bark of the twigs is smooth to the touch and sweet to the taste. The best six varieties of the Osier are known in the trade by the names of White Osier, Brown Osier, Merrin's Osier, Basford Osier, Belgian Osier, and Longskin Osier, and this number is sufficient for all practical purposes of the basket-maker. The *S. viminalis*, or Osier proper, is the best adapted of all Willows to the rich soils found on river margins. It is a vigorous grower, very hardy, and must be well fed by the deposits of floods or by artificial irrigation to maintain it in continued perfection.

*S. triandra* is the type of the next group of Willows used in basket-making. It might be supposed that the name *triandra* was a sufficient guide to identification, but as the inflorescence of Willows is too variable to be depended upon, a more simple and certain means of identification is necessary. There are a great number of varieties of this Willow, more than twenty of which are under cultivation, but all may be easily recognised by the circumstance that from three years old and upwards they all annually shed their bark, and as this is not the case with any other Willow, no one can fail to identify it. The *S. triandra* yields the

best results when planted in a rich loamy clay. It is a native of Northern Europe and very hardy in constitution. The wood is harder than that of the Osier, and it is slower in taking root; but when it has obtained a good hold in suitable land, it will last longer without replanting, and under favourable conditions it is a very profitable Willow. The best six varieties to cultivate are known under the following trade names: Brown Norfolk, Green Norfolk, Italian, Black German, Black Mule, and French.

*S. purpurea*, the type of the third group of basket Willows, is of more slender habit and more difficult to grow than those previously named; indeed, it may almost be said that none but professional Willow-growers can deal with it profitably. It grows well in sandy loam, and will do moderately well in a gravelly soil.

**Tree shelter for farms.**—A narrow strip of woods left on the crest of the hills, and on the north and west sides of many farms, would pay a large interest by the increase of the crops which would result from such shelter on the remainder of the farm. Where the woods have been cut away, I think it would pay well to plant these strips, and by good care to promote their growth as rapidly as possible. Quick-growing species in this case should be selected, such as Chestnuts, Maples and Poplars. I have for several years allowed all young trees growing along the fences to grow. I have trimmed them, and quite a number have grown so rapidly, that I have trees which will soon be fit to cut for rails and posts. They take no room, shelter the field, and give some shade for cattle.—R. T.

**Ornamental tree planting.**—The principal cause of the failure of single trees and of small groups is the neglect of a proper preparation of the soil, as well as of the trees themselves. Frequently the plant intended to make an effective single tree, or to figure in a group in park scenery, is brought direct from a much more sheltered situation than the one in which it is planted. Instead of being subjected to such previous treatment as will produce a gradual hardening of its sap vessels, a thickening of its bark, and the enlargement and density of its head, all of which can be obtained by a gradual opening out, it is too often placed in a position where all these qualities are required, while not one of them has been developed. The result of such treatment is that through sudden exposure permanent injury is inflicted upon the sap vessels. All this might be prevented by a gradual removal of the selected tree into a soil and a situation somewhat similar to those for which it is ultimately designed; or, if the tree be of large dimensions, by such a gradual clearance of surrounding objects as shall secure for it a proper hardness of constitution before its final removal. The trenching round and cutting off of the larger straggling roots, though condemned in some quarters, should by no means be neglected, as the fibrous roots, afterwards formed in abundance where good soil is supplied, enable the tree to start at once into a vigorous growth. The time allowed for the production of these should be proportioned to the size of the tree and the quality of the soil in which it stands, as the poorer the land the longer the period required.

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"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—*Shakespeare*.

## CHRYSANTHEMUMS.

## CHRYSANTHEMUM NOTES.

THESE plants are fast becoming well established in their flowering pots, and during hot weather require a large amount of attention in regard to watering. I find it necessary to go through the collection at least twice a day; then those plants not quite ready for a supply in the morning may be seen to at a second visit. Bad health is certain to follow want of care in this phase of the work, and it is as easy to throw a plant into the state named by giving it too much water as it is by allowing it to get dry. The Chrysanthemum in full growth is a moisture-loving subject, but through firm potting, so often advised, a considerable time, even in the hottest weather, will often elapse between a soaking and the want of another. The natural colour of the loamy soil makes the surface look dry when all is well below; therefore it is wise to examine a plant, if at all doubtful, either by rapping on the side of the pot with the knuckles, or lifting the pot to feel if it be light or heavy before the water is given. It is astonishing, however, how quickly an observant man will go through, say, 500 plants. By intuition he will take the growth of the plant as a guide, and a strong one will get what it wants, the supply being diminished in the case of the weaker-rooted ones. I do not believe in giving any manure water till the pots are well filled with roots, which is hardly likely to be before the end of the month, and even then it is well to give only weak soot-water. I am perfectly certain that a very large number of Chrysanthemum plants are over-fed with manures, producing stout and strong, but sappy growth, which cannot get thoroughly matured, and in the end flowers are borne devoid of depth and substance, and become an easy prey to the well-known disease, damping. An idea prevails among those who start to cultivate the Chrysanthemum for highly-developed blooms that the first consideration is large stems and leaves; hence it is so much easier to give too much than too little of stimulating fertilisers. The incurved sorts will not do on this high plant food, it being only the most robust of the Japanese kinds that will at all respond to their use. It may, I think, be said that some of our prettiest sorts—*Triomphe de la rue des Châlets*, *Thunberg*, *Golden Dragon* and *Grandiflorum*—are now less often seen because of this desire to feed the plants.

The summer quarters should be as open and high as possible, and if the plants be placed in single lines around garden paths they may be stood almost pot to pot. Good stout posts may be placed at intervals and wire stretched to fasten each stick to where single-stemmed plants are grown, loosely tying each of the shoots that are saved for specimen blooms. I favour loose rather than rigid tying, for the shoots are less likely to be broken if they give with the wind, and this swaying to and fro helps to ripen the stems and leaves. Pinch away all lateral growths and also the suckers at the base of the stems. After the end of the month discontinue topping the shoots of bush plants. Many growers practise top-dressing with soil similar to that in which the plants are potted. The great ob-

jection I have to the plan is that watering becomes so much more difficult and the lower portion of the ball of earth may be dry, although the surface looks moist. Nevertheless, top-dressing greatly encourages surface roots, which appear to me most necessary later on when the flower-buds are swelling.

The question of taking the buds will soon be a seasonable one. It may be safely stated that with just a few exceptions it is unwise to secure these in July—that is, if the blooms be wanted in November. It is useless, however, to expect a large bloom of *Mrs. Jameson*, *Boule d'Or*, *Mrs. E. W. Clarke*, or *Mrs. Alpheus Hardy* from a late bud; therefore if a bud appears before August should it be allowed to stop on the plant; and, again, if a few blooms of *Bouquet des Dames*, *Mlle. Lacroix*, *E. Molyneux*, and such early ones be desired in October, they may be selected soon. The early *Mme. Desgrange* and its sports, too, must not be retarded, but, as a general rule, pinch away the flower-buds and allow another growing shoot to proceed upwards. The nearer the time is to the first of September the better it will be for bud taking. Another general rule is that the Japanese sorts take a longer time for the flower bud to develop than do the other types. A few plants of the incurved kinds known as the *Tecks* may now with advantage have the tips of the shoots which came from the first break taken out. In some seasons the shoot from this topping will give a bud some time before the third one produced from natural stoppages in growth, which, however, in most cases gives the best results. Very forward plants of the *Queen* family should be treated in the same manner to delay the second natural bud. These two types may be taken as extremes in bud taking, and I would simply do away with the flower-buds of other incurved kinds if they show themselves now.

H. SHOESMITH.

## PEDIGREE CHRYSANTHEMUMS.

MR. NORMAN DAVIS, in his paper on sports, published in the new schedule of the National Chrysanthemum Society, does not seem to approve of the custom of giving pedigrees to the new Chrysanthemums. It appears that some of the raisers do consider it necessary to state the parentage of their new seedlings, and whether the reputed crossings are, as Mr. Davis says, "quite contrary to what Nature teaches in these sports" or not, the practice may serve some useful end if care be taken to ensure a systematic and perfectly artificial hybridisation. If, on the other hand, the work is a mere haphazard performance, leaving it as much to the insects as to the camel-hair brush, then it will be readily conceded that there is little or no value in recording the origin of the new seedlings. Last year I gave a list of new early pedigree Chrysanthemums raised by Mr. Thorpe, in which he was careful to supply the names of the varieties on both sides from which they were raised. In announcing a further set for the current year, Mr. Thorpe says that those he sent out last year proved all that he claimed for them in size, growth, and earliness. He now offers ten more of the same sort which have been tested for two years, and as the early flowering section bids fair to become an increasingly important one, it may be useful to mention them briefly as they appear in his new list:—

*Banquet* (Nichols type).—Rich canary-yellow, plant dwarf.

*Correction* (Desgrange type).—Pure white, dwarf.

*His Highness* (gloriosum type).—Reflexed, brownish bronze, robust habit.

*Kingston* (gloriosum type).—Tubular petals, lemon-yellow, strong grower.

*Mabel Glen* (gloriosum and Nichols type).—Reflexed, white tipped light pink.

*Madstone* (Desgrange type).—Deep golden-yellow, dwarf, foliage like *Desgrange*.

*Merry Monarch*.—Pure white, long twisted petals.  
*St. Florina* (gloriosum type).—Reflexed, bronze-shaded fawn, robust habit.  
*The Bird of the Preceps* × *G. Gordon*.—Rich bright red, reflexed.  
*Yorkville Belle* (Nichols type).—Reflexed, bright pink, dwarf.

CHRYSANTH.

## NOTES OF THE WEEK.

*Nymphæa odorata rosacea*.—This has been lovely for the past week, and the coming buds promise a continuance of bloom. Its flowers are large and double, and of a decided, but delicate clear, soft rose colour throughout, except the stamens in the centre, which are rich yellow. Looking down upon the flowers, they are seen to perfection.

*Daisies on lawn*.—In January, 1891, we had a heavy fall of snow, which partially thawed and then froze and then thawed again, followed by more snow. My lawn is very uneven, and where the snow lay and thawed and froze again in a kind of pool, I found that all the *Daisies* were killed. I did not like to be certain until this year came round, when I found that the dips or pools were entirely free from *Daisies*.—E. A. NICHOLSON, *Lewes*.

*Notospartium Carmichaeliæ*.—I send you a small sprig of *Notospartium Carmichaeliæ*. This plant has had protection during last winter, and therefore, though now planted out, it is flowering earlier. I have another plant that has stood out unharmed during the last two winters and flowered well. It is evidently quite hardy, and, I think, very pretty.—T. M. BULKELEY-OWEN, *Teddmore Hall*.

\* \* Though the flowers only are before us, it is evidently a very elegant plant.—ED.

*Xanthoceras sorbifolia*.—I had last year a large crop of fruit and seeds on a *Xanthoceras sorbifolia*. I planted many at the time, but all seem to have perished. A considerable number were, however, on a shelf in a conservatory during the winter, and at the beginning of May my gardener planted them in the open ground, and as a result I have five plants. The tree or shrub which I have had about fourteen years I think, although vigorous in the stem, has shown in the branches symptoms of decay; why, I cannot make out.—E. A. NICHOLSON, *Lewes*.

*Saxifraga longifolia*.—I herewith enclose you a photograph taken by my son of a plant of *Saxifraga longifolia* growing on the rockery here. The plant is 2 feet high from the ground to the top of flower-spike, 1 foot across the spike at the widest part, and 10 inches across the rosette of leaves. This plant was raised from seed, and is about eight or nine years old. We have other plants in flower also at present, but this is the best one I have ever grown.—WILLIAM B. BOYD, *Fuldaaside, Melrose, N.B.*

\* \* A good photograph of a very fine plant.—ED.

*Orchids at Westminster*.—In your report of the Orchid Committee of the Royal Horticultural Society (June 25, p. 589) I note that two awards were made to a well-known amateur grower who showed cut blooms in both cases. I perchance saw them just as they were being unpacked, but later on could not find them anywhere. Should this early removal be countenanced? I think not. When any exhibitor sends his produce he must be fully aware of the regulations as laid down by the society. If these rules are binding in some instances, they should be so in all.—ORCHIS.

*White Scabiosa caucasica*.—The note by Herr Max Leichtlin on p. 16 was rather surprising to me, and it is certainly curious that a flower which under care and special treatment should refuse to break into other shades of colour, should yet elsewhere and by chance do so. I have a white variety, and, judging from the description Mr. Prichard gives of that in his possession (p. 20), I should think the two are identical. I raised a batch of



plants from seed and planted a group in a border in the flower garden. When they flowered one white one appeared, and very conspicuous it looked among the others. I now have six plants just coming into bloom. The flowers are more of an ivory-white.—A. H.

**Dianthus monspessulanus** is one of the best of the medium-sized species for rockwork. The flowers, large, rosy purple, with greyish markings near the throat and deeply fringed, but not nearly so much as in *D. superbus*, are about the size of a florin. They vary from three to nine on a stem. The flowers have the additional advantage of being very fragrant, quite perceptible when walking past the part of the rockery where the plant is. The leaves are long, glaucous and formed into dense rosettes. It does not grow very quickly and does not require the constant attention of the *D. plumarius* group to keep it from over-running other less robust plants. It is in full flower, and may be struck readily from cuttings or pipings.

**Dianthus Atkinsoni**.—Is this a species or a hybrid? and if the latter, as I strongly suspect, what are its parents and where did it originate? It is by far the most brilliant Pink in flower with me at the present time, throwing even the favourite *D. cruentus* into the shade. It is, moreover, unfortunately, a very difficult plant to get on with, since it invariably flowers itself to death, and the only means of getting it to throw leafy shoots is to cut off the flower-stems as they appear, or at least as many of them as can be well spared. *D. Michael Foster*, *D. Grievé*, and *D. Courtoisi* are all extremely showy, and what is also a point in favour of these hybrids is that they flower more freely and, with one exception, are more easily managed than their parents in either case. The three latter strike freely from cuttings.—D.

**Rose Cloth of Gold at the seaside**.—Cloth of Gold has done well in the garden of Col. G. A. Curzon, Hollywood, Boscombe, this year. There are two large plants trained to a wire trellis, and although very much cut about with the hard winter and drying winds last March, they have flowered beautifully, scarcely a bad bloom to be seen. Owing to the wet, cold season last year we did not get a dozen good blooms. The plants, in a rather exposed situation in light rich soil, grow very luxuriantly, the sea fogs this year seeming not to have the least effect on the blooms. Amongst other Roses that seem to do well at the seaside are *Her Majesty*, *Mme. Victor Verdier*, *Ulrich Brunner*, *La France*, *Mme. Gabriel Luizet*, *Viscountess Folkestone*, *Baroness Rothschild*, *Violette Bouyer*, *Amazona*, and *Marie van Houtte*. I find that the darker the Rose the less able is it to stand the sea fogs and air.—F. HAND.

**Senecio speciosus** is not a hardy plant, but, like the *Arctotis*, it is so easily accommodated in winter and makes such a brilliant show in the border or rockery during summer, that it is certainly worth all the trouble. It is a native, I believe, of China, growing about 2 feet in height with an abundance of thick woolly leaves, and a wealth of bright magenta-purple flowers. In a light rich soil it soon makes presentable specimens, and these towards the end of July flower in the greatest abundance. It is readily struck from cuttings, which may be done about August, or the old plants may be lifted and potted, when they will continue flowering in the greenhouse more or less throughout early winter. When grown outdoors, each plant should be placed a good foot apart, which space it will fill up long before it is at its best.—K.

**Meconopsis Wallichiana**.—A fine group of this Himalayan Poppy is now in flower in the rockery at Kew. The far end of the rockery, well sheltered and screened from the morning and evening sun, seems to be the right spot for this grand plant; the specimens this year are over 5 feet high, and over two-thirds of the stems are covered with flower-buds. From the fine soft blue one expects to see in this species plants from imported seeds vary very much in tint, from the rich blue to a dirty purple, the extreme form having been named

*fusco-purpurea*, but, fortunately, few among them belong to this latter variety. A deep, rich peaty soil and plenty of moisture during summer seem to be its chief wants, while a slight protection from severe frosts should be given it in winter.

**Allium Palmeri**.—Still another *Allium*, and this time also a very showy one, perfectly hardy, and easily grown. It is called *A. Palmeri*, a native of South Utah, E. Arizona, and New Mexico, where it was found a few years ago, and described by Sereno Watson in *King's Rep.*, 5, p. 487. It is somewhat near *A. bicepstrum*; the bulb coats have a distinct reticulation, the flower-stem solitary, producing a large umbel of pretty bright lilac-purple flowers. It blooms now and continues until the end of July. It is not a little surprising to see growers contented with such species as *A. cœruleum*, *acuminatum*, &c., when such beauties as *A. Palmeri*, *A. Ostrowskianum*, *A. kansuense*, *A. pedemontanum*, and many others were waiting to be introduced. Within the last few years more than twenty really beautiful *Alliums* have been added to our list, and this genus, instead of being second-rate as far as flowers were concerned, now stands in the first rank. It will also be satisfactory to know that these recently introduced species do not partake strongly of the garlic smell, so conspicuous in the older ones.

## Books.

### VINES AND VINE CULTURE.\*

THIS is undoubtedly the best work on Vines and their culture extant, and that it is fully appreciated by all classes of cultivators is apparent enough, a third edition having been reached. The book is replete with practical information, scarcely a single cultural detail being omitted, while the illustrations, including woodcuts of all the best Grapes in cultivation, are numerous and good. Accompanying the latter are brief, yet most interesting and instructive comments upon each variety, this alone making the work valuable to the professional gardener, while there is also much that is well worthy of perusal throughout the volume. Especially ought amateur Grape growers to possess a copy of Mr. Barron's work, and as a proof of this I may mention having met with instances of success attending the efforts of novices solely from having closely followed the instructions contained in the earlier editions of "*Vines and Vine Culture*."

In this, the third edition now under notice, a new feature will be found in the form of a chapter on "*Commercial Grape Culture*," which just now will be read with peculiar interest. Mr. Barron has succeeded in collecting much remarkable information on this part of his subject, more especially with regard to the immense quantities of Grapes that are now annually grown for the British markets. As he points out at the beginning of this chapter, no other fruit, excepting the Tomato, has ever advanced so rapidly into popularity and general use, and avers that the extended culture of Grapes for market is largely due to the great increase in the popularity and demand for Tomatoes, this rendering it possible to extend the glass erections *ad lib.* To use the writer's own words, "Both crops requiring much the same treatment, houses erected for Grapes are at first cropped with Tomatoes, which producing an immediate return help the growers to tide over the first two or three years whilst the Vines are getting established." The paragraphs relating to the extent of glass now devoted to Grape culture, and the quantities of fruit sent to the leading markets are particularly interesting.

\* "*Vines and Vine Culture*." Third edition. By Archibald F. Barron.

The magnitude of the trade in Grapes that has thus arisen is of the utmost importance, and can scarcely be over-estimated. An enormous amount of capital has been called into requisition, and is employed in the furtherance of this trade. Directly and indirectly many thousands find employment, and are thus benefited by Grape-growing. We do not ourselves know of any industry that can compare, or which has done so much in so short a time for the welfare of the people. The approximate supply in 1886 of what are termed English-grown Grapes amounted to about 400 tons, one commission agent in Covent Garden (Mr. Monro) disposing of forty thousand baskets, or an equivalent of about two hundred and fifty tons. During the past year, 1891, this quantity has been greatly exceeded. The greatest quantity ever sold in one day was in October, 1891, and amounted to 4 tons = 750 baskets.

The chief producing establishments are to be found within a comparatively easy distance of London, so that the fruit may be delivered by van without the intervention of the railway; the Grapes are thus obtained without a blemish in the best possible condition. Several of the vineyards or Grape-growing establishments are of a leviathan character, whole fields being covered with glass, presenting in some parts of the country quite a novel feature in the landscape. Every year these are more and more extended. At the present time the largest growers are probably the Messrs. Rochford, who in their several establishments in the neighbourhood of Cheshunt, Broxbourne, &c., have over fifty acres covered with glass, about one half of which is planted with Grapes, from which they calculate to produce about 300 tons a year, when the Vines come into full bearing—an acre of ground covered with glass being estimated to produce fifteen tons of Grapes annually. Reckoning the value of the crop at 2s. per lb., the gross return per acre thus amounts to £3360. Of other large growers in the London district may be mentioned Mr. Peter Kay, of Finchley; Mr. Ladds, of Bexley and Swanley; Mr. Sweet, of Whetstone, and many others.

Another great centre for Grape-growing has arisen at Worthing, in Sussex, from whence some 300 tons are sent to Covent Garden every year, and is still extending; the principal growers are Mr. N. Piper, Mr. Bushby, Mr. G. Russell, Mr. Sams and Mr. Beer. In Scotland also Grapes are largely grown for London markets by Messrs. Thomson and Sons at Clovenfords, Galashiels; and Mr. D. Bea'son, of Kirkcaldy. Of Grapes grown in the Channel Islands, especially Guernsey, the quantity is simply enormous. According to official returns in 1876, the shipments, *via* Southampton, amounted to 50 tons, whilst in 1886, ten years later, the total was over 500 tons, of which one salesman in Covent Garden, Mr. G. Monro, sold on commission over 300 tons, and in 1890-1 about 350 tons. Although the production has very greatly increased, the quantity sent to Covent Garden does not appear so great, increased facilities for transmission having spread the trade in these low-priced Grapes to the provincial towns, Mr. Monro, for example, selling in Manchester on commission last year over 80 tons of fruit.

It is satisfactory to note that there is every prospect of the demand keeping pace with the greatly increased production, and also that there is every likelihood of a great trade in English-grown Grapes being established with America. For two seasons past regular consignments have reached the principal American towns in good condition, proving of superior quality to the home-grown produce. According to Mr. Barron, the Black Hamburg and Gros Colman command the markets, Black Alicante, Madresfield Court, Muscat of Alexandria, and Buckland Sweetwater being the other varieties for which there is a fair demand. Brief information is given on the class of houses most generally favoured, the preparation of borders and such like, the best methods of packing (illustrated), average prices, and the best times for marketing being also included. W. I.



## ROSE GARDEN.

## COTTAGE ROSES.

COTTAGERS in South west Surrey are fond of growing Roses of the sempervirens class as large standards, sometimes budded on a Dog Rose stock, and sometimes trained as own-root standards. A tree of the latter kind is shown in the engraving; it stands 7 feet high, with a spreading head 6 feet in diameter. The Roses are fine of their kind, of a clear white colour, and fair size. The budded standards

own-root plants have got stronger with him, should commence giving cuttings a fair and even an extensive trial, as he could easily do from his very large collection of the finest Tea Roses, for he must have a better chance than the majority of private growers of getting a good and plentiful stock of cuttings from a large collection comprising from ten to twenty-five plants of each of the finest kinds. If the results equal his anticipations he will have no need to trouble about trade growers, except when wanting to add new kinds to his stock. The lesson to be learnt is that no one can afford to dogmatise as to what form is or is not best in other gardens; each grower must prove this for himself.—J. C. TALLACK.

Rose Jean Ducher never fails each year to

pare with many as regards vigour, it is second to none in hardiness, freedom and fine bloom, and it should be included among the best Tea Roses. We only have a small group, but it has been charming three seasons in succession. The doubleness and good form of the flower make it enduring either upon the plant or in a cut state, the tender pink suffusion upon a creamy white ground being very beautiful.

## THE PLEASURE OF ROSE GROWING.

It is not a difficult matter to decide by what means we may obtain the greatest amount of pleasure from our Roses. Some seek it through the medium of the exhibition, but there it is dearly bought, at least by amateurs. Our methods of Rose showing are so stereotyped. We think so much of single blooms, that if one would enter the show arena he must begin by making great sacrifices. The pleasure of Rose showing does not permanently satisfy. Anyone visiting a Rose show cannot fail to admire the magnificent flowers seen there. I do not wish to say one word against the practice of growing and showing them. It is something to know to what perfection of form and colouring particular kinds can be brought, but that is not, or should not be, the sole end and aim of Rose shows. A celebrated amateur exhibitor recently visited a garden where Roses are largely grown solely for effect, and he confessed that that was more after his own desire, and he thought he should give up exhibiting. In the course of that ramble he experienced pleasure altogether beyond what he had realised as an exhibitor. To exhibit successfully one must practise numerous details that need never worry the ordinary grower. From the pruning to the flowering there is a marked difference in the methods.

The exhibitor's plants must be hard pruned, and then comes the inevitable disbudding. It is no exaggeration to state in regard to many Roses that the ordinary grower has a score of flowers where the exhibitor can take but one. When the buds are selected then comes the feeding. Then there is the question of protecting and shading from storm or bright sunshine. Yet this is essential to meet the requirements of the exhibition, which at present only fosters the production of fine flowers, and therefore excludes many worthy kinds simply because their flowers are not up to a particular standard of form. If we would seek and realise the fullest pleasure, we must wait until at Rose shows classes are provided



Rosa sempervirens in a Surrey cottage garden.

are very ornamental, with well-shaped heads 3 feet to 4 feet through. G. J.

**Own-root Roses.**—I am grateful to a "Puzzled Amateur" for affording me the opportunity of correcting a mistake which appeared in my note on the above (p. 527) where H. P.'s (written for Hybrid Perpetuals) was construed into Hybrid Teas. I did not send a correction, as I thought the context would have prevented any wrong impression, but find that this has not been so. This mistake makes a great difference—all the difference indeed—between a large class and a small one. A "Puzzled Amateur" puzzles me when he accuses me of saying that "Roses did not do on their own roots." I have nowhere said anything so sweeping as this; on the contrary, all the dwarf Hybrid Perpetuals we have, and these are by far the largest class we grow, are on their own roots, and I repeat that only a few of them fail to do well. With the Teas we have not been successful, and this I attribute entirely to the excessive cold which we get in a garden nearly approaching water level. With a greater altitude and more fortunate surroundings there is no reason at all to think that Tea Roses would not succeed on their own roots, as the plants do better for pot work than do any worked plants. When I first made a trial of Teas in this way I was fortunate in getting cuttings of many kinds from what I fondly thought were the very best available sources, and they were struck, some in the open ground and others in pots, these latter being fairly strong plants when planted in the open in early summer, so that they had plenty of time to get strong and acclimatised before winter if such a thing had been possible. I should like respectfully to suggest that your correspondent having found, so far as his trials have gone, that

produce a full crop of buds, but much depends upon the weather as to their expansion. If hot, bright days are the rule, then will this grand Rose respond with fine flowers, and such has been the case of late. It is no wonder that the flowers cannot open without heat, seeing the amount of substance they contain, and it is easy to see that in regard to such kinds as this we can over-stimulate them into the production of fat buds that will burst before they reach perfection. The group in question is in a raised sunny border, and the plants have to hold their own against a rather vigorous carpet of *Veronica incana*.

**Rose Souvenir de Paul Neron**—Although this is only a moderate grower and cannot com-



for Roses as grown in gardens, the same to be judged on their own merits, and not from any pre-existing standard. At present one type of flower only is encouraged or accepted, regardless of those lovely kinds so handsome in the bud and so profuse in regard to the great trusses of flowers they produce. In the garden these last often give us the most pleasure. The exhibitor above referred to was charmed with Mme. Joseph Schwartz as it appeared in a group, the strong shoots terminated by immense clusters of bloom standing erect, some of the flowers fully out, showing their great flesh-tinted, rose-margined, shell-like petals, others mere buds of delicate hue opening in succession. Marquise de Vivens and Dr. Grill were unknown to him, and yet there were not two lovelier groups, especially that of the latter. Such kinds as these never appear at the shows, but why should they not do so? If such kinds treated as the show kinds are will not then produce full flowers simply because naturally there is not sufficient substance, surely they should not be ignored. Whether exhibited or not they will give us much pleasure in gardens, as they are most reliable in regard to their blooming. If the bud of to-day is a full-blown flower to-morrow, that matters not, for quantity atones for want of quality, and even these many-tinted, open loose flowers have a fine effect on a bright summer day. Again, when we grow for pleasure only we shall not have many leggy standards, but dwarf bush plants, and these not set out a yard apart, but grouped or massed, since this is the very best way of showing off the merits of fine Roses.

It is too generally supposed that Roses are gross feeders, and the heavy manurial mulches and the drenchings with strong liquid so commonly given detract from our pleasure. We can modify this to a considerable extent, and have Roses in abundance without the slightest aid from rank manures. If our Rose beds are redolent with the odours of the farm-yard, we cannot have them beside our open doors or beneath our windows, and, other things being favourable, that is just the spot where at the present time we should have great glowing groups of Tea and Monthly Roses filling the air with rich fragrance. Many Roses make such excellent bushes, that when grouped and in full growth they effectually hide the earth beneath them. Those that do not do so, and newly-planted groups also, should be carpeted with some of the many dwarf plants so suitable for the purpose. This adds to their appearance and increases our pleasure. Surface-rooting plants, like Sedums and Saxifrages, and lovely alpines, such as *Linaria alpina*, do not rob the Roses in the slightest degree, but without a doubt they benefit them, for on a scorching hot day (June 28) I was admiring a group of The Bride Tea Rose carpeted with *Sedum glaucum*, and placing my hand under and among the carpet I found the earth cool and moist, whilst bare ground was hot and dry. That night there came the most severe thunderstorm, accompanied by a deluge of rain, that has been in this district for years. Next morning I looked round the Roses, and the full, heavy flowers of this and other kinds were borne down by the weight of water that had descended upon them, but they were pure and unsoiled, for the advantages of the carpet were shown in that no splashing of the earth could take place. A great many are thinking what they can plant to reduce the quantity of tender bedding plants. If they have sunny flower gardens, let them try Tea Roses, for they are ever growing, ever blooming, are a source of great pleasure through summer and

autumn, can be planted thickly alone or thinly to admit of combinations, and, all things considered, are the most thoroughly satisfactory of all. A. H.

#### AMONG THE ROSES IN JULY.

WHEN few except the older varieties of such species as the Chinas, Bourbons, and their hybrids, the Austrian Briers, Damask, Moss, and the early flowering Teas and Noisettes were grown, and during the time when we undoubtedly had earlier and warmer springs than we are generally favoured with at present, no doubt the month of June was much more deserving the title of "month of Roses" than is the case now. Far too many of the old and early flowering varieties are practically discarded from our gardens, except in a few very old-fashioned roseries. Such kinds as Charles Lawson, Coupe d'Hébé, Persian Yellow, Scotch Roses in variety, and many good kinds of the species named above are not sufficiently grown at the present date to give June the preference over July as far as the queen of flowers is concerned. During the early part of July all of the most important Rose shows are held. There is a considerable amount of work to be done in the rosery during July; rather more than usual, owing to the lateness of the season, at least in this district (Mid-Sussex). Where good flowers are required, it will be best to thin out all but the most promising bud; this will concentrate the whole strength of the shoot into one bloom, and make a considerable difference to its size and quality. Excepting where Roses are grown for exhibition, I do not admire this plan of cultivation, being much more pleased with well-grown flowers having their trusses of buds complete. Not only have these a greater charm, they last longer, and the remaining buds will generally expand and prolong the beauty of the plant. Where a strong shoot is occasionally disbudded, it is pleasing to get a grand flower, but as a general rule I do not recommend disbudding. There is a great prevalence of deformed flowers and buds in this district. More than once during the last six weeks, and while Roses should have been growing freely, we have had sharp frosts. Even so late as the middle of June we were visited by frost upon several mornings, and, generally speaking, it was very cold about sunrise. This is the cause of the deformed flowers, such severe checks to their growth having a very disastrous effect upon the early and tender growth of Roses. I would advise the immediate removal of all deformed blossoms, it being best to devote the whole strength of the plant to producing more growth and good-shaped flowers. It is also very beneficial to remove the flowers as soon as they have faded.

Wherever dormant eyes were left upon stocks during the planting season, they will now be pushing into growth and must be closely looked after and removed. This is the sole and very material benefit that own-root Roses possess over those worked upon any stock; in this case it is the suckers that are so valuable, are in fact the life of own-root Roses. Standard Briers, whether already worked or in preparation for budding, must have all stem and root-suckers removed, excepting the two or three to be budded upon. Budding will also be much best if done during the latter part of the present month. All young Roses are, of course, staked ere this, but they will still require constant attention as regards tying and hand-picking in the case of maggot or caterpillar attacking them. Aphids and mildew may be checked, if not avoided, by an early use of the syringe and some good insecticide. There are few things in the cultivation of Roses more conducive to a clean and healthy growth than a frequent use of the hoe. A mulching of short manure is also very useful in conserving summer moisture and keeping the roots cool. The essence of these mulchings will be carried down to the roots of the plants by summer rains, and so assist them in two ways. It is also a good plan to give a slight dressing of guano, nitrate of soda or any other similar stimulant to

Roses that are doing indifferently. A little of these artificial manures will generally give them a start and conduce to healthy growth. As a general rule, I do not advise the free use of these in preference to natural manures of any kind; but in the connection I have pointed out, they are often very serviceable. When the weather is dull and showers are threatening is the best time to apply all artificial stimulants. R.

#### EVERGREEN ROSES.

(ROSA SEMPERVIRENS)

THE term "evergreen" as applied to this section of Roses is scarcely correct, there being no varieties that are truly evergreen, the majority of them merely retaining the bulk of their foliage during the greater part of the winter, more especially when growing in sheltered positions. *Félicité-Perpétue*, a variety of *Rosa sempervirens*, is one of the finest and also one of those most generally grown; the flowers small, of perfect shape, and of a creamy-white colour, with a delicate flush of pink while young. *Flora* (bright rose) and *Princess Marie* (deep pink) are two more grand varieties of this section. Both the *Ayrshire* (*Rosa arvensis*) and *Boursault* Roses (*Rosa alpina*) are equally deserving of the name evergreen, and when speaking of these Roses it must not be understood to refer to the varieties of *R. sempervirens* alone, because, as I have already remarked, there are many others equally deserving of the title and that are quite as often spoken of in the same category. Some of these make very strong and long growths, *R. sempervirens* *Leschenaultiana* soon covering walls or fences from 40 feet to 60 feet high. For covering ruined walls, old fences, rough banks, and the stems of old trees, these rambling Roses are seen to the best advantage. Few things are more beautiful than the stem of a dead tree when covered with these Roses, the rough trunk affording them the firm support they require, and allowing them full scope to develop their long pendulous branches in a very pleasing manner. Strong growers, such as *Dundee Rambler*, *splendens*, *Alice Gray*, &c., make splendid subjects for town gardens. They are particularly hardy and do not suffer from smoke and fog to nearly the same extent as the majority of Roses. They are also well suited for northern and bleak aspects and will form a bower of Roses where most other varieties refuse to grow. Grown on tall stems of the hedge Brier, they form good examples of weeping Roses, and their wonderful vitality serves them in good stead and keeps the stock in perfect health. In any odd corner, or where some unsightly object has to be hidden, few plants will accomplish this end sooner and more effectually than these so-called evergreen Roses.

All of these strong growers should be pruned with care, never interfering with the long maiden shoots of the previous summer's growth, as it is these that bear such a grand profusion of miniature blossoms. These are carried in clusters of ten to thirty blooms, and are borne throughout the whole length of healthy shoots made the preceding season. Let all weakly growth be thinned out in the spring, and allow as much light and air as possible to the strong pendent shoots. Strong wires fastened from point to point will serve to train these shoots over, and many a corner in town gardens may be made beautiful by planting two or three varieties of these rampant and rapidly climbing Roses.

The class of soil is not of much importance to them, a cool one being best, but they will amply repay for generous treatment. The



stronger they can be grown the better will be the result during the following season, and as these Roses mature their wood without putting on so ripened an appearance as most species, and are naturally self-protecting by reason of their semi-evergreen character, the late autumn growth is not so liable to injury from frost.

R.

### SHORT NOTES.—ROSES.

**Rose Comtesse Panisso** has been very fine of late. It is one of those Roses that do not always open well, but, responding to the bright sunshine, it has given us many flowers of good form and colour. The colour is a bright flesh shaded with copper, deepening at the base into buff.

**Rose Luciole.**—A group of this kind has been truly striking, and the colour of the flowers wonderful and varied. Its buds, as long as those of any Tea Rose, are charming in shape and exceedingly beautiful. The outer petals have a peculiar bronzy hue, whilst the colour of the whole flower is rose shaded with yellow, deepening into crimson and copper. Few Roses are more beautiful on a bright sunny day.

**Rose Mme. B. Levet.**—We are now reaping the reward of patient waiting for this kind, for although it belongs to the Dijon Teas it has not quite got the vigour characteristic of the majority of the race. Bouquet d'Or and others have long since reached the top of the wall, but, nevertheless, if slower in growth, Mme. B. Levet has the great merit of being good and distinct, with the additional charm of extra sweetness. The flowers are full and finely shaped, clear in colour, soft canary-yellow externally, deepening into rich yellow in the centre.

## KITCHEN GARDEN.

### CONDITION OF THE VEGETABLE CROPS.

At this season of the year it is as well to take a review of our vegetable crops, and note the advance which is taking place in their growth and compare results. True enough we shall all not have the same tale to tell, as during a season like the present results will differ more or less according to the condition and kind of soil in the various districts. The beneficial showers which we have lately had appear to have been very local, as in some parts rain has fallen very sparingly, and it is the same with the late June frosts which have proved so disastrous in many parts of the country. Singular as it may appear, these frosts were felt more in the earlier districts, as on our cold soil and elevated position they were felt but very little, if at all, for the various crops have kept going on steadily. So far, this season is in favour of the heavy clay land, the moisture being more retained, and the crops passed through the tropical week which we experienced during the early part of June without suffering, and the recent surface showers have kept them going nicely.

Considering that last season was not very favourable for the harvesting of seeds, taking them as a whole, they have germinated much better than might have been expected. Commencing with Peas, these with me have done very well, the seeds germinating well. This, no doubt, is due to the condition of the seed, as with this I have not had the least fault to find, being in this respect much better off than some other growers, who have had to complain of serious loss through the seeds failing to germinate. The worst variety with me so far has been William I., this apparently not being able to withstand the dry weather like

the dwarfier and more succulent kinds. I recently referred in a note on early Peas to the superior merits of the variety William Hurst, and from seed sown the last day of February in the open border a gathering was ready on June 11. On this the 4th day of July there is still plenty of Peas on the tops of the haulm from late formed pods. This speaks volumes in its favour. In passing, I may say that I fully agree with the opinion of Mr. Wythes as to the seed being harvested in summer, as these early harvested seeds are the surest to germinate in a season like the present, and where they have failed it must be through seed which was badly harvested being sown. Although the season was backward, Peas were but two or three days later than in more favourable seasons, or when the early spring months were more genial, so we have little to complain of on this account. The early rounds are certainly out of the running this season, and I cannot see the use of private growers bothering with more than one kind of these for two or three earlier dishes.

Potatoes being the staple crop, these deserve our attention. To this crop the late June frost proved disastrous. In some parts of the Vale of Evesham, a district notorious for its early and good crops, large breadths were sadly cut up; whilst in my own district I never saw the crops looking better, and good returns will be the order of the day generally. The early kinds, of which I grow Sharpe's Victor for the very earliest, to be followed by Rivers' Ashleaf, are in prime condition, the quality being first-rate off our heavy soil on a south border. These will undoubtedly lift well, as I grow a quantity of the latter and Myatt's for general summer use. By early digging or directly the stems fall over, I hope to secure a large crop quite free from disease. It was impossible to have had a better planting time, the soil working splendidly. This latter is of little moment to those having light land, but on our heavy land we know well how to appreciate it. Of course, with the later kinds we shall have the disease to reckon with, but if they escape, very heavy crops will be harvested.

Great interest will be attached this season to the new "cures" for the Potato disease. This season's experiences will go further to elucidate the value of the Bouillie Bordelaise. It is quite evident that this will not be taken up generally until further experiments have been conducted. There is one thing to be said: people as a rule will not care to apply the remedy until the disease really shows itself, and at this time it is too late to reap the greatest benefits. But further proofs are still needed to dispel doubts on account of conflicting evidence. Cabbages have been very good, the cutting commencing the first week in May. This is rather later than in ordinary seasons, as Ellam's Early and some other approved kinds may in some seasons be cut two or three weeks earlier. Up till recently the weather has been too dry for Cauliflowers, the heads being looser than I care to see them, but with the change to showery weather these are now good. Onions and Carrots where free from grubs are coming away freely on our heavy land, but in light soils they have caused serious trouble, and the same with Cauliflowers and Brussels Sprouts, the dry weather apparently being in favour of the increase of these insects. In the case of these two latter kinds I have had to contend against the grubs even on strong and heavy soil and this with pricked-out plants. Luckily, this only occurred just as the plants were ready for their final position, and by picking them over closely for stray maggots, and

also dipping in a puddle formed of soot, lime, and soil, a total clearance was effected. These maggots appear to be very rife this season, the farmer as well as the gardener having to cope with them. Turnips, Parsnips, and other root crops I have little fault to find with. Beet is the only failure, but this was made good by sowing seed later. Lettuces have been and are still very good. What these require is an open position and well pulverised soil, with a supply of manure in easy reach of the roots. Slugs have not harmed these in the least this season, or indeed any other crop, as I never remember seeing so few about. French Beans germinated well, the seeds probably having been harvested in good condition. There have been many complaints about runner Beans this season, the seeds being apparently mixed, old and new together, as they have come up at intervals, the earlier and stronger plants being from the newer seed. The old seed is conducive to a later and more weakly growth, so it is a pity that vendors should mix the seed. Altogether I have little fault to find; the season opened unpropitiously enough, but the weather which followed has been favourable for free growth.

A. Y. A.

**A good dwarf Pea.**—In Carter's Daisy we have a novelty that should be especially welcome to the owners of, or those in charge of, comparatively small gardens. Sown at the same time as William I. and other first early varieties, it formed a close and good succession to them, our first dish of it being picked June 30. It only attains a height of about 18 inches and is very sturdy and branching in habit. The pods, freely produced, are long, broad and well filled with Peas of the best quality, and, all things considered, this variety fully deserves to become popular.—W. I.

**Summer Lettuces.**—The general way of raising and growing Lettuces is to sow the seed in beds and transplant, but a far better method is to sow where the plants are to stand and to thin out to the proper distance, as then there is no check by the breakage of tap-root and removal, which there always must be in the other case. If the weather is hot and dry, it is often a very difficult matter to get the plants to start again, and when they do, it frequently happens that most of them run to seed. To avoid this I always draw shallow drills after having raked the ground fine and put pinches of seed in at about 10 inches apart, giving it a slight covering, the object of the drills being that when filled by hoeing between the rows, the soil steadies the plants. If the ground is dry at the time, I give a watering before sowing, so as to assist the seed to germinate, and I always find that the summer Lettuces give no trouble, but grow large and fine and have good hearts without that tendency to bolt that plants have that are moved. For salads I use the Cos varieties, as they are preferred to the Cabbage kinds, which are only grown here for kitchen use, the Cos being more tender and crisp; but to be so they must have good soil and come on quickly.—S. D.

**The Onion maggot.**—I do not think that the Onion maggot need be much dreaded if growers will only do as I have, and use kainit as a dressing to the beds, as from my experience of it I find it is far superior to nitrate of soda in its effect on Onions. I used it on the plot where the Onions are grown, and they grew away from the maggot. The Onions have grown at a great rate since, and the tops are of a fine healthy green colour, surpassing those in every respect where the soda was used. Kainit is also good for many other garden crops, it being highly beneficial for Potatoes, Cabbages, and Asparagus. The best time to apply it is when the tops of the Onions are dry, and if possible, or it can be so managed, just before rain, to dissolve and wash it in, as then there is no loss, it being at once carried down to the roots. I do not know how much kainit Onions will safely take,



but I used about one bushel on a piece of land 60 feet square, sowing it regularly all over. Fortunately a shower fell the same night and the kainit had all disappeared in the morning. I shall try it in solution for Broccoli and Cauliflowers if they show signs of the grub, and also for Celery, but I am so satisfied with nitrate of soda and common salt for the latter, that I doubt if I shall ever meet with anything better. Those who have not tried these stimulants for Celery should do so on part of the rows, and they will quickly see the great difference there will be in the portion treated over that left without.—S. D.

**Potato prospects.**—Judging from present appearances, Potatoes will be a heavy crop, as they look splendid in both fields and gardens, the spell of warm weather having come just at the right time and forced them on, making them grow without curled leaves and sending up plenty of top. Just lately, too, soaking rains have fallen over most parts of the country, and here in East Anglia we had 2 inches in one night, and the land is, therefore, quite wet enough to last till the tubers reach a good size, but, like everything else, Potatoes are late. The only thing that can now spoil the prospect or much affect the crop is the disease, which is so much more harmful and to be dreaded in a backward season, as it generally shows itself at about the same time, and when the haulm is smitten by its fell powers, swelling of the tubers ceases, or nearly so, as healthy leaf action is stopped. The so-called remedy of spraying does not seem to have been very effectual, and I fear the discovery is not yet made that will rid us of the disease or mitigate its powers of mischief much.—J. SHEPPARD.

#### CABBAGE LETTUCES.

I QUITE agree with "J. R.'s" remarks on the above, and consider his selection to be an excellent one. Early Paris Market turns in earlier than any other kind I know, and is especially valuable when the winter has served the autumn-sown plants badly. Better results might often be had, though, from autumn sowings if two or three beds be sown at intervals of a few days of such sorts as All the Year Round and Hammersmith Hardy instead of depending on one sowing alone, for one set of plants may get through scatheless, while another is almost destroyed. Golden Queen gives a close succession to Early Paris Market and is a most useful kind, standing fairly well all through the summer, and it is preferred here for the salad-bowl to any other kind. Perfect Gem follows on and is succeeded by New York, an excellent Lettuce, so that with these kinds a good succession can be had without the very frequent sowings generally considered necessary. I would rather sow a row of each of these, leaving out the first-named after the earliest sowing, than to depend on one kind and have to sow oftener, for with two or three sorts going, success is more certain even if the weather is not conducive to good growth. "S. H." may be interested in getting additional testimony to the good qualities of New York, which is a very fine Lettuce, bearing a strong resemblance to Sutton's Favourite (another fine variety), except that it is bright green instead of golden tinted; the leaves are just as prettily scalloped as those of that variety, and the plants look very much like green-curved Endive in the earlier stages of growth. I find it one of the largest and best-standing kinds I grow. Last year I tried Continuity, a glorified form of the old Brown Dutch, but though this is a kind of many good qualities, its unfortunate colour is all against it, and it will never take a prominent place either for private use or with the general public, with whom outside appearances go a long way. The colour of the hearts is good, and, taken at its best, I think it would beat almost any other for weight of crop; but with so many other good kinds to choose from, brown varieties are scarcely needed among Cabbage Lettuces. Here we are very successful with transplanted Lettuces, and we never grow the Cos varieties in any other way; but they all want planting out in the nick of time, and must

not be allowed to get too big or be put out too small. Even with this care they will not do so well everywhere, and it is not advisable to depend on transplanting on stiff and lumpy soils, as they do not appear to start so well or so quickly in this as they will on a lighter material. The plan has its merits as well as its drawbacks, and the chief reason we have for adopting it is that seeds are easily protected from birds in a small seed-bed. Another thing is that the ground can be cleared and all small weeds killed just previous to planting.

J. C. TALLACK.

**Cabbages.**—When recently looking over a large number of allotment gardens I took occasion to condemn the coarse leafy Cabbages which were so generally grown, showing so much of useless non-edible material, necessitating wide planting and robbing the soil of nutriment which might have been far more wisely utilised. Very similar indeed are the Cabbages which are offered to purchasers in markets and shops. Those who have to buy such vegetables when they need them find, as a rule, far more of coarse leafage than of heart; indeed one half of what is purchased has to be thrown away. That is very wasteful and expensive, and is very disappointing. Now there are plenty of fine hearting Cabbages in commerce if our market growers and cottagers would but obtain the best stocks. Very large hearting Cabbages take so long to turn in, that the growers will not wait for complete development, and thus the public have to put up with mere leafage. We cannot have anything better for first early cutting than Ellam's Early, Little Pixie, Early York, Early Nonpareil, or any similar varieties, and these may be planted at least one-third more thickly than ordinary Cabbages are, and be cleared off the ground far more regularly and evenly. Then for succession to come in with solid, compact hearts and little surplus leafage now there are Etampes, All Heart, Beef Heart, Model, and other varieties (assuming that these named are distinct), and which would give to grower and consumer the greatest satisfaction.—A. D.

**Parsley.**—It generally happens that after severe winters we hear a great cry out about the scarcity of Parsley, and there are two reasons why the frosts and weather affect it so unfavourably, one being that Parsley has been so improved in doubleness or curl of the leaf, and the other that seed is sown too soon to afford a winter supply, and the consequence is that the plants get killed in the crown. Parsley that is so very double and good forms a series of cups or receptacles for wet and is seldom dry, and frost when it comes with any amount of severity has great effect on it and holds it in its icy grip, but the common or single does not hold any water and dries quickly after night dews or rain, and is consequently in a much better condition to face a hard winter. Of course all like to see nice curled Parsley for garnishing, but for flavouring, the single or common is just as good, and as it stands so much better it should always be grown. A good way of managing with it is to sow on a warm dry border under a wall, fence, or hedge, and to put the seed in rows, so as to form a bed that may be wholly or part covered by placing a garden frame over before severe weather sets in. The Parsley will then be quite safe under the shelter of the glass, and may be got at at any time after snow by just moving the lights. Even without frames Parsley of the common single kind will generally stand well if sown about this time, and if not and it is sown early, it should be denuded now of most of its leaves, so as to cause it to form fresh ones and get firm at the crowns. Some depend on plants that have been transplanted to afford a winter supply, and they generally stand well, as the check restricts growth and hardens them, and they are then better prepared for bad weather. Others, again, take plants up and put several into large pots and have them in cold houses, pits, or frames, but where a quantity and a regular supply is needed, there is nothing like sowing and having a good big bed on a border and

dibbling some plants in close to the foot, or some sunny fence or wall, as then there is sure to be plenty of good fresh leaves to gather.—S. D.

## FLOWER GARDEN.

### THE USE OF SPHAGNUM MOSS.

THE Sphagnum Moss question is a most interesting one for all the lovers of alpine plants; indeed, I believe it has the greatest importance of all that are being raised just now of that sort. While agreeing in many respects with what Mr. Wood has said about the matter (see p. 12), I still cannot help thinking that he rather minimises the advantage which may sometimes be derived from it. I use the word "sometimes," for it is singularly an expedient which may befit some cases and be death and destruction in others. I am very hopeful that in my hot garden it will be serviceable in the highest degree. But I have not yet tried it for a sufficiently long time to be at all certain about it. The following, however, may be taken for what it is worth. It is always my endeavour when I have a visitor who is full of special knowledge about my favourites to pick his brains as much as I can and to get some enlightenment from him. Such was certainly the case when Mr. Meyer paid me a visit a few weeks ago, and his one word of advice to me was this: Sphagnum—Sphagnum—Sphagnum; and I think he was right. He did not advise that it should be used in a way which would bring peril in winter, but judiciously, and being mixed with the soil or as a mulch as circumstances might direct, and I fully believe that this will open out possibilities for such a garden as this which it never had before. I very often lose more plants from the drought in summer than I do from the damp in winter, and I should consider anything which helps to protect me from the former as the greatest possible blessing.

Already I can see some evidences for good from the Sphagnum I have used the last few weeks. Vancouveria hexandra was in a very dried up and miserable state a few weeks ago; now it is reviving under the influence of the moisture it is able to imbibe. Gentiana ornata is also much the better for it, and so apparently is Calceolaria plantaginea; Ramondias like it, &c. The list might be extended to some length, but I would emphasise the remark that this may possibly apply only to such gardens as mine, and I know there may be a set off to it in another direction in winter-time which I do not want at all. But I shall guard against this as much as I can, and there are methods of protection which can be taken, such as mixing loam with the Sphagnum and placing the Moss round the plant rather than over it, and also at some little distance for the roots to draw into it. But *res est sub judice*, and if only several would experiment about this usage and give the results when both summer and winter have passed away, we should know a great deal about it. M. Correvon has given an interesting account in the pages of your contemporary of his success on this head. What we now want to know is how far a system which seems to answer in Switzerland is applicable to this country. I think I am more sanguine about it than Mr. Wood seems to be, but then he lives in Yorkshire and I live in the Isle of Wight, and that may make all the difference in the world. That there is a very great difference between us in point of climate may be taken for certain from the following: In the last impression of THE GARDEN in which



the use of Sphagnum is so much questioned by him, Mr. Wood recommends a "full exposure to sunshine" for *Primula suffrutescens*, and I doubt not he is quite right in his own locality, but that is far from being the case here. It so happens that I grew this *Primula* in the sun for a year or two, and I was not well pleased with its state, so I moved it to a shady part of my rockery, and it has done much better ever since; in fact, it is now very prosperous indeed. Perhaps this very plant would have liked best of all to stay in the sunshine with a strong admixture of Sphagnum Moss in the soil. I think I will try it some day. I may say that when I was at Kew the other day, Mr. Dewar told me he found Sphagnum Moss very useful for taking cuttings in.

As my pen is in my hand, may I be allowed to

needed it will be given in one word wherever in the wide world plants are grown and bulbs are cared for and loved—*circumspice*.

*St. John's Vicarage, Ryde.* H. EWBANK.

#### IVY-LEAVED PELARGONIUMS.

FOR decoration the best varieties of this section of Pelargoniums are quite equal to the zonals, and in the character of their growth are superior to them. In the colour of their flowers they range from pure white through the various shades of pink to red and dark crimson. The flowers of both the single and the double varieties of the Ivy-leaved Pelargoniums are in some respects preferable for cutting to those of the zonals, as they are less formal in shape; grown in hanging baskets, with their branches allowed

when they have got a year older that they make a full display after having had their branches shortened in in the autumn. Pyramidal wire trellises are sometimes used for training them on, but a few neat sticks inserted just within the rims of the pots do as well. On no account should the shoots be trained too closely after the supports are sufficiently clothed, or it gives the specimens a stiff, formal appearance.

One of the best, although not the "latest" improvement, is *Souvenir de Charles Turner*, a magnificent variety for any purpose. Planted out in the open it does splendidly, but the best use for this kind is to train it on a balloon-shaped trellis, tying the shoots all over the wires, and then allowing the side shoots to push out and flower in their own way, a splendid mass of blossoms resulting. As a pillar plant, or for covering walls in glasshouses, there is no plant to surpass this, as the foliage is so good and the flowers are abundant. The colour of the flowers may best be described as a scarlet-magenta. *Albert Crousse* (cerise colour) is another very lovely variety of rather stronger growth, and excellent for any purpose; *Louis Thibaut* (bright red) is a fine variety; *Jeanne d'Arc* (double white) is a splendid kind for pots, but, like most white Pelargoniums, its flowers get suffused with pink when grown in the open air; *Mme. Thibaut* (rose) is a lovely variety that cannot fail to please. The plant shown in the engraving shows the value of the Ivy-leaved Pelargonium when grown in a vase.

T. P. W.



Ivy-leaved Pelargonium in a basket.

add just a word to your notice of my friend and very great horticultural benefactor, Herr Max Leichtlin? Not only is all you say of him quite true, but a great deal may be added to it, *e.g.*, I am sure his unfailing willingness to lend assistance to those who have bulbs on their brain is most astonishing, considering the world-wide work which he carries on. He has helped me more than I can say in all sorts of ways, and a visit to Baden Baden is in my eyes what a pilgrimage to Mecca must be in those of the faithful ones. My garden is crowded with "good things" which I owe to him, and it would be uninteresting and tame without them, and it is only an insignificant little plot when compared with the large and splendid establishments which owe some of their choicest treasures to his knowledge and enterprise. I hope it will be a very long time indeed before any monument is needed for him, but when it is

to droop, or trained so as to cover the bottom part as well as the top of the baskets, they are very effective. Like the zonals, they are not much troubled with insect pests, a matter worth taking into account, as, independent of the injury that is done by insects to such plants as they prey upon, their destruction and the means necessary for it occupy a considerable amount of time. The plants are free growers and equally free flowering. The soil they require is such as answers for the other kinds of Pelargoniums—good loam, with a fair amount of vegetable matter in it, enriched with plenty of rotten manure, adding sand in proportion to the amount which the loam naturally contains. In potting it is requisite, as with the other varieties of Pelargoniums, to make the soil solid; if left loose and insufficiently compressed, the plants will not do well. Young examples will bloom nicely all through the summer; but it is

**Gladiolus bulbs dying.**—Replying to "Delta's" not very courteous criticisms in *THE GARDEN* for July 2, p. 9, I did not refer to Mr. Fowler's Gladioli; I do not even know if he is growing any this season. "Delta's" memory must be very short, or he would have remembered that many years before Mr. Fowler grew Gladioli, he ("Delta") assisted to award prizes for them at Taunton show to Mr. Tottles, who has for years grown and shown these beautiful flowers exceedingly well. It was to his bulbs I referred, so that if anyone has made a blunder, it is my critic.—J. C. C.

**A hybrid Lily.**—As you are always anxious to have new and rare flowers for illustration, I take the opportunity of my daughter's passing your office to-day to send blooms of the hybrid Lily I raised between *Hansonii* and *dalmaticum*, the latter being the female parent, and I also send blooms of both parents to show that a perfect cross has been effected. I sent this Lily up to the Royal Horticultural Society's committee last year, but it was delayed in transit and arrived some hours too late, and the next time they met, strange to say, the same cross was exhibited. You will note that the seedling is more robust and free flowering than either of the parents.—C. B. POWELL, *The Old Hall, Southborough, Tunbridge Wells.*

**Lilium longiflorum.**—The note on p. 568 regarding a fine form of the long-flowered Lily, the produce of a bulb imported from Japan, recalls a magnificent group contributed by Messrs. Wallace, of Colchester, to the Temple show. They were fine sturdy specimens, each carrying a number of large massive blooms, which were broader in proportion to their length than those of the Bermuda L. *Harrisi*. This group of Lilies was exhibited under the name of *L. eximium giganteum*. This form of *L. longiflorum* appears to be very near if not actually identical with that known as *Wilsoni*. It is more than probable that several of the so-called varieties are mere geographical forms, and grown under similar conditions for a season or two many of the points of difference will vanish. Thus, when the Bermuda Lily was first sent to this country it was thought to flower much before any of the others, which is perfectly correct as far as imported bulbs are concerned, but the second season they will if grown together flower at just



about the same time as the typical *L. longiflorum* or the Japanese forms. The long-flowered Lily is largely grown by the Dutch and sent to this country in considerable numbers when dormant, yet singularly enough the forms exclusively grown in Holland, and which must originally have come from Japan, are rarely to be found among the immense Japanese importations of the present day. These latter are much superior to the European variety, being more robust in constitution, the blooms larger, and borne in greater numbers on the stem. To the form usually regarded as the type, viz., that grown in Holland, the specific name of *longiflorum* appears to be somewhat of a misnomer, as in length of tube it is surpassed not only by the other forms of the same species, but also by *L. Wallichianum*, *L. neilgherrense*, and *L. philippinense*.—H. P.

## THE WINTERING OF DELICATE ALPINES.

TO THE EDITOR OF THE GARDEN.

SIR,—Some of your readers will perhaps remember the correspondence on this subject which appeared in several of your numbers for last year, commencing with my letter in the number for January 24 and closing with that in your number for May 9. Acting on what appeared to me to be the net result of the various and somewhat conflicting opinions given, I constructed a small rock garden for the more delicate alpine. I selected a spot in the higher part of my garden on a slope facing south-west with a gravelly subsoil. This I excavated to a depth of about 3 feet. I filled up first with a layer about 6 inches deep of brickbats, above which I put another layer about 6 inches deep of rather smaller pieces of stone (broken up millstone grit), and upon this again I heaped up a mixture composed of (1) soil, (2) peat well chopped up, and (3) Ilkley gravel (refuse from the millstone grit quarries, a mixture of coarse gritty sand and rough fragments of stone varying in size from that of a small nut to that of an orange). The uppermost part was modified by reducing the amount of soil and peat and adding well rotted leaf-mould. One half of the mound was further modified by reducing the amount of gritty stone and substituting limestone chips. On this foundation I built up the rockery. The slope of the rockery is rather more than the natural slope of the ground, the upper edge being about 6 inches above the ground and the lower edge about 6 inches below it, but I cut away the soil below the lower edge, so that no part of the rockery is in a hole. I was lucky in finding at one end of the rockery a little permanent natural trickle of water, so I made a minute rockwork ditch there, the rockery sloping down to it and rising again at the other side, and at the lower end of this little ditch I made a little peat bed, always wet, but always well drained for Orchids, &c., but this has nothing to do with my present letter. The upper part of the rockery, though only about 6 inches above the ground, leans against a small brick wall about 3 feet high. Below the rockery is an iron gutter (supported on small iron rods embedded in the ground), which runs parallel to the wall. Lights rest with their upper edges on the wall and their lower edges in the iron gutter. The lights can be easily removed, and even when they are all there a free circulation of air passes over the rockery, which is open at the sides and at the base, though I had to place coarse wire network to keep out the birds which would have devastated my rockery when the ground outside it was covered with snow.

During the whole of the winter the rockery has always had the lights on at night, but

they have been removed in the daytime unless it was either snowing or raining or exceptionally cold, or there was a heavy, clammy fog. I never watered the rockery during the winter, but began to do so about the middle of March. I will now with your permission report progress as regards some of the more interesting individual plants. When I add "lime," the plant is in the limestone end of the rockery; the others are in the other end.

**ANDROSACE LANUGINOSA**, planted in nick hanging over stone, flowered freely in the autumn and has stood winter well. It has spread considerably, and is flowering again profusely. *A. lanuginosa* var. *Leichtlini* the same. *A. obtusifolia* is gone. *A. foliosa* flowered in autumn, seemed to die down in winter, but now looks very healthy. *A. ciliata*, planted in chinks, is gone. *A. glacialis* is gone. *A. Wulfeniana*.—One of two little tufts flagged in spring, but other was all right; both now look quite healthy, but have not flowered. *A. carnea* has done very well and flowered freely in last week of March and early part of April. *A. carnea* var. *eximia* has done the same—flowered freely in April. A doubt has been cast upon the name *eximia* by a friend who is an authority, and who, if I understand him aright, says there is no such thing. The plants I have are quite different in growth from *A. carnea*, being closer and more stubby in growth and with broader leaves, the leaves of my *A. carnea* being very thin and pointed, as in *A. Lageri*; in fact, its whole appearance is somewhat like the last-named variety. *A. Lageri* (lime) has done very well, flowered well in last week of March and early in April. *A. Chamæjasme* (lime) has done well, flagged a little in winter, but recovered completely; flowered freely latter part of April. *A. villosa* (lime) looked shaky in the winter and some of the heads were nipped off by a slug or a bird in autumn, but it has picked up again splendidly; flowered freely last week of April. *A. helvetica* (lime), planted in a chink, gone. *A. Vitaliana* (lime) has done capitally, and flowered freely and continuously. I have some plants of this in a well drained spot in my ordinary rockery which were covered in winter with a slate. They are almost as healthy as those in the special rockery, but have not flowered quite so freely. *A. sarmentosa* (lime) has done very well. The new growth in the centres of the tufts began to develop freely in the middle of March. I cut away all the decaying leaves in the winter as fast as they appeared, frequently leaving nothing but a little round button in the middle. I have a good clump of this on my outside rockery, which I protected with a sheet of glass, and it has done fairly well. Another clump in pans in a frame was left to itself, and all its runners took root in the pure red sand in which the pans were buried, and they are all growing splendidly. I counted over fifty flowering heads. To my mind this and *lanuginosa* are the most beautiful of all. *A. lactea* (lime) has done very well. Flowered freely late in May. *A. coronopifolia* (lime).—This is an annual or biennial. Flowered freely last summer. Some of old plants have survived, and are flowering again. Collected and sowed seeds and young seedlings are coming up. *A. nana* (lime).—Same as *coronopifolia*, of which I understand it is a variety. I can see no difference between them, but perhaps one of mine is wrongly named. *A. pubescens* gone.

**PAPAVER ALPINUM**.—Flowers resemble *P. nudicaule*, but are smaller. Mine are all flesh or salmon tint, orange or white. Leaves very small and deeply cut, quite different from *nudicaule*. I mention this difference because a well-known firm twice sent me *nudicaule* for alpinum. Has flowered freely, and by preparing the soil all round it I hope to make it seed itself.

**TRITELEIA UNIFLORA** has done capitally; each bulb flowered.

**DRABA AZOIDES** grew and flowered in March copiously. *D. cuspidata* looked rather bad in winter, but picked up and has grown exceedingly well, but not flowered much. *D. bruniaefolia* has done fairly well and flowered a little. I think all these

*Drabas* might be grown in the ordinary rockery, and in fact I have wintered them there, and they were all right.

**SEDUM DASYPHYLLUM**.—Growing like a weed. *S. brevifolium*.—I planted a little clump of this, but immediately afterwards a bird scratched it all up. I sprinkled a little light soil over it, which saved some of it, and this has spread, and I now have a good stock.

**CYANANTHUS LOBATUS**, planted in clumps, disappeared entirely in winter, but began to break freely in April. Looks very strong and well and has spread.

**EDRAIANTHUS SERPYLLIFOLIUS** has done very well. Flowered in May. *E. dalmaticus*, planted in chink, gone.

**ARENARIA CILIATA** (?) does not look well.

**SILENE ACAULIS**.—I planted some in lime end and some in other end. The plants went brown in winter, but the new growth showed itself early in March. They have hardly flowered at all, but in other respects are all right. In previous years I have had the same experience in the ordinary rockery except that the plants have suffered a little.

**LITHOSPERMUM PROSTRATUM**, some in lime and some in other end, have done very well, flowering freely. This I also grow quite as well on the ordinary rockery.

**SAXIFRAGA WALDENIS** has done very well, but has done just as well on ordinary rockery. *S. sedoides* (?) has done well.

**SOLDANELLAS** (*alpina*, *montana*, *minima*, and *Pusilla*).—In spite of the greatest care, the slugs got at them and played havoc, eating some of them almost down to the ground. It is wonderful to see what they can do in a single night. Most of the plants have recovered and are developing fresh leaves and growth freely. But I have not had a single flower. I watched carefully in the early spring for the young flowering shoots, and as soon as they appeared I began to water gently and frequently, never letting the plants get dry. Many flowers partially formed themselves, but the slugs got some and others seemed to go off. I am determined to succeed with these before I have done with them, and shall be glad of any advice.

**PRIMULA MINIMA** (lime) did very well and flowered early in April and again in June. *P. Flörkeana* also did well and flowered in May. *P. nivalis* did splendidly. I imagine this might have been grown as well in ordinary rockery. *P. rosea* I planted on low ledges near my little trickle of water. They were a picture. This also, I imagine, does not need such special protection.

**RHEXIA VIRGINICA**, planted by the water's edge, came up well, and flowered in April.

**DIANTHUS ALPINUS** has done splendidly and flowered copiously, but with a little protection would, I think, have done equally well on ordinary rockery. *D. neglectus* has also grown capitally, but has not flowered quite as freely as *alpinus*. *D. glacialis*.—I had three plants under this name. Two died; the other has grown and flowered, but I see no difference between it and *neglectus*, the growth being compact, leaves thin and spiny and somewhat glaucous, and flowers carmine with yellowish colouring below them. I have yet to learn what *glacialis* is. *D. fragrans* has done very well and is flowering, but has done equally well in ordinary rockery. *D. frigidus* has done well and flowered; did equally well on ordinary rockery.

**GENTIANA VERNA** (lime) has grown and flowered capitally, but did same in one of my outside rock gardens. *Appropos* of the letters which have recently appeared on this plant, I may say that my plants are in moist soil with plenty of lime and good drainage. Some have been there three years, others I collected in Teesdale two years ago. So far, they have all done well and have flowered copiously. I have found this plant growing freely in Teesdale (1) in limestone soil (sugar limestone) high and dry, (2) on muddy irregular slopes of old moraine full of clay and soaking with water on the grit, and (3) in moist



pastures on grit, but not so freely. *G. bavarica* (lime) in good condition, but has not flowered. *G. utriculata* (lime) did well and has flowered freely. *G. decumbens*, *lutea*, *septemfida*, *cruciata*, and *angustifolia* (lime) have all done well, but have not yet flowered.

*ERINUS ALPINUS*, *ALBUS*, and *CARMINEUS* (lime) have all done well and flowered profusely.

*GNAPHALUM LEONTOPODIUM* (lime) has survived winter, but looks ragged and is flowering poorly. The partial failure of this has been an accident, as I have never had much difficulty with it on ordinary rockery.

On the whole, I think that I have been fairly successful in wintering these plants in spite of the vicinity of smoky Manchester. Of course one winter proves nothing, especially when it has been a pretty dry one, but against this may be set off the fact that the plants were put into the ground far too late last year to give them a fair chance, and that many failures are doubtless due to my lack of experience and consequent clumsy planting—a remark which especially applies to the plants put in chinks which were not I think made sufficiently firm. No doubt some of your readers who do not live near a smoky town will say that many of the plants enumerated are in no way delicate, and can be cultivated easily on the rockery or open border, and there are undoubtedly some of them which can be so grown even here provided they are covered with slates in winter. In fact I put several of the plants in my special rockery, not because they required it, but to fill up gaps.

The conduct of the plants in their second winter will be a much better test, but I am hopeful of being able to do sufficient even here to show that there is no need to despair.

ROBERT W. WILLIAMSON.

*The Croft, Didsbury.*

**Begonia Worthiana.**—To the lover of huge blooms such a variety as this will appear to be a case of retrogression, as the flowers are but small and the petals pointed; still it possesses many desirable features. It is of a compact, freely-branched habit of growth, and the orange-scarlet coloured blossoms are borne in great profusion. As a bedding plant this *Begonia* is seen under favourable conditions, as, owing to the size of its blooms, rough weather that would injure the large-flowered varieties have little or no effect upon such as this, while it will bloom profusely throughout the summer. Good plants of it are also of value for greenhouse decoration, and it is so widely removed from the forms now in cultivation, that a few examples of it in the greenhouse afford a pleasing variety.—H. P.

**Lilium speciosum.**—A very interesting and attractive exhibit at the recent Rose show held in the grounds of the Horticultural Exhibition at Earl's Court was a fine group of *Lilium speciosum* in which both the white and pink varieties were well represented. Each plant was about 3 feet or 4 feet high, clothed to the base with good foliage, and bearing on the upper part a number of well-developed blooms, most of them having about half a dozen fully expanded and as many more to open. The novel feature about these Lilies was the fact that they were in full flower (without any sign of having been forced or drawn up) at the same time as *Lilium pardalinum*, *L. Szovitzianum*, *L. elegans*, *L. dalmaticum*, *L. umbellatum*, *L. Washingtonianum*, *L. Hansoni*, and others, which were shown by various exhibitors. All of these naturally flower in the open ground about the end of June or early part of July, but whereas *L. speciosum* does not as a rule bloom till August is well advanced, the beauty and freshness of the specimens shown were very noticeable. Both the white and pink varieties were the forms grown by the Dutch, not those sent here from Japan during the winter months. The

white (album) has, when grown in the full sunshine, the exterior of the flower, the stems and leaf-stalks tinged with chocolate; but in the examples shown this feature was not particularly noticeable, owing to its having been grown under glass. Between the album of the Dutch and the white-flowered *Kretzeri*, which comes from Japan, a good deal of confusion exists at times, though they are quite distinct the one from the other, as the foliage of *Kretzeri* is of a paler green and much more pointed, while the segments of the flower recurve in a more regular manner, and there is also a greenish stripe, which commences in the middle of the flower and extends half way down the centre of each petal. The variety album is, on the other hand, of a uniform white tint within. For the coloured varieties sent here from Holland the names of rubrum and roseum seem to be often used indiscriminately.—H. P.

#### FLOWER GARDEN NOTES.

THERE is a remarkable difference in the appearance of the flower garden at the time of writing (June 24) and at the same time last year. The long spell of wet, so prejudicial to many things, that we experienced in 1891 was not at all favourable to the flower garden; there was plenty of growth, but profusion of bloom was not forthcoming until late in the season. In 1892, on the contrary, we have a steady, sturdy growth and an abundance of bloom, or, more correctly speaking, there would have been at the present time had not the frosts in the middle of the month nipped expanded flowers and kept buds in check. Where these frosts were of sufficient severity to cut bedding stuff down, the season for this will be indeed a short one, and the practically indestructible beauty of the herbaceous borders (from a frost standpoint) doubly appreciated. Plenty of stuff is now to hand in these borders for cutting in the shape of *Pæonies*, *Pyrethrums*, and *Irises* in variety, with occasional spikes of *Hemerocallis* and scarlet *Lychnis* for taller vases; also plenty of *Pinks* and early *Carnations*. Clumps of early *Sweet Peas* in these borders are also very serviceable at the present time; those sown in pots and planted out with a little early protection in the way of a few *Laurel* twigs to screen from very cold winds are far in advance of those sown in the open ground. Extra good border *Carnations* are *Raby*, *Mrs. Reynolds Hole*, *White Clove*, and *Countess of Paris*. I mentioned that the last-named did not seem at home in a particular part of the flower garden where the soil was rather stiff and holding, and for that reason it was changed to an old herbaceous border. Here it is grand, and will throw a great abundance of flower. When noting some of the taller herbaceous plants that are at present furnishing cut flowers, I ought to have included *Foxgloves* in variety. At the time of planting a large quarter of the pleasure ground with alternate breaks of small seedling *Rhododendron ponticum* and deciduous flowering shrubs, I scattered *Foxglove* seed among the former, thinned out the plants to something over a yard apart, and just now the hillside is gay with these really handsome flowers. A little variety in colour is gained by the introduction at intervals of small batches of seedling *Delphiniums*. Whilst on the subject of herbaceous flowers I may perhaps be allowed to refer, now that cottage garden shows are close at hand, to a suggestion made last year as to the advisability of gardeners staging at such shows collections of hardy herbaceous cut flowers suitable for cottage gardens. I am strongly of opinion that such action would tend to popularise these flowers, and the cottager would certainly find them far preferable to a small collection of weedy bedding plants either for the brightening up of his flower-plot or to furnish supplies for the ever-welcome nosegay. In all such collections of cut flowers, each variety should be shown separately and in sufficient quantity to give a clear idea of its beauty.

Among a few of the new, or comparatively new, plants well adapted to help in the summer display may be mentioned the new double *Calendula*

*Orange King*. This is a capital tall yellow, and an admirable substitute for *Calceolarias* where these do not flourish. The individual flowers are of fine size and substance, and stand well. Tufted *Pansy Bullion* is probably the best dwarf yellow bedding plant in cultivation. Admirers of the *Lobelia* will be pleased with *Maid of Moray*, very bright, distinct and free, and of excellent habit. Pure *White* and *Prima Donna* seem likely to prove decided acquisitions in their respective colours, and *Phlox Drummondii Sunrise* is very fine. *Thalictrum adiantifolium* is a useful hardy plant, a little lighter and less stiff, and consequently better adapted for small bouquets than *Pelargonium filicifolium odoratum*, hitherto, with common *Asparagus*, our best hardy foliage plant. I am not particularly struck with the new *Dracena*-leaved bedding *Beet*. Certainly the foliage is somewhat lighter and narrower, but it lacks as yet with me the rich colour of *Dell's Crimson*. No mention of new flowers for the summer garden would be complete without the inclusion of the new *Tom Thumb Dahlias*. They are certainly wonderfully light and pretty, and admirably adapted for large beds either in a mass or planted thinly on a dwarf carpet. Destructive agencies to plant life in various forms are apt to keep the flower as well as the fruit men busy during the early part of the summer, and the present season has proved no exception to the rule. The foliage of *Lilium candidum* was attacked quite early with the blight or fungus to which it is subject, but although the stalks look somewhat brown and bare, we have saved the blooms and, I think, arrested the disease. The *Rose maggot* has been rather troublesome both on the flower from whence it takes its name and on the *Starworts*. The latter were badly attacked and necessitated a lot of picking to get them clean. It is well throughout the summer to note any special calls for cut flowers in any particular variety or shade of colour, and, if such requirements are likely to be an annual affair, to make provision at the proper time for an increase in the stock of any such, whether herbaceous or annual. E. BURRELL.

*Claremont.*

**Double Petunias.**—These plants are not well adapted for bedding, because the flowers are too massive and heavy to withstand rains or rough weather. On the other hand, they make capital pot plants, especially those varieties, of which, happily, there are not a few, that produce flowers of moderate size and freely. One of the charms of the double *Petunias* is, perhaps, found in the fringed or laciniated edges of the petals, and it is something to rejoice over that this character seems in no danger of being eliminated. There are two double varieties of *Petunias* which have in market flower-producing establishments become exceedingly popular. Those are the pure white and the rose. There are either several varieties nearly identical, or else the same sorts have got into commerce under diverse names. Both have very solid double blooms of medium size, which, gathered and wired, are found most useful for bouquets or other purposes to which flowers are applied, and, being double, are very enduring. Plants of these kinds, as also of any that are equally free-flowering and have bright-coloured medium-sized blooms, form very attractive specimen plants for exhibition or for the decoration of the greenhouse or window. All the varieties are easily propagated from cuttings, and in that way it is so easy to obtain stock, that any good variety may be increased indefinitely in a very short time. *Petunias* also do well as trellis-trained plants and for baskets. Some of the varieties possess sweet perfume, which adds materially to their usefulness, especially as flowers for cutting.—A. D.

**Early-flowering Gladioli.**—In THE GARDEN for December 22, 1888, a coloured plate of early flowering *Gladioli* was given, four varieties being therein represented. Up to then they were but little grown, but since the publication of the above-mentioned plate the merits of this group of *Gladioli* seem to be more generally recognised—at all events they are grown to a much greater extent



than was formerly the case. They may be planted in the open ground or grown in pots, and in this latter way they are very useful for the decoration of the greenhouse or conservatory during the spring and early summer months. If planted out they flower, as a rule, soon after midsummer. When grown in pots they may be arranged in various ways to suit different purposes, but a good general plan when required for the greenhouse is to put about half a dozen bulbs in a pot 6 inches in diameter, as they then form effective little masses, which for grouping are extremely useful. A very suitable soil for potting these Gladioli is loam, lightened by an admixture of sand, leaf-mould, and well-decayed manure, the quantities of which will to a great extent depend upon the consistency of the loam, the object aimed at being to ensure a compost of an open nature. One feature to be especially noted in the case of these Gladioli is that as they flower before any of the others they also ripen off earlier, and being small they are so injured if kept out of the ground too long, so that in purchasing bulbs they should be obtained and potted by Christmas at the very latest. A frame just free from frost is a very suitable place for them, and care should be taken not to overwater, especially till the roots are active. As the slender gracefully disposed spikes of bright or delicately-tinted blossoms are extremely useful for imparting lightness to a group of plants, they are in a cut state equally effective, especially for large vases and such purposes.—H. P.

#### WHY "WINDFLOWERS" ?

MR. WOLLEY DOD has suggested that the Anemone was so called by the Greeks because of the rapid dispersion of the ripe seed-heads by the wind. "W. M." cavils at this explanation and propounds one which he considers more obvious, namely, that the flower was observed to open at the time of the "March equinoctial gales." This does not seem to me at all plausible. We know that Pliny says the Anemone has its name "because it opens when the wind (*anemos*) blows." But any student of Pliny or other ancient etymologists knows that this is precisely the artificial derivation which he would be certain to give out of his own head without any reference to facts. "W. M.'s" elucidation of Pliny's remark that he means "not every wind, of course, but the wind which occurs at the time when the flowers usually open, that is, the wind of the March equinoctial gales," will not bear examination. If the meaning is that they open in a wind, this is not true, for Anemones contract their flowers rather than expand them in windy weather. If, on the other hand, the expression "when the wind blows" does not mean an actual wind, but is merely equivalent to "the windy season," i.e., the spring equinox, the reply is that the Greeks recognised no such season. Our best meteorologists deny that there are regular equinoctial gales anywhere, and I cannot recall from my reading in Greek literature, which has been fairly extensive, that the Greeks associated stormy weather with the setting in of spring. Can "W. M." support his argument by referring me to any passages which speak of such regularly occurring spring gales? Greece was and is a very windy country, as is to be expected of a land of mountain and sea, but the storms seem to have come mostly without rule; moreover, the name "Greece" denotes several districts with widely varying climates. Thus the spring in Attica is mild, genial, and calm, while that of Beotia is cold and boisterous. Greek writers have a great deal to say about the winds, and appreciated the character of the wind from every quarter and sub-quarter. They tell us how pleasant the east wind

was, and how its characteristics were precisely the opposite of all that we associate with it; they describe the sirocco which parched, and the inshore breezes which tempered the summer heat, and the north wind which commonly sprang up at daybreak. But I remember no mention of anything answering to March equinoctial gales. It is true we read of northerly winds in spring—bird winds as they were named, because they brought the birds of passage—but these seem spoken of much as we speak of the common prevalence of winds from a cold quarter in spring.

I think it very probable myself that the connection, in writing and sound, of *Anemone* with *anemos* may be purely accidental, and that the ancient meaning of the word was lost in classical times. Plant names in all languages are often very primitive and difficult to trace to their original sense. We are often quite unable to accept the etymologies given by Greeks and Romans of their own words. To give one instance, Virgil explains the name of a Roman locality "Argiletum" as signifying "The death of Argus" (*letum Argi*); whereas we need have no doubt that the word means the "potter's field" (*argilla*, clay). In the same way we may be sure that Pliny, whether the derivation chanced to be right or wrong, would certainly go to the nearest word, *anemos*, to explain *Anemone*.

If *Anemone* is truly connected with *anemos*, wind, I think a more probable explanation is the less poetical one, that the plant had some medicinal repute. Plants were distinguished and named as herbs or simples long before they obtained æsthetic appellations or appreciation.

G. H. ENGLEHEART.

#### NOTES ON HARDY PLANTS.

**Armerias.**—Some cause at least for the way in which these plants go off in winter and spring is traceable, I believe, to the attack of a fungus, which when present may be very clearly seen about the present time. It seems to attack the more fatally the softer and broader leaved sorts, such as plantaginea, cephalotes, and the varieties *formosa* and *grandiflora*. The symptoms are the turning brown of the whole of the grassy cushions. When more closely examined the brownness is to be seen beset with the black dots of the fungus exploded and unexploded. It seems almost useless to point out these unless one is ready to announce a remedy. This I confess I am not able to do, though I have little doubt that a liberal sprinkling of sulphur might do good. My remedy, however, if it can be called such, has hitherto been to dig up the plants infected and destroy them, and at once to deal with such plants as were either all or in part free from the pest by dividing them and pricking out the clean offsets. The season being favourable for this and for getting the young plants fully established before winter, has hitherto answered my purpose, and indeed I believe that if the system of annually making young stock in this way is followed up, the young plants in their second year will not only give more and finer flowers, but it would almost seem that the chances of attacks of fungus are either reduced to a minimum or totally removed. Wishing for some of this fungus the other day for a gentleman interested in the study of the species, I was glad not to be able to find any in my own garden, though it abounded close to in that of a neighbour. It is because of these facts that I venture to think the fungus is kept in check by constant propagation of the plants and the casting of the older ones away, say at the end of two years.

**Tolmiea Menziesii.**—This has been very beautiful so long, and so many have admired its quaint spikes of peculiar, yet exquisitely handsome flowers,

that I beg to draw attention to it as a worthy hardy plant for the flower garden. Its foliage rather resembles that of some of the greener-leaved *Heucheras*, only that it is more wrinkled. It further resembles the *Heucheras*, to which it is nearly related botanically, in its habit of growth. I do not know what authority the American plantmen may have for its name. I have faithfully stuck to the name which I received with the plant at least ten years ago, but I should not be surprised if it proved to be Pursh's *Tiarella Menziesii*; anyhow, the plant when once seen in a bold piece and in flower is a most tempting one. The flower-stems rise to nearly 2 feet in height, and for nearly half their length are now carrying flowers. These are small, having dark brown tubes slit almost to the bottom; the limb toothed deeply and alternated with long hair-like appendages in two pairs to each flower, turned up in the way of ox horns. There are protruding anthers, of an almost orange colour, and rather large for the size of the flower, filling the mouth of the tube. These add a feature of beauty to the spikes, the dots of orange being richly effective in their setting of brown and hair-like tails. The spikes are racemose, the flowers being but laxly produced, so that they are elegant and most useful when arranged with such things as fine Grasses. Another peculiarity of the plant is that in the centre of the leaf or rather at its base (but from its heart shape seeming to be in the middle) there forms a green granule, if it might be termed such, which in time develops a number of little leaves, and when the big or parent leaf falls to the ground in autumn there is a free issue of roots, and so the plant propagates itself from its leaves.

**Orobis lathyroides.**—There are few better bits of blue than one sees in June and July on this plant in short dense racemes, which, owing to the slender and elegant port of the plant and its handsome cut foliage, go to make well-established specimens exceedingly effective. It is one of the best blue flowers I know that may be said to link the spring and later summer blues. For mixing in the border where there is plenty of white it comes out charmingly. It is a good wet-weather plant, and without the fault, rather common to high-coloured flowers, of sustaining injury in the form of stained edges by the action of the sun or wet. The compact racemes are ready-made button-holes.

Woodville, Kirkstall.

J. WOOD.

#### GARDEN FLORA.

##### PLATE 863.

##### CHIMONANTHUS FRAGRANS.

(WITH A COLOURED PLATE. \*)

THE number of shrubs that may be had in bloom by Christmas or soon after without any protection other than that of an open wall is very limited, the principal being this *Chimonanthus*, *Daphne Mezereum*, *Jasminum nudiflorum*, *Lonicera Standishi* and *L. fragrantissima*, *Hamelis arborea*, and some varieties of the Japan Quince (*Cydonia japonica*). In fragrance this *Chimonanthus* greatly surpasses any of the others except the *Loniceras*, and on this account it is a general favourite, though I must admit it is not planted half as much as it should be. The *Chimonanthus* in question is too well known to need any detailed description; therefore it will suffice to say that it is a free-growing shrub, whose manner of flowering on the still leafless branches is truthfully portrayed on the accompanying plate. When trained to a wall it will, where favourably situated, quickly cover a considerable space, and when that limit is reached, it is then

\* Drawn for THE GARDEN by Gertrude Hamilton, in Syon House Gardens, February 12, 1892. Lithographed and printed by Guillaume Severeys.





CHIMONANTHUS FRAGRANS







necessary to keep it within bounds by pruning. If this is properly carried out, the production of blooms will be greatly accelerated thereby, while on the other hand badly pruned specimens that yield very few blossoms are sometimes met with. The time to cut back this *Chimonanthus* is as soon after flowering as possible, that is to say, early in the spring, as there is then ample time for the production of good flowering shoots. In pruning, the object should be the removal of useless and exhausted wood, while if desired the vigorous shoots may be shortened back to a good bud. In many districts of England the *Chimonanthus* is quite hardy, while in a few it will flower well as a bush in the open ground, but, generally speaking, it must be regarded as a wall plant, and in fact it will often bloom earlier when protected by a glass coping or some other shelter. On a dwelling-house or in close proximity thereto its highly fragrant blossoms will be sure to arrest attention, as on bright days the perfume wafted through the open windows is very noticeable and enjoyed by everyone. For this latter reason sprays are often cut and taken indoors, where the blooms will continue to expand safe from the extra sharp frosts which frequently injure them early in the season. *Chimonanthus fragrans* is a native of Japan, and was one of the first shrubs introduced into British gardens from that region, for it was sent here as long ago as 1776. There is a variety *grandiflorus* whose blooms are a good deal larger than those of the type. In planting the *Chimonanthus* dry sandy soils should as far as possible be avoided, while, on the other hand, if too rich the growth is apt to be strong and the blooms few in number. It is not at all an easy subject to strike from cuttings; still under very favourable conditions seeds are sometimes produced from which young plants can be readily raised, and besides this it is also increased by layering.

In addition to the name of *Chimonanthus fragrans* this shrub is also known as *Calycanthus præcox*, the genus *Calycanthus* being a near ally of the other; in fact they are the only hardy representatives of the order to which they belong. Of the genus *Calycanthus* by far the best known is the American or Carolina Allspice (*C. floridus*), a very ornamental, free-flowering, and distinct shrub. It forms a rather compact bush, seldom more than 4 feet or 5 feet in height, though occasionally under very favourable conditions these dimensions are exceeded. The oblong-shaped leaves are of a leathery texture and deep green in colour, while the flowers stand forth among the most curious of all our hardy shrubs. They are of a peculiar fleshy nature, each about  $1\frac{1}{2}$  inches in diameter, and of a purplish-crimson tint. They are most agreeably scented; in fact, the entire plant, wood, bark, and leaves, gives forth a pleasant perfume when bruised. The Carolina Allspice, which was introduced in 1726, is said by Loudon to grow on the shaded banks of rivulets, and in this country it is seen at its best when planted in a cool moist soil, and in a position partially sheltered from the full rays of the sun. At the same time it will succeed fairly well in sunny spots, and without any unusual amount of moisture, but plants under these conditions are not equal to those differently situated. Still, as a rule, they flower well, and what is also worthy of note is that the blooming season of the Carolina Allspice is spread over a lengthened period, as blossoms are often produced from the end of spring till summer is well advanced. Several varieties of it are to be met with in various lists,

but through all of them runs a strong family likeness, and the ordinary form is quite equal to any of them.

*Calycanthus occidentalis* is a native of the western side of North America, and in California from its fragrance is known as the sweet-scented shrub. It differs from its older relative in forming a larger and bolder bush, whose increase of size extends both to the leaves and flowers, these latter being as much as 3 inches in diameter and of a deep crimson colour. *C. occidentalis*, which was introduced from California in 1831, is sometimes met with under the name of *C. macrophyllus*. T.

## THE WEEK'S WORK.

### THE KITCHEN GARDEN.

**MAIN-CROP CELERY.**—The plants for the main crop should now be in fine condition for putting out into the trenches. This should be attended to at once, as any check through remaining too long where they have been pricked out will result in bolting. Celery stands best when planted in single rows, as by this method the earthing up can be so done as to throw off wet. If the plants have been pricked out into holding soil they can be lifted with good balls adhering to the roots. All small leaves and incipient suckers clustering about the base should be promptly removed, this saving a deal of trouble later on in the season. After planting, sprinkle over-head for a few evenings—unless showery weather should intervene—when the plants will start away without hardly feeling removal. If the weather should prove dry, a good watering once or twice a week will prove more advantageous than daily dribbles, this, besides being labour misdirected, keeping the soil in a cold state, and which is not at all conducive to the free growth of Celery.

**TURNIPS FOR WINTER.**—If not already done no time should be lost in making preparations for the main sowing of winter Turnips. It is useless to expect good Turnips off poor land, and although all soils are not equally adapted for the free growth of Turnips, yet they may all be improved. Where Turnips do not succeed generally, dressings of superphos, hate, burnt refuse, and even lime may be applied with advantage. A little salt is also beneficial, applying this latter at the rate of 1 oz. to the square yard. The most suitable varieties for present sowing are Red Globe, Orange Jelly, and Chirk Castle Blackstone. Snowball may also be sown for early use. Red Globe should not be sown less than 18 inches apart, 15 inches sufficing for the others, but, if possible, allow the wider distance. Sow thinly, keep a sharp look out for fly, and thin early with frequent hoeings. Dust with soot in the early morning to prevent attacks from fly.

**PREPARING GROUND FOR WINTER SPINACH.**—The ground for the main sowing of winter Spinach cannot very well be prepared too soon, so that it may be got into a well-pulverised condition, and become cleared of the grubs of the Spinach moth, which are apt to clear the young Spinach off wholesale. By forking over the surface the birds have an opportunity of picking it over. In old gardens a dressing of fresh slaked lime strewn over the surface and forked in will prove beneficial, this to be further augmented by dressing with burned refuse and soot at sowing time. Ground cleared of early Potatoes, Peas and Cauliflowers suits this crop, and as Pea ground is apt to become well trodden, a period of quite three weeks or a month is necessary for the soil to become prepared, as if at all lumpy the seeds are apt to germinate very indifferently.

**AUTUMN LETTUCE.**—Except in gardens where a regular system of keeping up a supply of Lettuce is in vogue, these are apt to fall off considerably towards the autumn. This should not be so, as by making either permanent sowings or

sowing for transplanting, a supply can be kept up. The site either for sowing where the plants are to remain or otherwise must be in an open and sunny spot. In my case the Lettuces are sown after the early Potatoes. The Cos forms, where these are desired, are the best for transplanting, the Cabbage varieties doing best where sown. In either case sow in shallow drills a foot apart, thinning out the plants as soon as ready. At this season all our Lettuces which are transplanted go between the Celery ridges, the plants evidently liking their position. If the soil on the Celery ridges should happen to be poor, a little manure may be forked just under the surface if thought necessary.

**MAIN-CROP ENDIVE.**—The seed of this must now be sown, selecting an open position fully exposed to the sun, and if on a sloping border exposed to the south the better. The soil must also be fairly rich, as on poor soil the quality of Endive is very inferior. I like to sow the seeds thinly in drills 15 inches apart in convenient sized beds, as the thinnings may be taken out and planted elsewhere for lifting and housing, leaving the remainder to grow where it is. Draw shallow drills and sow the seeds thinly, and if the weather and soil happen to be dry, moisten the drills over-night.

**VERY LATE PEAS.**—It is now too late to sow seed of the late Marrow Peas, but not so the dwarf earlies William Hurst and Chelsea Gem. Select an open sunny spot where the soil is rich and sow thinly in drills 2 feet or 30 inches apart. By arranging the rows on sunny borders, they are more easily protected from birds and also early frosts, as a few folds of netting can be easily stretched over them. A. YOUNG.

### ORCHIDS.

I WROTE about the paucity of bloom last week, but this need not discourage the cultivator, or be the means of his neglecting his plants; indeed the enthusiast in Orchid culture will be quite as much interested in growing plants as he will in those furnished with perfect blossoms. A gardener interested in his plants has also a keen eye to those not doing well, and has but little peace of mind until he has done the very best he can to get them into good health. The roots of the plant are out of sight in the flower-pots or small pans, and these want looking to first. Plants doing badly seldom make many healthy roots, and repotting them in good material, although a step in the right direction, does not always effect a cure. Careful attention to watering is needed, and a well-regulated condition of the atmosphere must also be seen to, and yet the results are not at all satisfactory. It is here that the natural conditions under which the plants are found come in so useful to the experienced cultivator as well as to him who has but few either of successes or failures to record. Some Orchids are found on rocks exposed to all the influences of the weather; others on the tops of tall trees well exposed to the light and to terrible tornadoes. A Mexican traveller described the *Lælia anceps* "Growing on the trunks of trees and on the very slender branches exposed to a powerful sun and to strong winds; often also clinging to rocks covered with the remains of leaves and Moss under the same conditions. During the rainy season from May to October, these plants are daily drenched by torrents of rain, of which they experience the full force often for five consecutive hours, and are thoroughly wet throughout the night. About 6 a.m. a sharp and fresh wind, coming from the highest peak of the Cordilleras, many of which are capped with perpetual snow, begins to dry the plants—a work which the burning sun completes, pitilessly shining on them for several hours, until the daily storm drenches them afresh." Under the above conditions *Lælia anceps* grows with extraordinary vigour, and if we could get such information as this about all the new Orchids, it would at least be a guide to us when treating the imported specimens. It would direct us to put the plants in a light position well exposed to the sun in the warmest part of the day, and how to water them when in growth.



which would be a great gain. Most Orchid growers know that a plant may succeed in one position and be almost a failure in another place in the same house. I have found Orchids succeed at one end of the house and do badly at the other; they will also give very unsatisfactory results at the sunny side, and do well where they are shaded from the mid-day and afternoon sun. Others, again, make poor progress either on the centre or side stages, but do admirably suspended from the roof glass, the pots in which they are growing placed in teak baskets. Amongst the *Lælia* recently introduced to England one of the most handsome is *Lælia grandis tenebrosa*, and except that we know the original species was introduced from near Bahia, in Brazil, that the varieties *xanthina* and *tenebrosa* are also Brazilian, and needing a higher temperature and moister atmosphere than *L. purpurata*, *L. elegans*, &c., the collectors tell us nothing else. We may take it that these and *Cattleya superba* would succeed well together. *L. grandis tenebrosa* should be in every collection, and such a handsome *Lælia* would be even more interesting to us if we could have a note upon its natural surroundings, such as I have quoted above as referring to *L. anceps*. This variety of *L. grandis* would need a different position in the Orchid house from that accorded to *Cattleya Aclandiae* and *C. superba*. The last-named species, as I have before stated, succeeds best attached to a short length of a dead trunk of a Tree Fern, and the other may be treated the same, or planted in teak baskets suspended from the roof glass. *C. grandis* throws up rather tall stems, and should be planted in pots, which may be placed either on the centre or side stages. Another plant flowering in our Orchid houses at the present time is *Aerides falcatum*, better known in collections under its provisional name of *A. Larpentæ*. Messrs. Veitch have done good service to those interested in Orchid culture by giving the history of this species, as well as that of many other popular Orchids, very fully in their new "Manual of Orchidaceous Plants." The plant was first exhibited as *A. Larpentæ* in 1847, and described by Dr. Lindley in 1852 under the name of *A. falcatum*, by Dr. Reichenbach under the same name in 1858, but its origin was not known at that time. Since then it has been imported under various names from Arracan and Upper Burmah. *A. Larpentæ*, *A. Mendeli* and *A. expansum* are different names for *A. falcatum*. *A. Houlettianum* is a well-marked variety, and is identical with *A. Picotianum*. Another well-marked variety is *A. Leonie*. So much we glean from the work alluded to above.

Perhaps the most superb of all the *Aerides* not yet in flower but in bud is *A. Lawrenceæ*. We know enough of the habitat of this plant to determine its position in the warm house, and not too closely shaded. If we may be permitted to make comparisons, what a contrast there is between this noble plant, also the nearly allied *A. Sanderianum*, and the small Japanese species *A. japonicum*, the one marking the coolest and the others the warmest latitudes. If the plants are growing in pots, the mass of broken pot-herds and Sphagnum Moss should not be very deep, as the roots of these plants are very liable to rot in decayed Sphagnum; I have known all of them dead in the decayed Moss, the only live healthy ones being those pushing out in the atmosphere, or clinging to the outside of the pots, and in repotting them very great care is necessary to preserve those roots, and if the lower leaves have decayed, the plants themselves must be set all the deeper in the pots. The tendency of the plants being to push out strong fleshy roots from the surface of the compost upwards rather than amongst the moist and live Sphagnum in the pots, roots will push along the surface and over the rims of the pots. At this season we are not very particular about the night temperatures, for both the warmest and intermediate houses run up to a high temperature when the houses are shut up in the afternoon. This is only caused by sun-heat, as there is but little heat in the hot-water pipes anywhere. The temperature may fall to 65° in the warmest house and to 60° in the *Cattleya* house before the morning, but it is for an hour or two

only, as there is sometimes a considerable rise by 5 a.m. The cool house is not shut up to raise the temperature, for the blinds are not drawn up until the sun has little or no effect upon the glass. The highest temperature now is in a house where the *Dendrobiums* are placed to make their growth, and in this house are the *Vanda teres*. The temperature rises on hot days to 100°.

J. DOUGLAS.

#### PLANT HOUSES.

GREENHOUSE PLANTS.—Those of the hard-wooded section, as Cape Heaths and New Holland plants, which have been treated as previously advised, will in some instances be in need of a shift. When this is seen to be the case no time should be lost in getting it done. This kind of work should be finished by the end of the month to allow the plants sufficient time to become partially established in the new soil. Whilst recommending repotting, it will not do to be led away with the idea that by the performance of this work those plants which may happen to be unhealthy will always be restored to vigour; far from it in some instances. Take, for example, a plant that is not looking altogether well, yet is in a sufficiently large pot; to repot such an one into a larger size would be bad practice. It is possible that such a plant may not want potting at all, but more careful treatment in the way of watering. When it is seen that an established hard-wooded plant does not dry up so quickly as it should do, if may be taken for granted that something is not right at the roots. More care in such a case is needed as to the watering, whilst it is best to keep a plant when in this state under cover, so that it can be treated exactly as one would desire. On the other hand, if the plants have suffered from want of water, it should be seen to that they are well soaked to the centre of the ball. It may be necessary to stand the plant in a tub of water to do this effectually. In some cases the soil upon the surface may be loose with a tendency to sourness; this should be carefully removed down to the active roots and fresh soil added, pressing it down thoroughly firm with the butt end of a potting stick, a dash of silver sand being first sprinkled over the surface. This will in some cases save a potting, particularly where it is not desirable to increase the size of the pots.

When repotting is done in the case of hard-wooded plants sufficient time should be given to it, so that it can be performed in an effectual manner. The neglect of this will cause future trouble even the best of soils will not make amends for the careless or indifferent performance of this work. I would rather have a soil not so good with careful potting than that such should be the case. Large shifts are not in any sense essential; if an inch or slightly less can be secured around the old ball it will suffice, and be found far better than any excess. This having been duly attended to, the soil should be gradually filled in and be rammed down quite firmly after any has been added. Care must be taken not to bury the collar of the plant; all that is needed is the smallest possible surfacing upon the old ball with the fresh soil next the pot somewhat higher, so as to throw the water towards the centre, rather than let the larger portion percolate through the new soil around the old ball. In most cases the soil used will be peat; this should be as fibrous and enduring as it is possible to get it, all sour-looking portions being cast aside; silver sand should also be freely used. In any case where loam is used it should be full of fibre and not too heavy, otherwise it cannot be worked so readily. All the plants to be potted should be well watered if at all dry before a start is made. After potting it will be advisable to watch closely the state of the weather when the plants are left outside; should the rainfall be heavy and at all continuous, it will be safer to have them under cover in good time, otherwise in favourable positions and localities the best growth will usually be made outside. Indian Azaleas, where they are in need of a shift, may be

very well attended to now; the stronger-growing varieties will take kindly to a little lam, and thus growth will not become too luxuriant. When repotted immediately after flowering, there is sometimes a tendency towards a strong growth in any case, and that at a cost of bloom buds a little later on. Early-flowering *Epacris* and *Ericas* should have been attended to some time ago, but if this work in their case has not been done it may still be seen to, and that with advantage if the plants are at all starved. These useful plants should now be freely exposed to sunlight and air; this will tend to the hardening of the growth and the perfecting of the bloom buds. If the plants of such *Ericas* as *E. hyemalis* do not assume such a deep dark green tint as in the case of many trade-grown examples, it does not follow that they will not be quite as satisfactory. This dark colour in the foliage is only the result of applications of sulphate of ammonia, which at the time excite the plants, but leave them the sufferers later on when changing hands, particularly where the watering is not attended to with care and regularity. Do not allow any hard-wooded greenhouse plants that are still under glass to be at all shaded; it always tends towards a weakly growth that cannot afterwards be rectified. This, like bad potting, often causes failure which might easily have been averted.

The remarks thus far have borne chiefly upon specimen or half-specimen plants, but younger ones have also to be considered, for if young plants are not carefully attended to the foundation of a future specimen cannot be successfully laid. In dealing with young plants avoid excessive or too frequent potting, although it will require to be done more frequently than in the case of specimens. Attention should be given to regulating the growth so as to form a good groundwork, strong shoots should be stopped to encourage weaker ones, whilst the growths should be drawn outwards, for if allowed to assume too upright a position the tendency always is to grow too strongly. Watering should be attended to as carefully as in the case of larger plants, but when dealing with these smaller ones it is possible to keep them in pits where the lights can be run on in rainy weather. In all cases adopt the most stringent measures against worms getting into the pots; they are a source of great trouble.

J. HUDSON.

#### FRUIT HOUSES.

FRUITING PINES.—June proved to be a very bright month, the amount of sunshine registered being abnormally great. The nights were very frequently cold, this necessitating a rather free use of fire-heat, and all things considered a rather trying time was experienced. One natural result of so much sunshine was the rapid ripening of the more forward fruit, but if at the present time there is, or likely to be, a glut, much may be done towards either retarding or keeping the fruit. Shifting a portion of the Queens to a comparative cool and airy house after they have commenced colouring may slightly affect the size of the fruit, but not the quality, the most juicy and best flavoured fruit being cut from plants kept during the latter part of the ripening period in a dry, warm greenhouse. Fully-ripe fruit to be kept as long as possible should not be cut, but the plants bearing them should be transferred either to a freely-ventilated vinery or a dry fruit room. In all such cases detach the suckers, or otherwise they will experience a severe check. Successional fruit now swelling rapidly should be kept in a brisk heat and rather moist atmosphere. Let the night temperature range from 75° to 70°, fire-heat being used in moderation, the figures during the day-time not exceeding 85° with air, and closing early enough to raise the temperature to about 95°, syringing the beds, walls and floors very freely at the same time. Attend closely to the watering, allowing the plants to become quite dry at the roots before the fruits are fully ripe being a great mistake. Also use liquid manure freely, guano water being particularly recommended. Any plants not yet showing fruit should be kept short of water till they do start,



or otherwise they will soon require more room than they merit. Strong well-rooted plants of Smooth Cayenne and Charlotte Rothschild that have been kept somewhat dry ought now to be plunged and kept in a brisk heat, or much as recommended for those now swelling off, and this should cause them to show fruit soon, these ripening during the winter.

**YOUNG PINES.**—Those early placed in their fruiting pots ought now to be growing strongly, and will be all the better for a thin shading during the hottest part of the day, but avoid using anything of either a permanent or heavy nature. Continue to keep up a brisk heat as much as possible without the aid of hot-water pipes, but turn on the heat rather than allow the night temperature to fall much below 75°. The plants must be kept carefully supplied with water, allowing them to become very dry causing premature fruiting, at the same time avoid saturating the new soil. Overhead syringing must not be too freely indulged in, or otherwise the excess of water that will inevitably accumulate in the axils of the leaves will have a bad effect on their growth, also favouring the undue production of suckers. Three times a week, the weather also being bright and dry, is quite often enough to resort to gentle overhead syringing, but the walls, floors, and other dry places may well be syringed freely twice daily. The earliest started Queens will soon nearly all be cut and the suckers on the plants be fit for taking off. For these prepare the requisite number of 6-inch and 7-inch pots, draining these carefully, and also a compost consisting of good fibrous loam with a sprinkling of bone-meal added. The soil used ought to be in a moderately moist state, in which case no water will be required or given to the suckers till they are rooted. Very lightly trim the suckers and pot firmly. Plunge in a bottom-heat of 85°, and the suckers ought not to be far from the glass, good room also being allowed them. Lightly shade during the hottest part of the day and sprinkle them overhead every afternoon. Extra strong suckers—and many would be improved by being kept for a time longer on the old plants and in a brisk heat—may be placed in 8-inch pots and be grown large enough to fruit earlier than the rest.

**THE VINERY.**—When the earliest Grapes are cleared off the foliage ought to have a thorough syringing with clear water, and if red spider is very troublesome either repeat the syringing every morning, or else well coat the underside of the leaves with sulphur. A handful of flour of sulphur worked through a muslin bag into a 3-gallon cask of water will mix sufficiently well with the latter, and the Vines being syringed about twice with this, enough sulphur will be left on the leaves to effectually check the ravages of red spider. Plenty of air should be admitted both by night and day, the aim being to keep the Vines in a healthy state without greatly hindering an early state of rest. On no account neglect the roots. This is their period of greatest activity, and not a little depends upon their action while the foliage remains fresh. Therefore loosen the surface of the border if necessary, then give a good soaking of liquid manure, and keep them well supplied with either that or soft water for some time longer. Grapes are colouring rapidly in the successional or midseason houses, and the present is a rather anxious time with some cultivators. Madresfield Court is liable to crack badly during the ripening period, especially during dull showery weather. Never once should the houses containing these be quite closed, and fire-heat ought also to be kept constantly on, a very little of it sufficing in clear weather. With the help of this fire-heat and both front and top air put on in greater or smaller quantities, according to the weather, a good circulation of dry air will be maintained and there will be no more cracking. A free circulation of air by day, small quantities of both front and top air being admitted by night, is also most favourable to the colouring of black Grapes generally, and these also ought still to have a little fire-heat whenever the weather is dull or cold. These should be kept well shaded by their own leaves, but more light and sunshine ought to be admitted to the bunches

of white varieties, or these may fail to colour satisfactorily. Muscats must have plenty of heat and air in order to develop their best qualities.

#### PRACTICAL.

### ORCHARD AND FRUIT GARDEN.

#### PEACH TREES AFTER FORCING.

THIS is the time when the trees are apt to get neglected, either from want of water at the roots, or through being overrun with insects—two evils the grower must guard against. Trees which are neglected at this time will never succeed well, for if insects should gain the upper hand, the premature loss of foliage will be the result, and will surely lead to bud-dropping later on. There cannot be any question as to the advisability of exposing the trees as much as possible, but I believe that the wood of these early trees can be over-ripened. The buds become as it were too plump, and although this may be looked upon by many people as a criterion of the trees being in a very satisfactory condition, I do not think so. If the wood be fairly well ripened, the longer the leaves are retained in reason the better. Trees on open walls rarely lose their leaves very early, as generally it is the latter part of November, or even into December before they all part readily; yet this does not prevent the trees from forming fruit buds and flowering most profusely. In many of the more modern structures it is quite evident that insufficient ventilation is provided. The result of this is, that the structures remain very hot and dry throughout warm days. Although it is only on rare occasions now-a-days that the roof lights of early Peach houses can be removed bodily throughout the summer months, the least which can be done is to let down the roof lights as far as they will go, and also open the front ventilators to the same extent. If the borders be kept well moistened, and the foliage also well syringed two or three times a week, the leaves will remain fresh to the last. When leaves commence to fall early it is a sure sign that something is wrong, either through drought or insect agency. Red spider is one of the worst insects to contend against, this very quickly sucking the life's blood out of the leaves, with the result of their dropping very prematurely. With any insects present, care must be taken in the use of insecticides, or the remedy will prove as bad as the evil, the leaves dropping very quickly. If red spider should be present, the safest remedy is to work a double handful of sulphur into a 3-gallon can of soft water. By working the sulphur through a piece of muslin it mixes readily with the water, and may be evenly distributed over the foliage through a syringe. This should be left on for a few days, and the trees heavily syringed afterwards. Tobacco water is a good remedy for thrips, but I am also very partial to a decoction of Quassia chips and soft soap. A pound of each boiled for ten minutes, and afterwards strained, will be sufficient to make a dozen or fourteen gallons. I cannot speak so favourably of the Quassia extract, and which I was led to try after reading glowing reports in its favour. This season I have given it a fair trial according to directions for a slight attack of fly. It killed the fly certainly, but it caused many leaves to fall from both a Pine-apple and Victoria Nectarine. Peach and Nectarine leaves are certainly very sensitive. The old remedies of tobacco water, Gishurst compound, and the decoction of

Quassia chips and soft soap are hard to beat. Where scale is present little can be done until the leaves are on the point of falling, for any insecticide applied strong enough would cause more leaves to fall prematurely than the grower bargained for, but the remedies for other insects would check its progress until more vigorous measures could be adopted.

With these early trees the cutting out of the old fruiting wood or such as is not required for extension should be deferred until later on in the season, as, unlike the later trees, the extra wood would be of more benefit than otherwise. Also pay particular attention to the watering, not surface dribbles, but thorough soakings, applying them through a mulch of stable litter, this latter being of more benefit than layers of cow manure and such like, these closing up the surface and so preventing that aëration so essential for the well-being of the trees. If the soil is known to be rather exhausted or of a sandy description, then frequent applications of clarified liquid would be of benefit, but any indiscriminate use of liquid manure is positively injurious, it having the effect of souring the soil. Rain or pond water is the best, sufficient being given to thoroughly moisten the whole border. By attending to the above rules in the cultivation of Peaches under glass the trees will remain healthy and retain their leaves to the last. Instead of the early dropping of the leaves being a criterion that it is through the wood being in a satisfactory condition, it is just the reverse.

Y. A. H.

#### INSIDE BORDERS FOR VINES.

THERE will always be a difference of opinion as to the superiority of inside borders over those outside, though it would appear that very many gardeners are somewhat shaken in their old prejudices against the former. That outside borders are the safest and best, as far as amateurs and either careless or inexperienced gardeners are concerned, there is no disputing, but that they are to be recommended generally is quite another matter. It is very certain that they are unsuited for the earliest Vines, and equally so that Grapes with their roots in an inside border hang longer than is the case when the roots are wholly or largely outside. I hold that far too much has been made of the Vine's tendency to form roots the most freely and extensively in outside borders, and the originator of the practice of forming both inside and outside borders has much to answer for. It is a poor and also an expensive way out of what to many is a dilemma. Either the roots ought to be rigidly confined to an inside border, or else they ought to be kept outside altogether. Many people have taken a vast amount of pains with the inside border under the impression that they were greatly benefiting the Vines thereby, only to find that the greater part of the active roots is in the outside border. Then, because the discovery is made that the roots have a predilection for the outside, the conclusion was arrived at that it is the best place for them. I repeat was arrived at, the past tense being most applicable in this case for the simple reason that we are becoming more enlightened in the matter.

The effects of the very wet summer and autumn of 1891 have been only too apparent in the case of many Vines with their roots largely or wholly in outside borders, bunches being too few and the quality far from satisfactory. There is also a weakness about the growth, the wood not colouring or ripening at all satisfactorily, all of which, I think, may safely be attributed to the badly-saturated borders. Outside borders



are largely at the mercy of all weathers. If we take precautions to ward off excessive rainfall, heavy snows and severe frosts, these very precautionary measures may easily do more harm than good; at any rate, such has been my experience, while if left quite uncovered, saturation at critical periods may work untold ills. In the case of two vineries under my charge the roots are wholly and unavoidably outside, and we have to proceed very cautiously to work to avoid failure. Quite recently we were under the necessity of giving a second thorough soaking of water, the rainfall having been unprecedentedly low up to midsummer. The very next day thunderstorms were threatened, and although the gardens and country generally wanted rain very badly, to me it was a positive relief that we escaped the storms at that time. Had a soaking rain fallen on our already thoroughly moistened borders, shanking would have commenced in a few hours. I mention this in order to illustrate the difficulties under which those in charge of outside borders labour. Last season there was no preventing saturation, and shanking took place in the case of Black Hamburgh very badly, while the Muscat of Alexandria, Gros Guillaume, Madresfield Court and Gros Maroc also behaved rather unsatisfactorily in that respect. Not being obliged to start the Vines very early this year, nothing approaching a failure has occurred; but the case is very different in other gardens where Vines in outside borders were started early. According to my experience, forcing in the case of Vines with their roots, or what are alive of them, in a saturated outside border must be very cautious indeed, or otherwise tendrils and air-roots, rather than bunches, will be the order of the day.

What may be considered the strongest argument against inside borders is the fact they must be given abundance of water, or far more than is ever considered necessary for those outside. That they do require to be kept properly moistened there is no denying, but that they require such immense quantities of water as some writers advise should be applied I unhesitatingly deny. No hard and fast line can be laid down as to the quantity an inside border should receive, so much depending upon the quality of the soil used and the extent of the Vine's root-action, but there ought to be no mistake about when water should be applied. Never once should the soil become sufficiently dry to crumble freely in the hand when tested. Once let the border become so dry as that, and re-moistening may easily exhaust the so many thousand gallons we sometimes hear of being needed at one watering. Dryness ought always to be anticipated, and not waited for, as very often happens. Why should a border be treated differently to soil enclosed in a pot? In the latter instance if we wait till it gets thoroughly dry or sufficiently so to shrink considerably, several lots of water have to be given and very much wasted before it can be properly re-moistened. It is exactly the same with inside borders. Having to use sufficient water to flush the drains underneath is simply so much labour and fertility wasted, the water carrying away much that ought to remain in a border. My contention is that if the water is timely applied a very little will go a long way. All have not a tank of soft water conveniently near, and lately water of any kind has been very scarce in some gardens hereabouts, but surely enough is forthcoming in most cases to water inside Vine borders. Our soft-water tanks were soon exhausted this season, and cold spring or well water I strongly object to for watering. My way out of the difficulty has been to fill a

galvanised iron tank, holding about 40 gallons, and this being set where it got the benefit of the heat from two hot-water pipes was well warmed in a few hours, while the addition of a 10-inch potful of soot, worked up into a paste, rendered it soft and otherwise beneficial to the Vines. Four of these tanks thus prepared are found ample for a Vine border 34 feet by 14 feet. This border has been made for about nine years, and wholly supports twelve strong Vines.

Undoubtedly, if the inside borders are neglected, that is to say are very seldom loosened on the surface or renewed, top dressed or mulched in any way, water also being too seldom applied, the Vines would do better with their roots outside. It must also be conceded that it is no easy matter to confine the roots wholly to an inside border, no matter how well the latter is treated, but, all the same, I would strongly recommend all intending planters to make the attempt. All the water of the roof of a vinery ought also to be stored in tanks, these being necessarily or preferably outside, as they would take up too much room in all but the largest houses, handy pumps and galvanised iron tanks for warming the water being fixed inside.

W. IGGULDEN.

**Physalis edulis** (the Cape Gooseberry).—Would someone kindly inform me where I could obtain above, and give a rough outline of its cultivation? T. R.

\*\*\* This plant is known as the Cape Gooseberry, though why I do not quite understand, as it is a South American plant. It belongs to the Solanum family, and succeeds very well under the treatment usually given to Tomatoes. The plant grows freely enough from seeds if they are new and good, but I have more than once known purchased seeds fail to grow from having, I expect, been too long in the packets. There is very little demand for the seeds, and seedsmen sometimes keep them in their drawers too long. Still good seeds can be obtained from any good house or young plants can be got from any good nursery. When I grew this plant largely for its fruit I gave up a small house to it, planting it out and training it up near the glass. A small span-roofed house is best for it, as, like the Tomato, it requires plenty of light. The same plants under glass may be kept going on more than one season, but it is better to start every year with young plants, and it roots freely from cuttings either in spring or summer. Though it is best to give up a small house to the plant when grown for dessert, it can be grown very well in pots or tubs in the greenhouse or in the orchard house, and I have gathered good crops when planted out and trained thinly against a south wall in summer. It will grow in any good loamy soil with liquid manure when bearing freely.—E. H.

**Gooseberries.**—Will the writer who was responsible for the note on "A good Gooseberry" say if Bank's Keepsake is of strong or weakly habit? When the collection of dessert varieties was planted nine years ago to stand as trellis-trained fruit, I included one or two varieties remarkable either for size or quality, which under the above system of training have not, from their thin, weakly growth, been altogether a success, so I am gradually weeding these out (fortunately, the proportion is not more than one in ten) and replacing by varieties that combine good quality with a robust constitution. Doubtless if the fruit had been removed from these more delicate sorts for a couple of seasons, they would, like their stronger brethren, have soon furnished the space allotted them, but they certainly do not take kindly to the rigorously restrictive pruning essential in this trellis system, and, as I say, must be replaced. The mention of Whinham's Industry in conjunction with Bank's Keepsake led up to the above query, for I have given Industry a trial on the trellis and find it admirably adapted for the purpose. Treating of bush Gooseberries early in the season, more

than one cultivator recommended non-pruning, and doubtless a large return is obtainable from such large bushes for green pickings, but that the Gooseberry is equally amenable to hard and persistent pruning is shown by the abundant crops taken annually from the varieties of strong habit and robust constitution that are trained on the trellis. It is rather remarkable and a fact not easily accounted for that this trellis crop is invariably good, whatever the season may have been at setting time. This year, for instance, bushes in the open quarter are very thin, the crop being much below the average, but there seems no falling off on the trellis, the fruit here, as usual, hanging very thickly. The nets will soon have to go on to protect from birds. Before this is done I summer-prune the trees, and I also like, if possible, to give a surface mulching of half-rotten manure and a soaking of water if the weather be hot and dry. These trellis Gooseberries always furnish us with a plentiful supply of dessert fruit, beginning with Early Sulphur and Wilmot's Early Red, and ending with a large white variety that is several days later than Warrington. Most of what may be termed sensational sorts, that is, from a size standpoint, ripen between the four varieties named above. We are never troubled with caterpillar on the trellis, and the only enemy that is occasionally a nuisance is red spider, but this generally yields to a weak solution of paraffin oil insecticide, vigorously applied through a garden engine or a large-nozzled syringe.—E. BURRELL, *Claremont*.

#### PREVENTION OF SCALDING IN LADY DOWNE'S GRAPE.

It may be necessary at this season to send a note on the necessity of taking extreme care with the above Grape now that the most critical stage, i.e., the closing of the stoning process is upon us. It is very vexing to have the Grapes spoiled at this season of the year from the want of a little extra care and attention by those in charge, especially as this is one of the most valuable Grapes in cultivation either for home use or for market late in the season. Long and comparatively full bunches of this Grape have a good appearance on the table. Very often, however, the bunches are of the most meagre description, mainly through the greater part of the berries having been injured by scalding. As a rule, the bunches are well thinned at first, but when these are further considerably reduced through scalding it is very annoying. Some structures contribute to the evil, while some people are ready to attribute the evil to disease, but this is not so. Why it should be subject to this evil more than the majority of other kinds I am not in a position to state. During the stoning period, or rather when the stones are becoming well hardened, is when the injury occurs. Heat or rather sudden fluctuation causes scalding, and it is not only the skin itself, but the flesh of the berry which is damaged. The injury is also aggravated by bright sun, but not always, as it may occur easily if the structure should be damped down rather early and the structure closed, so as to advance the temperature by sun-heat. This advancement is not at all needed during the stoning period, as whilst this is taking place, the steadier or more equable the temperature is kept the better. The berries at this stage do not increase in size, so any attempt at closing early with sun-heat, applying plenty of moisture in the atmosphere at the same time, is most certainly misdirected energy. It has been said that this variety requires a structure to itself to do it justice, but this is certainly an error, as it may be grown well with such varieties as Alicante, Mrs. Pince, or even Gros Colman.



Scalding is a subject which I have paid considerable attention to, and I have tried various remedies to combat the evil, and so far with success. I have satisfied myself with the cause, and that is the sudden rises of temperature. When this takes place, the moisture, on account of the berries being colder than the atmosphere, condenses upon them on a rise of temperature; hence the conditions that give rise to scalding. Lady Downe's requires artificial heat right throughout the season of growth, and any lessening of this, even during the hottest months of summer, is not at all conducive to the well-doing of the Grape. Especially is this necessary during the night and on dull days, and if coupled with rain, it is all the more desirable to maintain artificial warmth. This being so, I make it a rule to maintain a

to be increased the following morning as the temperature commences to rise. The ventilation must also be reduced in the afternoon in the same ratio, any attempt at damping down and closing early with sun-heat leading to disastrous results. Take off the ventilation at intervals as the temperature becomes lower, leaving sufficient on during the night to cause a buoyant circulation. Some people shade this Vine when the berries are stoning either by syringing whitening over the glass or by stretching over it a fold or two of fish-netting. This may answer in some cases where the vineries are not very exposed.

It will be advisable to point out where danger is also likely to accrue, and this is on stormy days with alternate gleams of sunshine. Upon a sudden storm occurring, the lights in

this species back with him, so I should say it was a native of that region.—W.

#### ARCHES OVER WALKS.

THE annexed illustration gives a good idea of what may be done to break up the monotony in the appearance of a walk. An old Apple tree has had its branches trained over in arched form on one side, and the arch is completed by some iron wire over which a *Tropæolum* is trained. Nothing could be simpler than this, or prettier in its way. Walks with covered arches at intervals in this way would be a charming feature in any garden, and in some cases fruit trees might be planted on either side of a walk and the growth arched over, or intermingled with some one of the many good garden climbers we now possess.

#### TREES AND SHRUBS.

##### PLANTING EVERGREENS IN SUMMER.

I AM not aware that anything new can be said in favour of planting evergreen trees and shrubs during the summer months. The questions bearing on this matter are two—the probable results as compared with spring planting, and the effect that a hard winter has on newly-planted subjects. As regards the first, I have no hesitation in saying that the best results will be obtained from summer planting in all cases where the plants to be moved exceed 6 feet in height, provided they have only to be moved from one part of the grounds to another; but in the case of large plants that have to be brought long distances by railway, I should prefer to wait until the middle of September. When practicable, I prefer to prepare all the plants to be moved if they have stood in the same position more than four years, and if they exceed a height of 6 feet. The preparation should be made in the previous October, and should consist in digging a trench round the stem of the tree 2 feet deep and 1 foot wide. The distance that this trench must be from the tree will depend on its age and size; for a tree or evergreen shrub 8 feet high, the inner side of the trench should be 2 feet from the stem all round, and the width should be in proportion to the height. In digging out the trench all roots met with should be cut clean asunder; the trench may then be filled in again and left in that state. It will be found, when the time arrives for removing the tree thus operated on, that every root cut asunder has broken out into a mass of fibres, and it is considered that these fibres are of far greater benefit to the tree after removal than the single root would have been if left undisturbed until the time of lifting. Experience proves this, for in practice I find that all trees or shrubs prepared in the way just described suffer much less than those not so treated; in fact, the percentage of living trees thus managed is far in advance of that of the other.

The question as to the effect that a hard winter has on newly-planted trees is one that demands the serious attention of intending planters. It must be taken for granted, I think, that a shrub or tree only recently removed is not in so good a condition to withstand the severity of a long winter as one that had not been disturbed. In my own experience I have had trees removed during the late summer months that have stood to all appearance sound and healthy up to the time when severe frost has set in, then become brown in the foliage and ultimately die. This,



Arch of an old Apple tree and *Tropæolum* trained over a wire.

comfortable warmth in the pipes at night, lessening it more or less in the morning according to the day, for obviously on the appearance of a bright and warm day artificial heat would not be needed until the following night, when the pipes must be again made comfortably warm to keep the berries from becoming too cold. In a structure devoid of artificial heat at this critical stage, ventilation is not put on as it should be; consequently the temperature rises rapidly by the morning, and a sudden burst of sunshine occurring, the mischief is done before the grower is aware of it.

Some people have gone so far as to state that leaving a chink of air on at the apex of the roof is sufficient, or even only a light or two over where the Vine or Vines are growing, but this is a fallacy. If a comfortable warmth be maintained in the pipes, a little air may be left on both the front and top ventilators throughout the night,

the majority of cases have to be drawn up closely to prevent rain from entering, unless the structure should be provided with wet-weather ventilators. If directly the storm is over the lights are not lowered, the berries will be scalded wholesale with a sudden burst of sun.

Y. A. II.

*Miltonia cuneata* (J. P. Holford).—This, called by you an *Oncidium*, is the name of the plant you send. It is a very pretty species. The sepals and petals are nearly equal, the ground colour bright brown, with a few yellow transverse stripes, the tips being also yellow, the lip pure white. This species first flowered in the Messrs. Rollisson's nursery at Tooting, but they apparently did not know from what district in Brazil it came, and there appears to still be a doubt. I knew a gentleman who used to go every year to Rio Janeiro to spend the winter, and he always brought



however, to my mind does not to any serious extent injure the cause of summer planting, because it is only in the severest winters that trees thus suffer. On the contrary, it cannot be too well known that there is a decided gain by adopting summer planting. If a tree is moved towards the end of July, it will in a great measure have completed its growth for the year; and if moved as soon as it has done that it will get, other conditions being favourable, pretty well re-established before growth commences next season, and under ordinary circumstances it may be expected to make a fairly good growth the first year after removal; but in the case of autumn or spring planting it generally takes the whole of the next season to recover, and makes little or no growth. There is just one particular time in the summer eminently favourable to removal—I mean that period of the tree's first summer growth when it comes to a standstill. Many trees make two growths in a year, and the best time to move them is in the interval between the first and second growth. A little observation will enable anyone to detect when that time occurs, but as the habit of different trees varies, the selection of the time for removal may extend over three or four weeks, according to the character of the subjects to be operated upon. J.

**Rosa grandiflora.**—Judged by the specimen now flowering in the Arnold Arboretum, there is no shrub more beautiful at this time than this, with its great single white flowers as handsome as those of the Cherokee Rose and far more fragrant. This fine plant, in spite of the fact that it is an old inhabitant of gardens, is rarely seen in these days, although the growing taste for single flowered Roses must soon bring it into general cultivation. In 1825 it was figured in the *Botanical Register*, t. 888, by Lindley, who thought it might have come from Siberia, although he was uncertain of its origin. It is of the same section as the Scotch Rose (*Rosa spinosissima*), but far exceeds all the varieties of that handsome plant in the size and beauty of its flowers and in the boldness of its dark green foliage.—*Garden and Forest*.

**Spiræa nutans.**—Several of the shrubby *Spiræas* are still in bloom, and among them may be especially mentioned this Nepalese species, whose most distinctive feature is well expressed by the specific name of *nutans* (nodding). It is also known under the names of *vaccinifolia*, *nepalensis*, and *canescens*. The *Spiræa* in question forms a bush 6 feet or 8 feet and even more in height, and though the principal shoots are upright, the branches are produced therefrom in a spreading manner, and while they droop towards the points, the minor branchlets, which are very slender, are still more pendulous. The small roundish leaves are of a light green tint and arranged in a somewhat regular manner along the shoots. It flowers very profusely, the blooms being arranged in dense flattened clusters, which extend for a good distance along the shoots. Although it flowers at the present season, a succession of blooms will be kept up for a considerable period, that is, if it is planted in a fairly good deep moist soil, as, like all the other members of the genus, conditions such as this are necessary in order to see any of the *Spiræas* at their best.—H. P.

**Robinia Pseudacacia semperflorens.**—This is a very well-marked variety of the common False Acacia, and withal a most desirable one, as it continues to bloom from midsummer or thereabouts till summer is well advanced. At no time does the tree bear a great wealth of bloom, but at the same time there is sufficient to yield a good display, which is the more marked from the fact that the long racemes of white blossoms are very conspicuous against the dark green of the foliage. It forms a desirable medium-growing lawn tree, and the fact that it does not require to attain any great age before flowering is also another point in its

favour. Besides this, numerous other varieties of the common *Robinia* are in cultivation, notably *Decaisneana*, a large bold-growing form, with massive clusters of pink blossoms; *Bessoniana*, which forms a free, yet compact growing tree with large foliage and branches destitute of spines; *aurea*, one of the most beautiful golden-leaved trees we possess, the foliage being of a soft pleasing tint and the habit of the specimen also very light and graceful; *fastigiata*, an upright growing form; *microphylla*, a delicate-looking variety with slender foliage; *sophoræfolia*, whose leaves are very like those of *Sophora japonica*; *pyramidalis*, less upright than *fastigiata*; *monophylla*, in which the leaflets are blended into one, as in the case of the entire leaved *Ash*; and *umbraculifera* or *inermis*, which is usually grafted standard high and forms a rounded head of deep green foliage. A very peculiar form is *tortuosa*, whose branches are crowded together and full of abrupt twistings and turnings. This character is especially noticeable in the winter when devoid of foliage. At the best, however, this form can only be looked upon as a curiosity, and much the same will apply regarding the variety *crispa*, with curled leaves. A good selection from the above would be *aurea*, *Decaisneana* and *semperflorens*.—T.

#### BAMBOOS.

It is now possible to draw some conclusions concerning the hardiness of Bamboos after two such severe winters as we have had. We have observed them closely and throughout a long period, during which it could not only be seen to what extent particular kinds were injured, but also with what rapidity they recovered from temporary disfigurement upon the return of the growing season. Information upon these points will be of value to future planters and guide them in the selection of sites, not only for the family as a whole, but also for particular individuals, which, favoured even only to a slight degree, can in consequence be preserved in all their freshness and beauty through winter and early spring. It is during autumn and up to mid-winter that Bamboos appear at their best. The still dry hard frosts, such as we had last year, previous to and about Christmas-time, only intensified the effect by making the green leaves richer and deeper in colour. The trying time is when the sun is gaining power. There may be snow and frost, and the sun gleaming out fitfully for a few moments or hours thaws sufficiently to moisten the leaves, which, like those of scores of plants whose hardiness is never questioned, are then injured, and ultimately, with the inevitable easterly winds of spring, become brown. Of those that we have, all kinds do not suffer to the same extent. In regard to most of them, it is only the leaves produced late in the season upon canes of the current year's growth that suffer at all, the old, well-ripened canes retaining all their verdure. These small traces of slight injury are quickly effaced, for now all injured leaves have fallen, new branches are growing and fresh leaves are being put forth to clothe them. Beyond this, however, it is apparent that some kinds are harder than others, and the opinion previously expressed, that, all things considered,

**B. VIRIDIS GLAUDESCENS** is one of the hardiest, most graceful, and therefore most useful kinds, is not far wrong. Great plants of this kind have several times been levelled to the ground and literally buried in snow, but on relieving them of their burden they have risen up again to their former statelyness.

**B. AUREA**, too, is indeed of great merit, and equally as hardy as the preceding kind. We think in the early spring months this kind really looked the best, and some of last year's canes 14 feet in length did not suffer. It is readily distinguished from the previous kind more by its habit of growth than by the colour of its canes, which do not probably get so yellow with us as they would in a sunnier climate. It grows very erect and does not spread widely, new canes springing up among or just round the base of the old ones.

**B. QUILLIOI** is improving as it becomes established. At first it made its young canes so late in the season that they did not ripen sufficiently to withstand quite a moderate amount of frost. Last year, however, we noticed with pleasure it was amongst the early ones in starting, and several young plants have now strong 12-foot canes that ripened, and are now alive and making fresh leaves. One plant of this kind has already made a good cane within the past month. At present it measures 11 feet in height, but is not yet fully grown. This is a bold and striking kind, distinct in the disposition of its branches, which spread out horizontally almost at right angles to the cane.

**B. HENONIS**, the graceful and little-known Japanese kind, has proved hardy enough to be classed among the best.

**B. VIOLESCENS** often suffers to a considerable extent, and it has done so more in the past winter than the preceding one. No other kind that I have seen starts into growth so early and rapidly as this. A month ago I cut out several old canes from different plants, and one or two of the plants had fared so badly that little was left of them above ground. Below, however, all was well. At the time of removing the old canes, tips of young ones were to be seen piercing the ground, and these now vary in height from 4 feet up to 11 feet. Some of the plants have thrown up several to this latter height, and they are now branching and putting forth leaves. By late summer and autumn all traces of injury are past, and this kind stands out as ornamental as the rest, and distinct from them by reason of its purplish-black canes. Those who could afford it a slightly sheltered spot might find it always satisfactory.

**B. SIMONI** has the fault of the preceding kind, but not the redeeming feature. At present our plants look by far the worst. In a good state it is a striking and most distinct kind, very erect in growth. We were informed by a gentleman that in warmer countries than ours this Bamboo is often seen very fine. It keeps its erect habit, and the canes lose their lower branches, but upward bear thick, profuse clusters of lovely leafage. Its aspect then is quite unlike that of any other kind. The very opposite of this takes place with us. Long slender canes shoot up straight in late summer, and do not branch out. The winter comes, finds growth immature, and quite half—that is, the upper half—of these young canes is killed. Unless they are cut back to the ground they branch below, and so the plant becomes a thicket of growth, but does not show its true character or merit much praise.

**B. METAKE** is thoroughly hardy. Once established, there is apparently a likelihood of its springing up far and wide, and as its creeping underground stems can pierce the hardest path, it is springing up through gravel walks; and in another situation a large group, with mown Grass in the foreground, is settling the question as to how to break formal edging, for the runners have got through the hard trodden turf, and scores of shoots are coming up. This group was planted in poor black boggy earth in which little else would grow, and nothing so satisfactorily as this Bamboo.

**B. RAGAMOWSKI** is the best of the dwarf kinds, and the winter has done it no harm. Once established and flourishing, it soon makes an effective mass, running wide and shooting up here and there, these shoots bearing the largest leaves, some last year being nearly 18 inches long.

**B. TESSELLATA** has been very ornamental all the winter, and, with a dense dwarf spreading habit and bold appearance, it might have been as valuable as the preceding kind. But the fresh leaves are fading, their edges have a distinct withered margin, which looks so much like death that it mars the whole appearance of the plant. It seems a natural defect, no matter whether the plant is in sun or shade.—*Field*.

**Rhododendron cinnabarinum.**—There are several Himalayan *Rhododendrons* (perhaps only forms of one species) that differ greatly from



all the rest, for the drooping blossoms bear a great resemblance, not only in shape and texture, but also in colour, to those of some of the *Blandfordias*, an Australian genus of liliaceous plants. So marked is this feature, that to one the specific name of *blandfordiaeflorum* has been applied, while *Keysi* and *thibaudiense* are also nearly allied thereto. The usual habit of *R. cinnabarinum* is to form a freely-branched bush, that flowers profusely when not more than 5 feet or 6 feet high, or even less. The leaves are ovate, about a couple of inches long, and of a firm coriaceous texture. In colour the major portion of the flower is of a cinnabar-red tint, tipped more or less with orange. This species is harder than most of the Himalayan *Rhododendrons*, for examples of it have stood for many years in the neighbourhood of London without injury in a spot where some of its allies from the same region suffered greatly. *Rhododendrons* of this section are as a rule among the latest to flower of the Himalayan kinds, but the last of all is a white-flowered group, to the different members of which the specific names of *calophyllum*, *Jenkinsi*, *Maddeni*, *tubulatum*, and *virginale* have been at times applied. All these vary so when raised from seed, that it is probable they only represent one species. Grown in the shape of large bushes these are very free-flowering, as during the season they will be one mass of bloom. While the members of the first-named group are among the hardiest *Rhododendrons* from the Himalayan region, those of the second are very tender, in proof of which I may mention that we have often had them killed under conditions through which the following have escaped unhurt: *R. arboreum*, *nilagiricum*, *Thomsoni*, *lepidotum*, *argenteum*, *Falconeri*, *barbatum*, *fulgens*, *Hodgsoni*, *campanulatum*, *niveum*, *campylocarpum*, and others. —T.

**Late-flowered Azaleas.**—There are two species of *Azalea* that flower naturally later in the season than the bulk of the hardy varieties known collectively as *Ghent Azaleas*, viz., the Californian *A. occidentalis* and *A. viscosa* from the United States. Both of these, but especially *A. occidentalis*, have been used for hybridising, but the blooms being white, or nearly so, the late-flowered race obtained in this way is wanting in the rich-coloured forms of the earlier varieties, though it is possible, by continuous selection, that the scarlet and orange tints may in time be incorporated with those kinds that serve to extend the *Azalea* season; in fact, steps in this direction have been already made. *A. viscosa* itself is a pretty shrub, whose flowers are smaller than those of most of the others, but whose value is enhanced by the fact that they are produced in July, and often well into August, at which period flowering shrubs are very limited. After the first flush of flower is past a scattered succession is often kept up for some little time. —T.

**The grey Heath** (*Erica cinerea*). Be the season wet or dry, soon after midsummer the blossoms of this Heath make their appearance in great profusion, at which time a group of the different varieties forms one of the most pleasing features that are to be found among plants of a shrubby character. A sloping bank in not too dry a spot will display their charms to very great advantage, as the prominent features of each are then brought fully into view, and some pleasing combinations may be formed from varieties of the grey Heath alone. A few of the best forms would include: *coccinea*, bright crimson; *alba*, white; *alba minor*, a pretty, little, distinct, white-flowered form; *superba*, bright purplish magenta; *rosea*, pinkish; *atro-purpurea*, deep purple; with *atro-sanguinea*, glowing crimson, one of the very best. By a judicious selection, it would be possible to have a garden of hardy Heaths that would be seldom without at least a few flowers, and even then some of the Heathers are, from a foliage point of view alone, very attractive. In noting the best hardy Heaths, a place must be assigned the following: *Erica carnea*, or *herbacea*, which in mild winters commences to bloom soon after Christmas, has a variety with white blossoms, and as regards their season of blooming, these two are followed by the

large growing *Erica ardonodes*; then comes *St. Dabeoc's Heath* (*Daboecia polifolia*), *Erica cinerea*, and *E. tetralix* in different forms, treading closely on which we have the innumerable varieties of the *Ling* or *Heather*; while later still there are the *Cornish Moor Heath* (*Erica vagans*) and *E. multiflora* with its little rosy red blossoms. The lengthened period over which their blooming extends is another great feature of these hardy Heaths, or at all events of some of them. —H. P.

#### SEASIDE SHRUBS.

THE number of shrubs that succeed when exposed to salt spray is but limited, and on that account the few that do thrive well under such circumstances are doubly valuable from a planter's point of view. Such is the *Tamarisk* (*Tamarix gallica*), a vigorous-growing shrub, producing long, feathery branches terminated during summer by loose open panicles of small reddish flowers. This shrub delights in a deep sandy soil well supplied with moisture, requirements frequently met with near the sea, and for such places it is indispensable. This and the *Furze* form fine bushes even on the most easterly part of the coast of Suffolk. *T. tetrandra* is a scarce Caucasian shrub, and is quite as elegant as the common *T. gallica*, and flowers later, which is its chief value. It is little known apparently in this country, though it is to be found in Continental arboreta. A near ally of the *Tamarisk*, and one that succeeds well under similar conditions, is the German *Tamarisk* (*Tamarix* or *Myricaria germanica*), a slender upright-growing shrub, which bears great general resemblance to the foregoing, but which only attains about one-half its height and has longer leaves. The *Sea Buckthorn* (*Hippophae rhamnoides*) is another shrub well adapted for planting in the most exposed spots, as strong winds off the sea have but little effect upon it; indeed, the beautiful silvery appearance of its foliage is much heightened when stirred by the breeze. Besides the glistening white colour of the foliage during the autumn, it becomes laden with bright orange-coloured berries, and when in that state is remarkably handsome. The *Sea Buckthorn* is a large prickly shrub, which under favourable conditions becomes almost a tree. The tree *Purslane* (*Atriplex Halimus*) is a loose rambling plant, with brittle, half woody branches and silvery leaves; of little beauty when grown under ordinary conditions, but by the seaside, where plenty of moisture exists, a really valuable shrub; it succeeds perfectly in such places, and forms fine masses totally indifferent to the salt spray. Of this there is a smaller kind, a native of Britain, viz., *A. portulacoides*, but it is insignificant compared with the preceding. Among other subjects fit for seaside planting, but requiring to be a little sheltered from the full force of the wind and spray, may be named many of the *Leguminosæ*, as, for instance, the *Spanish Broom*, the *Laburnum*, the white *Broom*, *Halimodendron argenteum*, and the *Coluteas*. These are among the most suitable, while, under like conditions, the *Elder*, *Box Thorn* (*Lycium europæum*), the *Tree Groundsel* (*Baccharis halimifolia*), and the various kinds of *Lilacs* will also thrive.

Among *Evergreens* mention may be made of the different varieties of *Euonymus japonicus*, the *Arbutus*, *Laurustinus*, and *Portugal Laurels*, while trees that may be specially noticed doing well near the sea are the *Evergreen Oak*, *Austrian Pine*, the *Cluster Pine* (*P. Pinaster*), the *Mountain Ash*, and *Cupressus*. All the above are well-tried subjects and sure to succeed in almost all positions. For planting on

the southern coast there is a much wider range to choose from. Even *Veronicas* there make useful seaside shrubs, and the same may be said of *Fuchsias*, the lemon-scented *Verbena* (*Aloysia citriodora*), *Myrtles*, and the *Pittosporums*, which form handsome bushes, while by far the finest plant of the beautiful white Heath-like flowered *Fabiana imbricata* that has ever come under my observation was growing in a small garden close to the sea on the coast of Devon. There it formed a large bush, and when in full flower was most conspicuous. P.

#### ORCHIDS.

##### CYPRIPEDIUM SANDERIANUM AND ITS ALLIES.

I HAVE received a flower of this beautiful and exceedingly interesting species from W. Hinton, asking my opinion respecting it. The plant was discovered by Förstermann when travelling for Mr. Sander some seven or eight years ago, so that the species is at present comparatively new. It has not been introduced in any quantity saving by Messrs. Low. The native home of this plant is known only to the two firms above named. The flower now before me is a great beauty; the sepals are creamy-white passing into pale yellow, broadly streaked with brown; the petals narrow, ribbon like, curiously bent back, and 21 inches long. This is the greatest length I have seen the petals of this species attain to. A plant which I saw in flower last year with Mr. Young, of Linnet Lane, Sefton Park, Liverpool, had them between 19 inches and 20 inches long. The petals are soft yellow at the base, fringed on the edges with purple hairs, and dotted with a marginal line of dark purple, this dotting being continued a considerable distance down. The lip is medium-sized, dull purple above, passing into yellow beneath. A good variety of this plant I saw flowering with Mr. Tautz when his fine collection was at Studley House, Shepherd's Bush. One of the near relations of this plant is *C. Parishii*, also a very beautiful species first found some thirty-three years ago. It was not introduced in a living state until some ten years afterwards, and it has always been a rare plant in our gardens. It bears several flowers on the scape; the sepals and pouch on this plant are pale greenish-yellow, petals about 5 inches long, spirally twisted, the basal part greenish-yellow and spotted with purple, the rest deep purple. *C. philippinense*, another of the allies of *C. Sanderianum*, was first found by John Gould Veitch on the island of Guimares, one of the Philippine group, now nearly thirty years ago. It used to be considered very difficult to grow. This was when it was very expensive, and to try any fresh plan with it meant a great loss if any misfortune happened. The sepals are somewhat similar to those of *C. Sanderianum*, white, striped with dark brownish-purple; petals some 6 inches long, spirally twisted, reddish-purple the greater portion of their length, yellow at the base; lip small, yellowish. *C. Roebelinii* is very similar to the preceding, and probably a variety of it, just as *C. Elliottianum* appears to be similar to *C. Rothschildianum*, both introductions of Mr. Sander, telling at once that there are more of these Slipper-words in these islands than we had ever dreamed of. *C. Roebelinii* has leaves each from 1 foot to 2 feet in length, and carrying from three to five large flowers upon a scape. These are large and handsome, measuring between 5 inches and 6 inches from the top of the dorsal sepal to the point



of the lower one, and having petals about 6 inches in length. The sepals are nearly equal in size, white, broadly streaked with blackish purple, the petals white, streaked throughout their entire length with blackish cinnamon, spotted more or less near the base with the same colour; the lip is large, projecting forward, dark cinnamon-coloured with deeper veins. This plant I saw flowering at Burford Lodge this season, and bearing three flowers on a scape. *C. Stonei* is the last plant to be mentioned here, although it was introduced before any of the species here named, and Sir William Hooker says when figuring it "Nothing like this, as far as I know, has ever been received from the Old World, but it is evidently allied to a species gathered by Ruiz and Pavon in Peru, *C. caudatum* of Lindley." This plant was imported from Sarawak, in Borneo, thirty-two years ago, and it flowered for the first time in October, 1862, in the celebrated collection of the late Mr. John Day, of Tottenham, and whose gardener Stone it commemorates. The plant that flowered first had pure white sepals; now, however, it is very rarely one sees it without some streaks of black; petals some 5 inches long, deflexed, tawny yellow, spotted with purple; lip large, the front rosy purple, veined and streaked with deep red; it produces from three to five flowers upon a scape. The variety called *platytanium* was imported from the same place some three years afterwards, and this also came into the hands of Mr. Day, who first flowered it in 1867. In 1880 Mr. Day's collection was dispersed, and the greater portion of the plant, which had previously been divided, fell into the hands of Baron Schroeder and Sir Trevor Lawrence, and in the collection at Burford Lodge I saw it flowering last year. This plant, I suppose, is the most difficult to procure of any Orchid, and it realises the greatest price. It is simply a variety having the petals very much enlarged, these being upwards of an inch in breadth, creamy yellow, profusely spotted with crimson, the other portions of the flower being typical, saving the sepals, which are streaked with black. These plants, although coming from the hottest parts of the globe, are easily grown, although when first introduced it is a difficult matter to establish them. They thrive in the East Indian house, and I should never allow the heat to fall below 65° at any season of the year, and the atmosphere should always be kept moist even in winter, although, of course, very much less is required than during the summer months. The drainage should be good and the plants be potted in good brown peat fibre, but do not overload their roots. *C. Sanderianum* is figured in the first part of the "*Reichenbachia*," t. 3.

WM. HUGH GOWER.

***Epidendrum falcatum*.**—T. Jones sends flowers of this for a name. This has been in cultivation upwards of fifty years, and few appear to know it. It has received five or six names, but the above name was given it by Lindley so long ago as 1810. It was afterwards figured in the *Botanical Magazine*, t. 3778, under the name of *Parkinsonianum*, and several years afterward it was figured and described by Bateman in the "*Orchids of Mexico and Guatemala*," as *E. aloifolium*, t. 25, and under one of these three names it can be found in many collections in the country. The flowers are white and yellowish green. The plant comes from the cool region of Mexico.—W. H. G.

**The spread of cholera.**—"Eon," in writing to the *St. James's Gazette* of July 5, says, "Permit me to call the attention of the London County Council to two important matters in connection with the

spread of cholera and zymotic disease generally: (1) That though fishmongers and butchers are severely punished if they sell bad meat, greengrocers are allowed to sell rotten fruit. Children are able to buy a great deal of it for a few pence, bringing it out of the shops in their caps. Surely to sell such pestiferous stuff to children should be criminal. (2) The very same carts which take stable manure to the market gardens to-day bring Lettuces to Covent Garden to-morrow, without any efficient attempt at cleansing having been made. And on Saturday I saw loads of manure topped up with crates which were shortly to be refilled with Strawberries. Science has clearly shown the close association which exists between decomposing vegetable matter and cholera, diarrhoea, diphtheria, and enteric fever; but we are still very far from enjoying the practical results of that valuable demonstration."

## STOVE AND GREENHOUSE.

### TUBEROUS-ROOTED BEGONIAS AT FOREST HILL.

THE tuberous-rooted Begonias at the nurseries of Messrs. J. Laing and Sons are certainly magnificent, house after house being filled with plants in all stages of growth. One must see them to form the least idea of what the Begonia has become. No one could have imagined when Messrs. Veitch and Sons introduced *B. Veitchii*, *B. boliviensis*, and *B. Pearcei* that in so short a time such a vast stride would have been made. All who admire these tuberous Begonias must give to Messrs. Laing and Sons credit for their skill in thus raising these plants to their present standard. The seedlings, which are planted in the open ground, are looking extremely well, and promise at the end of this month a wonderful display. I observed, too, that the Messrs. Laing have seen their error in the use of very large pots for their specimen plants, and now confine them to a size that does not offend the eye, making up for the extra soil by the use of liquid manure. Begonias are gross feeders, and therefore frequent doses of some manure in a mild form should be given. Of the value of this treatment we have only to refer to the magnificent specimens now to be seen in this establishment, their rich green foliage amply setting off the large bold flowers in every shade of colour. There are pure white, rich golden yellow, brilliant scarlet, deep maroon, salmon, pink, and rose-coloured blooms, with all sorts of intermediate shades, so that there is no sameness or want of variety in the flower. There are large single-flowered varieties and also large double varieties of the greatest beauty. These double flowers are not the small confused blooms that we used to see some few years ago, but large blooms with the petals arranged in a regular manner, without having the stiffness of the double *Camellia* and without the hard outline of that flower. The following are a few of the best double-flowered varieties: *Countess of Zetland*, pure white, large and very double; *Duchess of Teck*, a magnificent flower, rich yellow; *Duke of Fife*, a beautiful rosy salmon; *Lady Dunsany*, beautiful pink; *Lady Dorrington*, lovely blush-pink; *Mrs. A. G. Renshaw*, soft pink, with a shade of salmon; *Picotee*, creamy white, the petals having a bright pink border; *Princess Christian*, soft primrose; *Richard Dean*, fine rich scarlet; *Sir John Leonard*, a very fine rose-coloured flower; *Sir Trevor Lawrence*, rich deep crimson. Besides these there are many others of similar shades, superb flowers and worthy of being grown by everyone. Amongst singles the following are excellent; the flowers stand well up above the leaves and do not hang down, showing only the outside of the petals; *Avalanche*, a fine pure white flower; *Duchess of Leinster*, rich buff-orange; *Duchess of Westminster*, bright crimson, the centre white, which breaks out into feathery sprays; *Darkest Africa*, rich deep crimson; *Duchess of Edinburgh*, deep yellow, shaded with orange; *Gigantea*, fine rose-pink with light centre; *H. M. Stanley*, a fine dark chestnut; *Lady Pigot*, very

large, rich salmon; *Lord Hillingdon*, bright orange-scarlet; *Mrs. Milner*, bright carmine with white centre; *Mrs. Blundell Maple*, rich bronzy orange; *Sir Thomas Paine*, rich bright crimson. These, like the doubles, are not singular for their fine qualities. Besides the above, the Messrs. Laing have some forms which are specially choice when grown as hanging-basket plants. Among these may be noted among the doubles *Alice Manning*, primrose-yellow; *Alba rosea*, rosy pink with white centre; *Richardson's Favourite*, bright crimson-scarlet; *Lord Mayor*, deep rose; *Salmonia rubra*, large, deep salmon; *Mrs. Amy Adcock*, reddish-salmon with white centre. The tubers are potted in a mixture of good turfy loam, leaf-mould and sand, the pots being fairly well drained. Into this the plants will root freely, and care is taken that they do not get pot-bound. Begonias like plenty of water at the roots when growing.

WM. HUGH GOWER.

***Exacum zeylanicum*.**—This grand plant I recently saw in some quantity in Messrs. Laing's nursery. Although an annual, the flowers are of a much richer violet blue than those of *E. macranthum*, figured in *THE GARDEN*, Nov. 11, 1882, p. 422. When I used to grow the plant I found it to thrive best in a mixture of loam and peat made sandy.—W. H. G.

***Thunbergia coccinea* (*J. Wilmot*).**—This is the name of the plant sent. It is about seventy years since this came to be known through Dr. Wallich, and nearly fifty years since it first came to this country. It is a free-growing, handsome climber, with long racemes of flowers, which have a scarlet tint, the mouth or throat being orange-yellow. It should be potted in about two parts loam, one part peat, and one part good decomposed manure, and watered freely.—W. H. G.

***Sanchezia nobilis*.**—This very showy and beautiful plant would appear to have become neglected during the past few years, and on this account I was all the more pleased to see it flowering in Messrs. Laing and Sons' nursery on the occasion of a recent visit. This was introduced from Ecuador nearly thirty years ago by the Messrs. Veitch, of Chelsea, and I have seen it blooming very freely in their nurseries there. The erect spikes of bloom are tubular, bright yellow, and surrounded with large bright red bracts. It requires the heat of a stove, and likes a light rich soil with abundance of water to its roots.—W. H. G.

***Mackaya bella* (*B. J.*).**—This beautiful acanthaceous plant, a coloured plate of which appeared in *THE GARDEN*, August 16, 1879, p. 150, was introduced to cultivation from Natal by Mr. Wm. Bull, of Chelsea. Unfortunately, we do not see this plant so frequently as we could wish. In Natal it is said to form a handsome shrub, and the pendent racemes of flowers, soft lilac, streaked with lines of a deeper hue, last a long time. It thrives well in sandy loam, and likes an abundance of water when growing. The late Mr. Charles Green when in charge of the once famous collection of plants at Pendell Court used to flower this freely every year.—W.

**Caladiums from Brazil.**—Plants of a bulbous or tuberous nature that are dormant during a certain season of the year can of course in that stage be readily sent for long distances without injury, so that we now draw our supply of cultivated bulbs from many lands, notably Lilies from Japan, Holland, Bermuda, and latterly from South Africa; while this last and the United States supply us with Tuberose, and the Californian region with the beautiful Butterfly Tulips (*Calochortus*). Great quantities of other subjects are also either cultivated or collected in a wild state, and sent here when dormant. Within the last two or three years considerable numbers of Caladiums have found their way into this country from Brazil, where one firm at least would appear to make a speciality of the raising and cultivation of new hybrid forms, as they publish a long list of varieties, and among a number of them that



have come under my notice are some very beautiful kinds, which will no doubt soon become popular in this country, for I see one of our leading nurserymen already makes a feature in his catalogue of "New Brazilian Caladiums," nine varieties being there included under that head.—T.

## SOCIETIES AND EXHIBITIONS.

### ROYAL HORTICULTURAL SOCIETY.

JULY 12.

At the meeting held on the above date there was a good number of attractive exhibits in the way of hardy cut flowers, flowering shrubs, and Verbenas. The collection of Cherries from the Royal Gardens, Frogmore, and the species and varieties of the Rose from Kew attracted a deal of attention. Unfortunately, the visitors were very few.

#### Orchids.

No first-class certificates were awarded at this meeting, but awards of merit were given to

**CYPRIPEDIUM STONEI CANDIDUM** (a variety which must not be confounded with that rarity amongst this family, viz., *C. Stonei platytænium*, which is rarely exhibited). It is quite distinct from the type, the dorsal sepal of a waxy-white with a faint trace of colour, the tail-like sepals spotted and twisted, about 5 inches in length; the spike bore three well-developed flowers. From Messrs. Pitcher and Manda, Swanley, Kent.

**DENDROBIUM CRYSTALLINUM** (General Berkeley's var.).—A very pretty form with deeper coloured flowers than the species, the sepals and petals deeply tipped with purplish violet, the lip similarly marked; as shown, evidently a free flowering form. From Major-General Berkeley.

**PHALENOPSIS ARTEMIS** (rosea × amabilis).—This hybrid has much of the habit of the last named parent with more pointed foliage, the flowers are intermediate in size, a faint rosy tint suffusing the sepals and petals, the lip of a much deeper shade. This choice novelty should prove a valuable addition to its class. From Messrs. Veitch and Sons.

A botanical certificate was awarded to—

**EPIDENDRUM TAMPENSE**.—A free flowering dwarf growing variety with branching spikes, the flowers a brownish yellow with deep mauve blotch on lip. From Mr. Lucas, Warnham Court, Horsham.

A cultural commendation was voted to—

**CÆLOGYNE SANDERIANA**.—A vigorous example, having three fine spikes bearing an average of ten flowers each. This is a lovely Orchid, the sepals and petals pure white, the lip veined with chocolate on a ground colour of pale gold. From Mr. W. Vanner, Chislehurst.

Messrs. Sander and Co. had a small group of choice Orchids, including two fine examples of *Cattleya gigas*, one spike bearing six flowers. Various splendid forms of *Odontoglossum vexillarium* were also shown, some with pale-coloured flowers, but exceedingly beautiful, others of a rich rose colour with darker markings; one was remarkable for the distinct blotch of triangular shape upon the upper portion of the lip, the same being continued into the sepals; the colour of this blotch, a deep rich maroon with an edge almost white, making this a particularly striking plant. In another form there was a rich orange blotch on the lip, this, again, quite distinct. *Cypripedium Curtisii* was finely shown; so was *Cypripedium Elliottianum*, somewhat resembling *C. Rothschildianum*; *Renanthera matutina*, a scarce species of miniature growth, with dark orange-coloured flowers; and *Oncidium Enderianum*, a pale coloured form of *O. crispum*, were also included (silver Banksian medal).

Messrs. Charlesworth, Shuttleworth, and Co., Bradford and Clapham, had a very finely grown group of *Oncidiums*, including a fine form of *Oncidium macranthum*, also of *O. m. Williamsii*, with

its darker coloured sepals; *O. lamelligerum*, which might be taken for a natural hybrid between *O. macranthum* and *O. curtum*, the latter being also shown, comparison thus being afforded (silver Banksian medal).

Messrs. Hugh Low and Co. showed a small collection consisting of *Cypripedium voluteum* and *C. Curtisii*, with others; also *Pescatorea cerina*, a pale yellow form. Another, but paler form of *Cælogyne Sanderiana*, came from Mr. Gabriel, Streatham Hill, and a splendid collection of finely grown cut examples of *Cattleya gigas* from Mr. Temple, Leyswood; the majority of these were remarkable for the finely developed lips, which in some instances were extremely beautiful. From Mr. Ellis, Hazledowne, Dorking, came another fine variety of *C. gigas*, in which the lip was of an intensely deep crimson shade. *Cypripedium Macfarlaneum* (Lewi × Lawrenceanum) was shown by Messrs. Lewis and Co., Southgate; this hybrid is intermediate between its parents, having the well-defined characteristics of both. Mr. Temple also exhibited *Cattleya Du Buyssoniana* of *C. guttata* type, with pale greenish yellow sepals and petals and purplish crimson veins on the lip, a very beautiful species. From the same source came *Cypripedium* sp., after *C. Rothschildianum*, with the slippers of a pale yellow shade.

#### Floral Committee.

The awards were on this occasion of considerable diversity, nearly all, however, being made to plants of a hardy character, in itself a notable feature. First-class certificates were awarded to:—

**LINARIA PELORIA**.—A very beautiful variety of the Toadflax, with singular-looking pale yellow flowers, quite reflexed, the habit of the specimen shown being very light and elegant; a darker disc surrounded the centre of the flowers. From Mr. W. Marshall.

**CALOPOGON PULCHELLUS**.—A plant of *Gladiolus*-like growth only quite miniature, the flowers bearing a certain resemblance in form to those of an *Epidendrum*. This species of tuberous-rooted Orchid is supposed to be the only one in cultivation; it has rosy-lilac flowers, and was first introduced about 100 years back. The fact of its being an Orchid must have escaped due notice, otherwise it would have had to pass the scrutiny of the Orchid committee rather than the floral section. From Mr. T. Ware.

Awards of merit were made in favour of:—

**GAILLARDIA AURORA**.—A semi-double form, partaking somewhat of the character of *G. Lorenziana*, only much finer. From Messrs. Kelway and Son.

**GAILLARDIA MR. PITCHER**.—A remarkably fine variety, having a narrow margin to the petals of a deep golden shade, with a broad inner disc of dark bronzy red. From Messrs. Kelway and Son.

**DELPHINIUM SAILOR PRINCE**.—An extra deep blue-purple with large flowers.

**D. PRINCESS MAY**.—A very pale mauve with blue margin—a remarkable combination of colour, very striking; habit vigorous.

**D. HENRY KELWAY**.—An intensely bright blue, semi-double, with darker under-petals and a fine close spike. All the above Delphiniums from Messrs. Kelway and Son.

**CAMPANULA PERSICIFOLIA SEMI-PLENA**.—A beautiful double form of this fine species with dark blue flowers of extra size, the spikes of extra size. From Mr. Wm. Marshall.

**HYBRID PERPETUAL ROSE CLIO**.—A new variety with flowers of a distinct shade of colour, a bluish-pink, of full size and good form, with large petals. From Messrs. Wm. Paul and Son.

**PETUNIA SCHWESTER BONIFATIA**.—A very full double variety with frimbriated flowers, colour a dark pink. A good pot plant. From Messrs. Cannell and Sons.

**LILIUM BLOOMERIANUM MAGNIFICUM**.—A fine form with dark spots on an orange ground, the extremities of the petals also orange, the spikes extra large with from eighteen to twenty flowers. From Mr. Thos. Ware.

A botanical certificate was given to

**LILIUM MARITIMUM**.—A small growing species with reddish flowers. From Mr. Thos. Ware.

Messrs. Kelway and Son had a remarkably fine exhibit of Delphiniums in the choicest kinds; the variation in colour from extremely light to intensely dark kinds was particularly noteworthy. A few of the best were *Britannia*, bright blue; *Alfred Henderson*, semi-double, dark; *Bernardo*, a bright blue; and *Regalia*, extra fine; also of *Gaillardias* in striking variety, amongst which were *Vivian Grey*, a pale lemon-yellow, disc same colour; *Magenta King*, very bright; *Wonder*, a fine dark variety; *Tennyson*, a pale yellow with dark disc; and *James Kelway*, a very fine dark with narrow marginal tip of deep gold. Miscellaneous herbaceous plants were also shown, amongst which were *Centaurea macrocephala* and varieties of *Alstroemerias* (silver-gilt Flora medal).

Mr. H. B. May had one of the best and most extensive groups of small decorative plants that he has ever staged. Well-coloured Crotons were prominent features; so also were the plants of *Alocasias*, *Aralias*, *Winter Cheer* and *La Neige Carnations*, with a most interesting collection of tinted and variegated Ferns, comprising the best of the Maiden-hairs with roseate tints, with *Pteris tricolor* and other kinds, also well-grown gold and silver *Gymnogrammas* (silver-gilt Banksian medal). Mr. Thos. Ware had a very choice collection of Lilies in flower and a few other choice herbaceous plants; the former included *L. pardalinum micus*, *L. canadense rubrum*, *L. Washingtonianum*, *L. Browni* and *L. colchicum*, with others (silver Banksian medal). Messrs. Veitch and Sons had cut specimens of hardy flowering shrubs; these were staged in their usual attractive way and created much interest. Shown thus in circular baskets an excellent idea is formed of each respective kind; *Ligustrum sinense floribundum*, a profuse flowering form of the Japanese Privet, with large Lilac-like spikes of flower; *Ceanothus azureus Arnoldi*, a very light-coloured form of this excellent variety; *C. azureus albus plenus*, a double-flowered kind; *Andromeda speciosa cassinaefolia*, a variety with long and elegantly drooping racemes of flower; and *Stuartia Pseudo-Camellia*, a very distinct-looking shrub with white flowers (single) about the size of and resembling a small flower of a single *Camellia*, the buds bearing an even closer resemblance, the foliage nearly of the same size, but more of a glaucous colour. Another good thing was *Notospartium Carmichaeliae*, with minute Pea-like flowers of a lilac shade, the growth extremely elegant (silver Banksian medal). Messrs. Cannell and Sons sent a large assortment of cut Verbenas in excellent variety and condition; it is quite refreshing to see these fine old-fashioned plants shown in such good form. These chiefly consisted of those with well-defined eyes, although some good selfs were also staged. *Urania* and *Ed. Perkins*, the former a deep blue, the latter of a lighter shade, were two of the best. Tuberous *Begonia Rosebud* was also shown. This is a choice kind (bronze Banksian medal).

Messrs. Veitch and Sons staged an admirable box of cut blooms of their choice hybrid Javanese *Rhododendrons*, the trusses of grand size and the substance of the flowers quite remarkable. From Kew Gardens came a large collection of species and garden varieties of the Rose, some of which are rarely seen in private gardens. Such a praiseworthy exhibit ought to induce growers to take more note of such good things.

The competition for the prizes offered for cut herbaceous plants was the means of bringing together some good things, although the entries were not very numerous. Mr. Sage, Ham House, was first for eighteen, with large bunches of good useful garden flowers, including *Helenium pumilum*, *Gaillardia grandiflora*, *Eryngium giganteum*, *Clematis erecta*, *Scabiosa caucasica*, Iceland Poppies, early herbaceous Phlox, *Eryngium amethystinum*, and *Carnation Grenadin*. Mr. Berkeley James was first for twelve kinds, he having *Iris Mont Blanc*, *Lilium Martagon*, *Spiræas* and *Delphiniums* in good form. Mr. Marshall, who was awarded second prize in this class, had a choicer lot, two out of the dozen receiving certificates as well. (*Oenothera Youngi*, *Scabiosa caucasica*, and *Lychnis vespertina* fl. pl. were very fine. Miss R. Debenham, St. Albans,



was first for eight varieties, having *Alstroemeria chinensis* and *A. aurea*, with other good things.

**Cut Roses.**—The competition was keen for the twenty-five guinea challenge cup handed over for future contests from the now defunct Chiswick Horticultural Society. Mr. B. R. Cant was the winner, he thus defeating his namesake in an unmistakable manner. It is doubtful if a finer dozen trebles have ever been staged at any show in any year. They were grand in all points, not a weak flower being included, the colours remarkably good. As a guide to growers of a limited collection we append the names. These were Her Majesty, Comtesse d'Oxford, Duke of Wellington, Alfred Colomb, La France, Prince Arthur, Duchesse de Morny, Earl of Dufferin, Pride of Waltham, Victor Hugo, Ernest Metz, Dr. Andry, Mrs. John Laing, Xavier Olibo, Suzanne Rodocanachi, Sultan of Zanzibar, M<sup>rs</sup>. Paul, A. K. Williams, M<sup>me</sup>. Cusin, Marie Baumann, Jennie Dick-on, Reynolds Hole, Gustave Piganeau, and M<sup>me</sup>. Verdier. Mr. F. Cant was second, and Messrs. Paul and Son third.

#### Fruit Committee.

Exhibits before this committee were more numerous than at any meeting this year, Pines and Melons being shown in quantity with several lots of new vegetables. The collection of Marrows, sixteen varieties, from the Society's gardens at Chiswick made an interesting exhibit so early in the season, an opportunity being given to compare notes as to the best and earliest varieties.

From the Royal Gardens, Windsor, Mr. O. Thomas sent six fine Smooth Cayenne Pines and fifteen punnets of choice dessert Cherries of large size, the best varieties being Bigarreau, Monstreuse Bigarreau, Tartarian, a fine black, Governor Wood, Belle d'Orleans, May Duke, very fine Frogmore Bigarreau, Bigarreau Napoleon, Knight's Early Black, Florence, Late Duke, Adams' Crown, and Amber Heart (silver Banksian medal). Mr. J. Fitt, Panshanger, Hertford, sent twelve very fine Queen Pines, also a fine bunch of the Banana named Lady's Finger which was certificated last July. It was not ripe enough to judge of its good qualities (silver Banksian medal).

From Mr. Allan, gardener to Lord Suffield, Gunton Park, Norwich, came a collection of new varieties of Strawberries, all in very fine condition, Gunton Park being specially good and as large as a James Veitch. This promises to be a grand fruit for outdoor cultivation, coming very large and of good flavour and an excellent traveller. Lord Suffield and Empress of India were in fine condition. A new unnamed seedling was also shown by Mr. Allan, and will be heard more of another season. It is a medium-sized fruit, with firm flesh and a British Queen flavour, the parents being that variety and Countess. It was a little over-ripe.

Melons were shown in quantity, Mr. Wythes, gardener to the Duke of Northumberland, Syon House, staging eight nice fruits of Syon House, weighing 26 lbs., also several seedlings. From Mr. Gilman, gardener to the Earl of Shrewsbury, Ingestre, came half-a-dozen fruits of Ingestre Hybrid. These were rather deficient in flavour. Mr. C. J. Terry, gardener to Lord Egerton, Tatton Park, Knutsford, sent a seedling named Florence, a pale green or white variety with a good depth of flesh. It, however, lacked flavour. Mr. Crasp, gardener to Lord Winborne, Dorset, sent a Peach named Raymakker. Twelve varieties of Apples were sent from the Society's gardens to show the high colour these fruits are assuming this season. Mr. Wells, Eynham Lodge Gardens, Shepherd's Bush, sent a seedling Tomato named Eynham Hybrid, with pale orange-coloured flesh very similar to Carter's Blenheim Orange in size and shape. From the Society's gardens a Fig named Trifer was sent. It is a medium-sized juicy fruit, but not of rich flavour. It would no doubt be improved if grown cooler. A collection of Vegetable Marrows, sixteen varieties, was also sent. Some excellent kinds were staged, the best being Vilmorin's Italian Bush, a beautiful long green fruit; a very early yellow variety named Vilmorin's Prolific, and Muir's Pen-y-

byd, Muir's Prolific, and Bush Genève being good. A new Cauliflower was exhibited by Mr. Bones' Chiswick. It is a distinct variety with green leaves somewhat like those of Horseradish, not glaucous like those of ordinary Brassicas. It is very compact and a promising early variety. This the committee desired to be sent to Chiswick for trial. Mr. Leach, gardener to the Duke of Northumberland, Albury Park, had a collection of early Carrots, the Early Nantes, French Forcing and Scarlet Model being excellent samples. Veitch's Perfect Gem Lettuce was also sent to show its good heating qualities. From the same exhibitor came a new Beetroot named Leach's Telegraph, of good bright colour, sweet, very early, and a good keeper, old roots also being sent to show its keeping qualities. This was also asked to be sent to Chiswick and to be exhibited later in the season in a cooked state. From Messrs. Veitch, Chelsea, came a new dwarf Broad Bean named Multum in Parvo, only growing about 18 inches high and bearing freely. It is somewhat after Beck's Gem in habit and of good flavour. For the Messrs. Sharpe's prizes for three varieties of Peas, five lots were staged. First, Mr. C. Osman, Sutton, Surrey; second, Mr. Walker, gardener to Mr. F. Priddy, Boxgrove, Guildford; third, Mr. J. Gilbert, Merrow Rectory, Guildford.

The Rev. E. Handley, Bath, in his lecture on cool Orchids, stated that it was often remarked that Orchid growing and buying were very expensive. Such was not the case unless rare varieties were purchased. Fair plants could be purchased for a few shillings, and often good varieties were so obtained. Orchids are not expensive to grow, though often thought to be. They are often supposed to require great heat, but such was not the case. He did not advise expensive houses, and as a cool Orchid house was essential, he would say a few words as to the construction of such a house. It should be a lean-to with a north-west aspect, 11 feet high at back, 18 inches at front, no front lights being recommended both for economy and the health of the plants, the ventilation being given by shutters near the ground, the cold air passing over the hot-water pipes, the top ventilators being 2 feet wide, easily regulated to admit small currents of air. The heating was by four rows of pipes, viz., two flows and two returns, and though half the quantity of piping would exclude frost, it did much harm to over-heat the pipes, which would be necessary in severe weather. The temperature of a cool Orchid house in severe weather should not be under 36°, with a maximum of 45° to 50°, and with the steady heat from four pipes this was easily maintained without injury to the plants. The greatest difficulty is to keep the house sufficiently cool in hot weather, and here shading was necessary, and it was best to purchase good material at the start. In fitting up the inside, mistakes were often made in laying a neat tile floor; this was bad for the plants and did not retain the moisture. He used refuse from the gasworks, but any moisture-holding material was better than bricks or tiles. The stages he liked level with the glass at the bottom of the house with a good water-tank underneath, using slate for the stages with iron supports, the stage or slate covered with shingle or gravel to retain moisture, the roof having a few strained wires to hold pans and basket plants. Cool Orchids could be obtained at a small cost from Orchid importers or at sales. There were many plants the trade did not buy which made excellent furnishing plants for rooms, *Odontoglossum crispum* being a grand plant for this work. He gave a list of suitable plants, some of the best being the *Odontoglossums*, *Lælias*, *Cypripedium insigne*, *C. Boxalli*, *C. villosum*, *Epidendrums*, *Ada aurantiaca*, *Mesospidium* in variety, *Maxillarias* and others. *Masdevallias* also did well. Some of the *Oncidiums* were very suitable. *Odontoglossum Rossi* was excellent for the roof, also *Sophranitis* and the dwarfier species of cool Orchids. He would not go into cultural details; there was much information in our journals and books on this point; but, he would add, book knowledge was of little value unless practice was combined

and due attention paid to airing and moisture. Thrips were very troublesome and needed frequent looking after, as they soon disfigured the foliage and left black spots behind. Fumigating, dipping and spraying were the remedies, using pure tobacco. Green-fly could be similarly treated. Slugs must also be looked after. He also mentioned another injury to plants, viz., allowing the flowers to remain too long on them. He had two sets of plants, flowering one lot each year. Mr. Douglas thought it an excellent paper. He liked the house recommended, and if a few more were interested in house structure, it would be better for the health of the plants. He advised the plants to be kept clean, and if there was plenty of moisture and the Sphagnum kept growing, there would not be any difficulty.

#### FLORAL DECORATIONS AT EARL'S COURT.

THESE were shown in good numbers at the show on July 5 and 6, both by amateurs and professionals. In most of the classes the competition was keen and the arrangements most commendable. In the large class for a "dinner table completely laid out for twelve persons" there were about ten entries, the tastes and designs of the various competitors being widely divergent, some being the extreme of light and elegant, others so much crowded as to destroy any artistic effect they might have. The first prize was awarded to Mr. Sydney T. Spalding, Avenue House, South Darent, Kent, whose arrangement was very tastefully done, although a few less of specimen glasses would have been better, no provisions having been made for the dessert and several other accessories of a well-appointed table; the second prize table arranged by Mrs. Helen Butt, Gwendwr Road, West Kensington, was composed chiefly of yellow Sweet Sultan, Grasses, and Maiden-hair Fern, very pretty, but hardly sufficient; the third prize was a heavy arrangement of full-blown Roses. For three stands Mr. Chard was placed first with three of his "Arcadian" designs, very light and simple, being adapted to either large or small tables; the second award had nothing to recommend it, but rather showed what to avoid, the third being much lighter. The first prize for a single stand went to a loose arrangement, the base too much packed together; it was shown by Miss Foden, Marlowes Hemels, Herts; the second award being made in favour of Mr. Brown, Richmond, Surrey. Several stands of wild flowers were shown, the first prize going to Miss Owen, Basingstoke, and the second to Miss Hudson, Gunnersbury, Acton. In the three classes for bouquets, in that for button-holes, and another for ladies' sprays, with that for the best arranged basket of flowers, Messrs. Perkins and Son were simply invincible, showing some most praiseworthy exhibits, suitable Orchids in most cases playing an important part in the designs. Mr. Brown succeeded in beating Messrs. Perkins for a bouquet of natural Grasses and Ferns, showing an informal arrangement, that from Messrs. Perkins being more packed. For twenty-four cut blooms of Carnations, "Malmaison type," Mr. Chas. Turner was first, showing fine flowers of the pink kind.

**MISCELLANEOUS EXHIBITS.**—These were shown in considerable quantity. From Messrs. Sander and Co. came a large group of Orchids, amongst which many plants of *Odontoglossum vexillarium* played an important part. Amongst these there were several beautiful forms, some very light and delicate in colouring, others extremely rich in deeper tints. Other good things consisted of *Vanda Sanderiana* with a fine spike, the flowers deeper in colour than usual; *Cattleya Amesiae*, a beautiful variety; *C. gigas*, *C. Schofieldiana* (Boyle's var.), with greenish yellow sepals and petals and rosy purple lip; *C. Leopoldi Lauchena*, a dark form; *Vanda Hookeri*, *Aerides Sanderianum*, *Cattleya Brymeriana*, and a quantity of *Epidendrum vitellinum majus* (cut spikes), which in a mass made a brilliant display. *Dendrochilum*, freely flowered, was also included. A gold medal was awarded to this well-arranged and excellent



group. Messrs. B. S. Williams and Son also received the highest award of a gold medal for a miscellaneous collection of new and choice plants, these being shown in the house adjoining the main building. Allamanda Williamsi was here flowering well (this variety promises to be a decided acquisition), Nepenthes, and other insectivorous plants, with several good examples of Orchids, as Vanda suavis, Anguloa Clowesi, Thunia Veitchi, Cypripedium Morganæ and C. Curtisii, Dendrobium Dearei, and several Masdevallias and Odontoglossums contributed to make a good effect. Messrs. Kelway and Son showed a large collection of Delphiniums (choice kinds), chiefly their own raising—Uta, a dark semi-double, and James Kelway, a bright dark blue with distinct white eye, being two of the finest new kinds. Gaillardias were also well represented, showing great variety; various other herbaceous plants being shown (a silver-gilt medal being awarded). Messrs. Barr and Son showed herbaceous plants of the choicest and best decorative kinds in their usual good style, making a fine display. Messrs. Laing and Sons also contributed a collection of decorative kinds. Both Messrs. Wills and Segar and Mr. Shuttleworth, of Peckham Rye, contributed collections of fine-foliaged plants, which greatly added to the effect in the Rose show. Messrs. Peed and Sons staged groups of Caladiums. Gold medals went to the two former, and a silver to the latter exhibitors. From Mr. Drost, Kew Nursery, Richmond, came two groups of flowering and fine-foliaged plants, in which were fine Hydrangea paniculata, with excellent examples of Liliun lancifolium roseum in good flower, and some late Lilacs. M. Ed. Pynaert van Geert, Ghent, brought over an immense example, a truly grand plant, of Sobralia macrantha, scarcely forward enough in flower to do it justice; the plant was in the finest health with some thirty flowers and about 7 feet through—a silver-gilt medal being deservedly awarded to it. Messrs. Cannell staged about 100 bunches of their double Begonias, amongst which were noted Rose-bud, Lord Haddo, and R. B. Parsons; staged in this manner they made a brilliant and attractive display, their merits being also duly recognised. One of our Continental friends showed a new Tea Rose Kaiserin Auguste Victoria in a particularly commendable manner; the trusses were cut of a good length and shown in glass vases, thus the character of the Rose could be better judged as to its habit of blooming. In this exhibit an object lesson was set our own growers which they would do well to make note of.

**United Horticultural Benefit and Provident Society.**—The quarterly meeting of this society was held on Monday evening last at the Caledonian Hotel, Mr. Joseph Wheeler in the chair. One new member was elected, making a total in the two quarters of thirty-seven. Sickness among the members has been light during the quarter, two only being on the funds at the present time. The annual dinner will take place in the last week in September, due notice of which will be given. It is proposed to present the treasurer (Mr. James Hudson) with a testimonial on the occasion for his valuable services during the past ten years.

**Floral decorations at the Temple show.**—The floral arrangements of Messrs. Perkins and Sons, of Coventry, constituted the most attractive feature of the cut flowers at the last Temple show. Particularly noticeable was a handsome floral harp composed of Eucharis, Stephanotis, Lily of the Valley, Niphetos Roses, &c., most skilfully arranged, showing off every flower to advantage, yet without a suspicion of stiffness. The strings were of Bouvardia flowers, one, being broken, as the design was intended for a funeral. A very beautiful bouquet was composed of pink Carnations; another of Maréchal Niel Roses, Cattleyas, Odontoglossums, lightened with Lily of the Valley and Asparagus plumosus, was handsome and rich in tone and colour. One of various kinds of Cattleyas was striking, but a trifle heavy in tone. An exquisite bridal bouquet of white Odontoglossums, Niphetos Roses, Eucharis, and

Gardenias, with nails of Stephanotis, deservedly won universal admiration. The charmingly arranged baskets formed a delightful feature. One of the most striking was a combination of Maréchal Niel Roses, yellow and white Odontoglossums, Eucharis and Cattleyas. The deeply coloured lips of the latter impart a pleasing richness wherever the flowers are used. A tasteful arrangement of various delicately coloured Fern fronds and other tinted foliage was a very successful example of what can be done without the use of flowers. In other baskets pink and white Roses, Lily of the Valley, &c., were used with marked success. For delicacy of treatment and simplicity of style, the palm must be given to an oval wreath of Niphetos Roses and Lilies of the Valley. Button-holes and ladies' sprays were, as usual, tastefully mounted, and among such a charming variety it is difficult to single out any particular ones for praise. But perhaps the most natural and effective were those composed of Roses loosely put together with their own foliage without the aid of Fern. The only arrangement that could be taken exception to was a large wreath of white flowers. If about one-third of the material had been removed, the effect would have been better. As it was, the flowers were crowded and the whole thing heavy and dull.—L. H.

**National Chrysanthemum Society.**—A meeting of the general committee of this society was held on Thursday evening, the 30th ult., at Anderton's Hotel, Mr. R. Ballantine presiding. After the reading of the minutes and various letters on miscellaneous matters concerning the society, Mr. R. Dean stated that all the judges appointed had consented excepting Mr. Barron, who, owing to a prior engagement, could not act in the fruit classes; his place was, therefore, filled up by the reserve judge, Mr. Miles. With regard to the subject of enlarging the show boards for Japanese cut blooms, a sub-committee was appointed to carry out the details at the conference when the matter was to be fully discussed. The catalogue sub-committee received instructions to prepare a supplement to the Centenary edition of the National Chrysanthemum Society's official catalogue published two years ago, and thus bring that work up to date. The Wellington Horticultural and Florists' Society (New Zealand) submitted two queries which they wished to be decided by the committee of the National. The Wellington Society offered a bronze medal at their recent show to the exhibitor who took the greatest number of first prizes, with the result that three competitors each won four first prizes in the classes for cut blooms. It was resolved that the medal be awarded to the exhibitor who took the greatest amount of prize money. The second inquiry was what the National Society considered permissible to be shown as "large flowering varieties." To this the committee of the National Chrysanthemum Society replied: incurred, reflexed, Japanese, and the two sub-divisions of Japanese, but not including the Anemone sections. Mr. R. Sydenham submitted designs for the Holmes Memorial cups, and a sub-committee, comprising the trustees of the Holmes Memorial Fund and six other members, was appointed to take into consideration the selection of a suitable design. The annual outing of the society is to take place on July 22. A visit will be made to Penshurst Place and Redleaf. On the occasion of this visit, a wish has been expressed by the Seven-oaks Gardeners' Society to play a cricket match with the members of the National. New members were elected, and one society—the Highbury Vale Chrysanthemum Society—received in affiliation. Mr. Harman-Payne read an extract from a letter just received from Mr. Earland, of Wellington, N.Z., announcing the despatch of his seedlings frozen in blocks of ice. A special meeting will be called immediately on their arrival to consider them.

**Flower shows at Brighton.**—We are asked to state that the flower shows of the Brighton and Sussex Horticultural Association of which Mr. E. Carpenter was secretary will not be held. The show of the Brighton and Sussex New Horticultural

and Mutual Improvement Society will be held on August 30 and 31, and the Brighton and Hove Chrysanthemum Show on November 1 and 2.

## PUBLIC GARDENS.

**Bethnal Green poor's land.**—On the recommendation of the Parks Committee, it was resolved that the Council should purchase the Bethnal Green poor's land for the sum of £6000.

**Goldsmith Square.**—The Council approved the plan and estimate for the laying out by the Vestry of Shoreditch of part of this site as a recreation ground, and agreed to contribute £150 towards the cost.

**An open space for Birkenhead.**—At a recent meeting of the Birkenhead Town Council the proceedings of the Finance Committee included a resolution recommending the Council to authorise the committee to negotiate for the acquisition of some portion of the crown of Bidston Hill as an open space for the use of the public for ever. Alderman Deakin moved the adoption of the recommendation, which was agreed to.

**New drinking fountain.**—The Parks and Open Spaces Committee, of which Mr. Fletcher is chairman, reported that a handsome drinking fountain had been offered to the Council for placing on Hampstead Heath by Mr. Frederick Wills, a resident in the neighbourhood. He proposed to place the fountain on the heath near the flagstaff. Meanwhile, they recommended that the thanks of the Council be conveyed to Mr. Frederick Wills, and that the design of the fountain be approved, subject to the water being laid on and supplied by the Metropolitan Cattle Trough and Drinking Fountain Association, and the lighting of the lamp being undertaken by the Vestry of Hampstead. This was agreed to.

**Open spaces.**—At the last monthly meeting of the Metropolitan Public Gardens Association at 83, Lancaster Gate, the Earl of Meath in the chair, it was reported that the association had completed and opened St. Anne's Churchyard, Soho, W., and the Old Burial Ground, Shoreditch, E., and that the Pottery Lane Fields, W., now called Avondale Park, had been opened by the Kensington Vestry. Amongst nearly fifty applications for assistance seats were granted for Tottenham, N., and Acton, W., and trees for Stamford Hill, N., and it was decided to approach the respective authorities regarding the temporary or permanent opening of Vincent Square, S.W., a triangle in the Caledonian Road, N., a plot of land near Colebrooke Row, N.; Gordon House grounds, S.W.; the Eton and Middlesex Cricket Grounds, N.W.; and Soho Square, W. As regards the last-named space, a generous offer was made by a member to provide funds for its laying out and permanent maintenance if it could be secured. It was announced that the Constable of the Tower had kindly granted the request of the association to extend the hours of opening of the Tower gardens on Sundays and week days during the summer, and that the Islington Vestry had agreed to provide half the cost of laying out the Duncan Terrace enclosure, N. The valuable gift of a plot of ground in Marigold Street, S.E., as an open space was reported, and it was agreed to expend an adequate sum in laying it out. It was also stated that the churchyards of St. Catherine Coleman and St. Botolph's, Bishopsgate, had been opened by the association for the summer months, and that a balance of £3500 was still required for the purchase of the Hilly Fields, S.E., and £8000 for the Paddington playing fields, W.

**Names of plants.**—J. T. H.—Epidendrum cochleatum, Oncidium luridum, with thick fleshy leaf.—D. F.—1, Cattleya gigas; 2, Vanda tricolor insignis; 3, Cypripedium voluteum.—H. Jepherson.—1, Acanthus mollis; 2, Dieliptra spinosa.—T. Jones.—Epidendrum falcatum.—J. H. Ford.—Miltonia cuneata.—G. North.—1, Catasetum longifolium; 2, Cattleya intermedia.—O.—Thalictrum aquilegifolium.—Scolopax major.—Campanula persicifolia alba plena.

A. W. W.—Your Paches are suffering from mildew.



## WOODS AND FORESTS.

### SEASONABLE FOREST WORK.

**BARKING.**—The barking season has, on the whole, been very favourable, and many fine samples of bright well-dried bark are now finding their way into the market or yard of the tanner. Prices are, however, not very tempting, and it is almost a question whether, when all the expenses in connection with removing, drying and stacking are taken into account, as also, indeed, the deteriorated value of the Oak timber, cut as it is with the rising sap, the small profits left are worth the worry and trouble connected with bark stripping in our variable climate. Between £4 and £5 per ton for well-saved bark is not indeed a tempting bait, and every year prices seem to get less.

Timber should at once be cleared from the woodlands and either carted to the saw-mill or wood-yard, or lotted without the wood, and contiguous to good sound roads for ease in removal. Trees of about like size should be lotted together, and others of small or inferior growth placed side by side, such a method of arrangement for the sale being all in favour of the seller. Firewood and faggots should likewise be carted from the wood and stacked carefully for winter consumption. The timber, firewood, and faggots being removed, all dead and twisted branches should be neatly pruned from the trees and the wounds dressed over with paint or tar. Ditches in the woodland that were temporarily filled up with faggots for ease in cartage may be cleared out, and bare patches of the ground occasioned by timber-dragging, &c., sown down with suitable Grass seeds.

**NURSERY.**—This will be a busy time in the nursery, for what with keeping the weeds in check in this warm, showery weather, attending to seed beds, grafts and buds, transplanting where necessary, and many other operations, the time of those employed in the nursery will be fully occupied. Hoeing should only be done in warm sunny weather, so that the weeds may be killed outright, unless, indeed, the ground is raked after hoeing, and all the weeds thus removed, but this, unless in unusual seasons, is a waste of labour. Weeding seed beds should only be performed in showery weather, as then less damage to the young plants by pulling out the weeds is done.

Grafts will require to be gone over and the bands loosened, clay added, or it may be shoots removed from the stocks—all work that cannot afford to be neglected.

Look over beds of Pines and see that none of the numerous insect pests that are this year so troublesome have made an appearance. The Pine beetle is working great havoc in certain districts, and the Larch blight and Spruce Fir gall are unusually abundant, as they generally are when the atmosphere is moist and warm.

Pruning young deciduous trees, such as removing rival leading shoots, untidy and ungainly side branches, &c., may still go on. Cuttings of the various kinds of nursery stock that, to help in rooting, have been wintered in the cool frame will require a good deal of attention in the way of watering, shading, and cleaning.

Heaps of nursery refuse—compost—should be turned over and a small quantity of unslaked lime added, which will to a great extent prevent the germination of seeds, as also add to the manurial value of the soil. Such compost, when fully decomposed, makes

excellent seed beds, and is useful, when sifted, for many important operations in the nursery.

Elm seeds should be looked to and spread out for a couple of hours in the sun, after which they may with safety be placed in a cool, dry position, not in masses, but spread thinly out over a large surface.

**FENCING.**—Woodland fences will require a more than usual amount of attention during July and August, as farm stock, tormented by flies and ever greedy for the mouthful of sweet plantation Grass, will be hard to keep in bounds, and should they once succeed in getting within the enclosure, the work of staying the in-roads is more than doubled. Iron fences should be cleared of all rust and either painted or tarred during warm dry weather. Before starting, however, all Grass should be cut down close to the ground surface along the line of fence, so that the painting may be done as low as possible. Tar varnish I find excellent for iron and wire fences, but all blisters and rust must first be carefully removed. With the removal of hay from the fields and meadows, standard trees should be examined and their guards renewed and painted if necessary before stock are turned out. As time permits, the fencing of ground intended for autumn planting may be proceeded with, and in high-lying and damp ground this is advisable, as the fencing material can be more readily placed where wanted during the summer months than at any other time of the year. The contraction and expansion by the changes of weather should receive attention, as gates are often drawn out of place and cannot be locked by the variations of temperature.

**HEDGING.**—The pruning of such hedges as the Holly, Yew, Box, &c., may now be taken in hand, and a second trimming in a month hence will leave them neat and tidy for the season. Dig or fork the ground along the line of hedges, and should the Quick, Beech, or Privet show signs of being poverty-stricken, a good top-dressing of well-decayed farmyard manure will have a magical effect in setting matters right. But in any case the keeping of Grass and weeds from the base of hedges is a matter of so great importance so far as the welfare of the fences is concerned, that it should never be neglected even for a single season. Slight pruning of the hedges above named is all that is necessary at present, hard cutting back and beheading being left for the early spring. Laurel, Laurustinus, and the finer kinds of Privet may also receive attention at present. A. D. W.

**The golden-leaved Chestnut** (*Castanea chrysophylla*).—Probably no other tree of late introduction can surpass the golden-leaved Chestnut where wealth and beauty of foliage are points of great importance. At first, numerous doubts were expressed regarding the hardiness of this small-growing tree in any but the most favoured parts of these isles, but fortunately, after fully thirty years' trial in almost every part of this country, it has been found to be perfectly hardy, of very free though slow growth, and one of the most distinct and ornamental of small growing trees. From data that I have collected it thrives well, but slowly even in the north of Scotland, while in England and Ireland are many stately and nearly fully developed specimens. To Messrs. Veitch, of Chelsea, we are indebted for this handsome foliaged tree, it being a native of Upper California, where it attains a height of from 4 feet in the dry soils of Monterey to about 40 feet in the rich moist soils of Oregon. In the British Isles it grows freely enough and in any soil of fair quality, but prefers a rather sheltered position—at least when not too much exposed, the foliage is most abundant

and of the showiest tints. When at a short distance from the tree one might readily enough mistake this Chestnut for an evergreen Oak, the small deep green leaves having a close resemblance to those of that tree, and it is not until the wind ruffles the foliage that the powdery golden tint of the undersides is observable. By bringing this highly ornamental tree under notice it is to be hoped that it may meet with greatly extended cultivation.—A. D. W.

**Shelter for trees.**—Some conifers that are liable to be cut down by the late spring frosts thrive best when planted on a cold situation at a considerable elevation, for the simple reason that they are less liable to be excited into early growth in spring. I once planted a group of coniferous and other ornamental trees on a piece of flat ground near the bank of a small stream, where the soil was clayey loam resting upon clay, and well sheltered, and where the trees grew remarkably well with one exception, namely, a plant of *Picea bracteata*. This plant, although special attention was paid to it for years in the way of shading and giving protection, never made progress, and I believe it would ultimately have died had I not removed it to another situation on the north side of a hill exposed to the full sweep of the wind from the north. Here the only protection necessary was shelter from the heat of the sun during spring, and it soon recovered and proved perfectly at home in its new situation.—J.

**The Elm** (*Ulmus montana*).—In so far as general usefulness is concerned, the Elms approach more nearly the Oak, Ash, and Sycamore than any other tree grown for purely profitable purposes in this country. Both the English and Scotch or Mountain Elms (*U. campestris* and *U. montana*) are very accommodating trees, standing well on exposed grounds, and not over-fastidious about the soil in which they are growing. The price of no other home-grown timber varies to such an extent as does that of the Elm, almost every county or district having its own stated price, this varying from 10d. to 2s. per foot. From statistics collected for many years back, it would seem that, taking the British Isles as a whole, the wood of the English Elm realises more than does that of the Scotch form, but local demand in a few cases at least reverses the matter. In some parts of England I have had no difficulty in selling Elm timber at 1s. 8d. and 2s. per foot, and did so for fully ten years; whereas in another part of the country I have had the greatest difficulty in procuring more than 7d. or 8d. per foot, and that, too, for big, sound logs that contained, say, on an average 40 cubic feet each. Speaking generally for the whole of the British Isles, I would be inclined to put down the price of Elm timber on an average at a little more than 1s. per foot. In seaside districts the wood of the Scotch or Mountain Elm brings a higher return than does that of the English tree, the timber being justly considered of better lasting quality where used for ship and boat-building. There are many uses to which Elm wood is applied in this country, but probably in the construction of carts, carriages, trams, &c., the greatest quantity is consumed. It is of a dark satiny colour, polishes well, but requires very careful seasoning, so as to prevent warping and splitting.—A. D. W.

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No. 1079. SATURDAY, July 23, 1892. Vol. XLII

"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—Shakespeare.

## ORCHARD AND FRUIT GARDEN.

## THE FRUIT CROP, 1892.

IF we take a backward glance as to the position of affairs last August and for a part of September, the verdict (anticipatory, of course) would have tended in most cases towards a more general failure than we have experienced. For a short time in September we had very fine and warm weather. I think this had much to do with our present fruit crops, for it undoubtedly accelerated the ripening process to a considerable extent. I well remember the wet season of 1879 and the failures of the following year. Bearing this in mind, I was, I must confess, somewhat fearful of a repetition. The past winter was not, however, so severe as that of 1879-80. What has given me the most satisfaction this year is the splendid crops of Peaches and Nectarines; in my own case not a tree has failed, but, on the other hand, thousands of fruit have had to be removed. This appears to be pretty general all over the country, and it is fortunate that it is so, for in some places the impression has been gaining ground (fallacy though it is to all practical cultivators) that our seasons are not so favourable now as formerly to the culture of these fruits. The crops of the present season should go a long way towards dispelling this idea, bad management being more often than not the real source of failure. In my own case I have not failed to secure a crop for at least ten years in succession, and that with none of the best of aspects.

In suitable positions and on congenial soils the Apricot is also bearing well. In a well-managed garden I recently saw immense crops. Cherries likewise have done remarkably well, the earlier of course now gathered, with fine crops of Bigarreaus and Morellos still on hand, the latter of course not nearly ripe. Black, White, and Red Currants are also as satisfactory as anyone could desire; in my own case they were never better. Gooseberries were a good crop, but through the demands made upon them in a green state but few are now left. Strawberries have not been so good as usual, the plants, particularly in young plantations, having suffered to a serious extent in the early spring from the prevailing easterly winds and low temperatures. Then when the fruit was swelling the plants suffered from want of moisture just when it was the most needed. The Apple crop is a pleasing surprise after a heavy crop last year. Many of the same trees and varieties are in my own case again carrying very heavy crops of fruit, looking at the present time very clean and promising. Stewing Pears are likewise all that one could wish, and that again after the splendid crops of last season. Dessert Pears, on the other hand, appear to be a general failure. There must be some cause for this. With me it was not through the want of sufficient bloom, for the trees were a splendid sight. I think it is rather to be attributed to the few severe frosts just at the critical time of the fruit setting. In some instances it would no doubt have been caused by the long period that elapsed between the time of the buds first starting and their development into the expanded flowers. After starting there were successive checks, which must have

seriously crippled the flowers in many instances, causing them to open weakly, if still looking fairly well at a glance. The Apples, on the other hand, were not nearly so long about whilst in the flowering stage; hence, I think, we have secured the good crop we now have. Plums, as far as I can gather, are a partial crop; this too, I think, must be attributed to the frost, although in many instances the trees that last year bore extra heavy crops would this year take an enforced rest. In my own case I cannot complain; all things considered, I think we have our share, whilst the trees look remarkably well.

Considering the generally heavy crops of last year, I think the success of this season is to be attributed more to the heavy rainfall of last summer and autumn than to any other cause. That rainfall undoubtedly sustained many trees that greatly stood in need of it during the swelling of the fruit; hence the growth as well as the fruit was benefited thereby. This season so far has not been remarkable for any surprising amount of rain. Those, therefore, who have taken the precaution to mulch their fruit trees where there is any susceptibility to drought will have done well. Those who have not done it will do the best possible thing by attending to mulching at once before their trees suffer. In many cases it would be wise to water the trees; in spite of the recent rains it is quite possible that many are still on the dry side. I feel fully persuaded that this neglect of watering or insufficient moisture, although not sufficiently perceptible to affect the crop for the time being, does seriously impair the vitality of fruit trees for the successive season or two. Of course the condition of the trees must be taken into consideration. If the growth be more robust than is desirable, this must be taken as an indication that the trees are deriving sufficient nourishment to sustain them. Another pleasing feature this year is the immunity from insect pests. Complaints appear to be but few. This should bode well for another season. We are now getting past the time when any trouble from insects need be seriously apprehended—at any rate where the fruit trees are well attended to.

H. G. H.

**Peach stones splitting.**—I have a tree of Early Louise Peach. At the present time there is a crop of about twenty dozen fine Peaches on it, and the stones of quite two-thirds of them are split. I have tried various methods to prevent it, such as keeping the tree rather dry at the root, heavy cropping, discontinuing the use of the syringe when the fruits begin to swell after stoning, and lifting the tree annually, but so far I have not been able to make any difference. I should like to know if other gardeners have the same fault to find with it, and what can be done to stop it.—T. T.

**Strawberries.**—It may be of interest to note that the dessert Strawberry season outdoors will last this year nearly six weeks, beginning with Noble on June 7, and ending with Filbert Pine about the middle of July. Particular varieties so lend themselves to different soils and situations, that it is impossible to lay down any definite rules as to selection of sorts that shall be suitable for every place. The best plan to adopt is having found some three or four serviceable varieties to hold fast by them, weeding out others that may not be so well adapted to meet individual requirements. Personally, I shall only grow three sorts next year for dessert, the two mentioned above and Sir J. Paxton, with a batch of Viscountess for all kitchen purposes. If the special bright colour of Grove Scarlet is not insisted on for preserving, there is nothing better than Viscountess. It is, too, a tremendous cropper, and if kept picked rather hard has a very long season. Cox's Hybrid

was a well known preserving Strawberry in the south of England some thirty years ago. I do not know if it is still in cultivation. It was, like Viscountess, a very heavy cropper, of medium size, and somewhat conical in shape. It was too acid to be accepted as a dessert fruit, unless allowed to hang until nearly the colour of Black Prince, then a few dishes were sometimes tolerated. It was about the latest Strawberry then known. Better flavoured sorts as Loxford Hall, Waterloo, and Filbert Pine have now, however, taken its place, and it is a variety one very seldom hears mentioned. Filbert Pine is by far our best late kind and an excellent cropper of fair size and good quality.—E. BURRELL, *Claremont*.

## CHOICE PLUMS UNDER GLASS.

WITH a surfeit of other kinds of fruit which can be had at this season of the year, it may be thought that the cultivation of Plums under glass might be dispensed with. Such is not my experience, as Plums are amongst the most cherished fruits when grown under glass. The season is also greatly prolonged, as I gathered Jefferson's the first week in July from a trained tree in our Plum house. This tree will give a succession of fruits for quite three weeks, and will be followed by Kirke's. The quality of Plums grown under glass is also excellent, being very rich and juicy, this being enhanced by allowing them to hang until they are ready to drop. The later kinds are also splendid when grown under glass, as in some districts it is only in this way that they can be grown. The present season has proved how variable our climate is. When the fruit reports from the various parts of the country are published, I am under the impression that in no previous season will such variability be noticed. In some districts there will be plenty of some kinds of fruit, and in others very little or any of the same kind. For instance, I never saw a heavier crop of Plums in the open, all varieties being the same, whilst against an east wall, and which hitherto has furnished our earliest dessert Plums from the open air, the crop is almost a failure. This, again, shows the value of growing a few under glass, where the bloom is free from frost and the young fruits grow away freely without a check.

In the cultivation of Plums under glass, a close, warm, and muggy atmosphere whilst the trees are in bloom, and too cold a temperature coupled with cold draughts must be guarded against. Cold draughts with a low temperature stagnate the sap, and if too warm the small fruits are excited too much; consequently they turn yellow and drop off. As a rule Plums are only cultivated in pots when grown under glass, but they fruit equally well when planted out if given a firm border, with ample calcareous matter in its composition. Our trees are trained near the roof in a structure with a southern aspect, and in this position they bloom so freely as to need a deal of thinning out. The attention required is very simple, and in my case the main branches start from the base, the side laterals being pinched to form spurs. The branches as it were are like single cordons. Allowing these side shoots to grow away strongly will only end in failure, this tending to an over-gross habit. A warm shower bath from the garden engine on all fine days, both morning and afternoon, from the time the fruit is set until just on the point of ripening is what they require. This will keep the trees clean and free from red spider, the pest most likely to attack them under glass, but with plenty of clean soft water there need be



but little fear of injury to the foliage from this cause. The fruits will ripen up, and as they hang clear of the boughs they will carry a beautiful bloom and be free from blemish of any kind. Very little artificial heat is needed. During mild weather the more air the better as long as there is freedom from cold draughts. The advantage of growing Plums in pots lies in its checking exuberant growth and allowing them to be cultivated with other orchard house subjects; another advantage is that the trees may be removed to the open air after the fruit has been gathered. After the removal to the open air, particular care must be taken to keep the plants well supplied with water, as from the want of this the future crop is likely to suffer.

Y. A. H.

**Judging Grapes.**—It very commonly happens that when such well-known white Grapes as Muscat of Alexandria, Buckland Sweetwater, and Foster's Seedling are brought into competition that Muscat of Alexandria is placed first because it has a reputation for high flavour. But some judges, I have observed, display better regard for the fitness of things, and notably at Earl's Court recently some capital bunches of Buckland's Sweetwater were placed before those of Muscat of Alexandria, for the excellent reason that whilst the former were really good of their kind, the latter were indifferent representatives of the variety. If it is not possible to have special classes for Muscats early in the season, at least every consideration should be given to finish, size of berry and bunch in the case of competing varieties. Black Hamburg Grape seems to be in almost as difficult a position when placed in competition with Madresfield Court; indeed, it is doubtful whether any black Grape can favourably compete with Madresfield Court when that variety is represented by highly finished samples. Still, it not unfrequently happens that unripe and even reddish Madresfield Court—solely because the berries being hard thinned are very fine—is placed before good Hamburgs. In the autumn competitions these difficulties are not so evident at good shows, as there are usually more classes, as, for instance, at the newly-arranged fruit show at Earl's Court on August 26, when there are provided some seven classes for distinct varieties. —A. D.

**Strawberry notes.**—I was under the impression that quality in forced Strawberries was preferable to size. But Mr. Iggulden thinks differently, as he says that quality is quite a secondary consideration now-a-days as long as fruit of the largest possible size is forthcoming. Certainly the wishes of those whom we may have to cater for have to be considered, but according to my experience superior flavour in a forced Strawberry—or at least as good as it is possible to secure under the changed artificial conditions—is of the utmost importance. Vicomtesse Héricart de Thury, like Keens' Seedling, has to be well grown to bring out its latent qualities, and when this is done the size of the fruit is not to be ridiculed. The above, with President, leaving out British Queen, are as many as need be grown in any establishment. If I was confined to one Strawberry for forcing it would be Vicomtesse Héricart de Thury, and if two I should add President, and if a third it would be Keens', that is for flavour, colour, and size combined. Growing a dozen kinds is certainly out of the question, but whether this number is really grown in many gardens I am not in a position to state. I have seen it done for experimental purposes, and the very best Strawberries I have ever seen grown were in the garden at Loxford Hall by Mr. Douglas. Unser Fritz, Auguste Nicaise, Duc de Magenta, and all of that ilk were well tried, and after all these years I think Mr. Douglas would bear me out in saying that Unser Fritz was the best. Noble may certainly suit some palates when forced, but it is not my experience. It is to be hoped that these large, coarse, and insipid fruits will not take the place of the more superior

flavoured kinds or check their advancement. I place these large and coarse-fruited Strawberries in the same category as coarse Grapes and Pears. Noble suits its purpose. It is a large and good market Strawberry, and also useful for the first batch in the open air. It comes in early, sets freely, and is a sure fruiter. It has probably been the most written-about Strawberry since its introduction some six years ago, but I think the majority of cultivators will bear me out when I say that directly the more superior flavoured kinds come in, Noble is passed by. These large kinds are all very well to make a show dish in the dessert, and this is where they are favoured by visitors and come in for high encomiums on account of their handsome appearance, and the gardener is complimented on their production. If these smaller fruited kinds are of such good flavour, and may be depended upon as being free setters and of good colour, then why banish them from our gardens?—Y. A. H.

### STRAWBERRY LOXFORD HALL SEEDLING.

THIS is one of the few varieties of Strawberries that both require and merit special treatment. Grown under similar conditions to the majority of main-crop and late sorts, the probability is it will fail, and that is why it is not oftener seen in good condition. In the open and exposed to full sunshine during the greater part of the day, the growth of the plant is feeble, red spider is in the ascendant, and the fruit is comparatively worthless. Such proved to be the case with me and with others who to my knowledge treated it very similarly. My original stock dwindled away to a few poor plants, but well knowing that the variety was greatly esteemed in some gardens, I procured a fresh lot of plants and acted on the advice accompanying them to the effect that a cooler site ought to be given the variety. Acting on this good advice, a wall border facing north-east was principally devoted to the Loxford Hall Seedling, small breadths of Waterloo, Countess, and Unser Fritz occupying the rest of the border. The two last were comparative failures, and Waterloo neither grew nor cropped at all satisfactorily, but the variety under notice succeeded remarkably well. Strawberries in the open were a short and quick crop, there being none but small ones available on and about July 13. On that day I picked for a special purpose two grand boxes of Loxford Hall that eclipsed anything else grown in the open this season, only the very best of the house-grown fruit of Auguste Nicaise rivaling them for appearance, while as regards quality, it surpassed them all. The fruit is large, cockscomb-shaped, very firm, and the seeds being well on the surface, prove that it is a good traveller. The mistake is often made in gathering the fruit too soon. It is slow in ripening, and ought not to be picked till quite red all over, this, in addition to ensuring a better appearance, also allowing good time for the full rich flavour to develop. The flavour is slightly acid, or not unlike that of Sir Charles Napier, but it pleases all who have an opportunity of tasting it at its best. Not only is a somewhat cool site or a position where the sunshine only reaches during a part of the day necessary, but the other treatment should vary from that accorded to most other varieties. It is not a strong grower, and only healthy young plants produce runners early and freely. These latter ought to be taken good care of and layered into either the decaying mulching material under the clean straw, fresh rich soil, or pots. Either early Potatoes or Turnips will succeed well on

borders facing eastwards, and these would come off in time for the newly-layered plants of Loxford Hall to succeed them. There ought to be no undue delay in getting the plants out, and all the preparation needed is to merely clean and surface-hoe the ground. The variety being of neat compact growth, and for another reason which I shall give, it is a mistake to allow the plants much room. They may well be put out 18 inches apart each way, another 2 inches being perhaps advisable where the soil suits Strawberries, be firmly planted, and kept watered till well established. All going on favourably, these young plants should produce a moderately heavy crop of extra fine fruit, and the following season a considerably heavier and also still later supply of moderately large fruit can be had. It does not pay to keep the plants on the ground more than two seasons, as the crops that old ones produce are of very little value. All cannot devote fairly large wall borders to this or any other variety of Strawberry, but they may yet be able to find a moderately cool site, or, say, a breadth of ground shaded by fruit trees about half the day. In such positions and with fairly liberal treatment, the more delicate varieties grow surprisingly well, red spider not greatly injuring them.

W. IGGULDEN.

**Raspberries.**—The note on Raspberries at p. 34 was most opportune. As some varieties have failed to give a crop this season, those that do well are deserving of notice. In these pages I have on previous occasions recommended Superlative as a sterling variety for general cropping; indeed, I do not know of any kind that is so robust and bears such heavy crops as this. I am now gathering it in quantity, having commenced on the 6th inst., and it bears a long time. The great advantage of this variety is its free cropping qualities, hardiness and freedom from disease. I have a few rows of other kinds alongside of it, and they are much inferior to Superlative; indeed some have no fruit at all. I would strongly advise growing this variety where other kinds fail, or where disease affects the canes. I believe in not allowing Raspberries to remain too many years in one position, and above all not to allow all the growths to remain, but to thin out to three or four. When the fruit has been gathered, all the fruiting canes should be removed, not allowing them to remain a day longer than is necessary to secure the crop. In this way large canes the size of a walking-stick will be secured for next season, and very few stakes or ties will be required.—S. H.

**Laxton's Jubilee Strawberry.**—I have grown this variety for two seasons, and this year it has borne a heavy crop of very fine fruit. On a north border under a high wall it looks as if it is going to be a valuable late kind. I began gathering in quantity on July 4, and green fruit now swelling will continue the supply for another fortnight. With new kinds one never cares to plant large breaks, but last season my few plants did so well, that I planted more, and it has proved a valuable acquisition. I prefer it to Waterloo, the flavour being so much better, and with me the plant grows more freely. Jubilee is a distinct variety, and certainly repays Mr. Laxton for his many years' patient labour in hybridising Strawberries. I would certainly advise those who require a good late Strawberry to give the above a trial on a north border. I find it grows well in most soils and positions, and for late purposes on a north aspect well repays by the enormous crops it bears. I intend next season trying a few in cold frames for a last crop. Under glass I feel sure, by its freedom of growth, heavy cropping qualities and superior flavour, it will prove valuable for pot work or for planting out in frames for a late supply.—G. WYTHES.





THE GARDEN







## TREES AND SHRUBS.

## THE WEEPING BEECH.

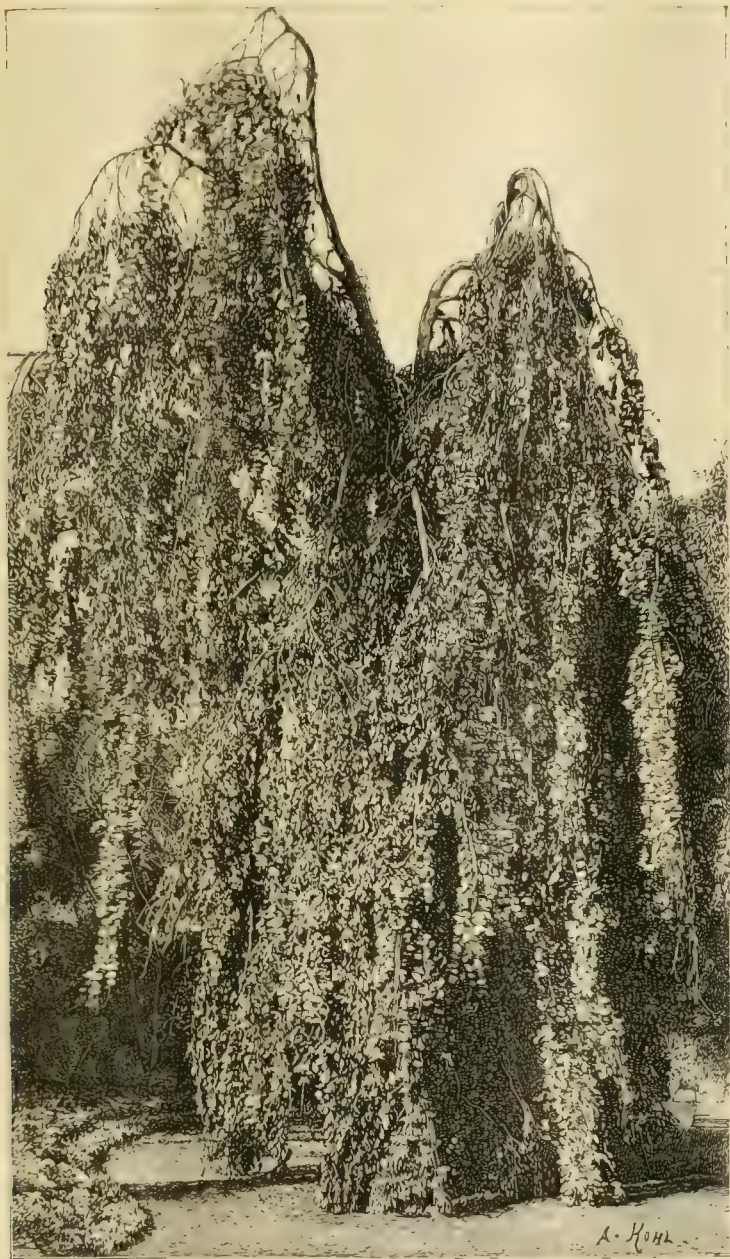
(FAGUS SYLVATICA PENDULA.)

THERE is no more persistent weeping tree than the Beech in question, for both branches and spray in gentle massy flakes hang one over the

come more fully developed to an easy and graceful outline, that is almost unique in the class of trees to which it belongs. The Weeping Beech is one of those trees that improves with age, the wealth and deep tint of leaves being only fully developed when a height of from 20 feet to 25 feet is attained—a fact that is clearly evident by the many fine specimens that are to be seen in the Woking

perhaps any other tree, associates well with well-kept grounds. By the lake or stream, too, the Weeping Beech is a good companion to the drooping Willows, but it wants higher and drier ground and more room for development, for crowding is ill-suited for the peculiarities of the tree.

It is well to bear in mind that there are great differences in the character and appearance of the Weeping Beech, and to get the most desirable form one cannot do better than pay a visit to some good tree nursery and pick for himself. There is a good purple-leaved Weeping Beech, but it is not very plentiful, at least, in judging from the beauty of the tree, its appearance in our best gardens might be far more frequent. It, too, is grafted, and there are many inferior shades of purple, as well as badly-grown trees, that it is well to avoid when procuring specimens. A. D. WEBSTER.



Weeping Beech. From a photograph sent by Mr. Edwin Beckett, Aldenham House gardens, Elstree, Herts.

other in a rather odd, but at the same time graceful and pleasing manner.

Probably in a young state the Weeping Beech does not meet with the almost general approval that is meted out to the great majority of our weeping trees, the one-sided and somewhat stiff appearance consequent on grafting rendering it for the first ten years of its growth a by no means ornamental tree. After, however, it has attained to a height of 10 feet or 12 feet, the youthful stiffness and ungainliness gradually give way as the branches be-

nursery, Surrey, some of which are amongst the best developed and finest in the country. When the above mentioned height has been attained, the Weeping Beech becomes a tree of singular beauty, odd to some extent though the general outline and peculiarity of growth may be. Isolated specimens of this Beech, as, indeed, of most drooping trees, show off to the best advantage, and there are few places where a well-grown tree is not an object of admiration, but particularly if the surroundings are in keeping; for this Beech, more so than

**Weigela candida.**—The different Weigelas usually bloom in great profusion during the spring months; but in the case of some of them a few scattered blooms are often kept up throughout the summer, which is a great point in their favour, for hardy shrubs in flower at that time are by no means numerous. These secondary blooms are scarcely ever met with in the case of some varieties, while others may mostly be relied on to produce them to a greater or less extent. One of the most noticeable varieties in this respect is *candida*, a free-growing upright-habited bush, whose leaves are longer in proportion to their width and more Willow-like than those of the others. This must be regarded as one of the two best white-flowered Weigelas, the other being *W. hortensis nivea*, but the two are so distinct from each other that space even in small gardens may be found for both of them. The flowers of *W. candida* are greenish in the bud state, and continue so for some little time after expanding, but soon become pure white. *W. hortensis nivea* is of a somewhat loose spreading habit of growth, with large leaves of a rugose character, while the flowers are pure white. It is rather more exacting in its requirements than *W. candida*, and a very noticeable difference between them is the way in which they strike root from cuttings, for *W. candida* roots very easily, while the other occupies a good deal longer time, and is the most difficult of all the Weigelas to strike.—T.

**Late-flowering Barberries.**—While the flowering season of the common Barberry (*Berberis vulgaris*) is past, there are two distinct species yet in bloom, for which reason they are particularly noticeable. The first is the Himalayan *Berberis aristata*, or at all events the plant usually grown under that name, regarding the correct nomenclature of which a good deal of confusion, I believe, exists, for by some authorities the correct name of the plant in question is said to be *Berberis Lycium*. It forms a free growing bush of a rather erect habit, whose golden yellow flowers are borne in drooping racemes. In a young state it does not as a rule bloom freely, but when it attains the dimensions of a fair sized bush, say 6 feet or 8 feet high, flowers are borne in great profusion. When raised from seed the progeny is as a rule somewhat variable in character, and for one under the name of *B. aristata integrifolia* Messrs. Veitch were awarded a first-class certificate by the Royal Horticultural Society as long ago as July 12, 1887. This Barberry is quite hardy and of good vigorous constitution, so that it will hold its own under adverse conditions after the manner of the common kind. The other late-blooming one (*Berberis cinnamomea*) is, however, far more delicate, and at its largest is but a small shrub. It is of a dwarf much-branched habit of growth, while the slender shoots are clothed with neat rounded leaves, light green above and of a beautiful silvery-white underneath. The flowers, which are at no time borne in great profusion, are pale yellow, and look very pretty nestling among the tender green foliage, while they are often borne throughout the months of July and



August. This Barberry may be planted in the foreground of a group, or given a good place on the rockwork it will be very effective. It is usually regarded as an Evergreen, but unless the winter be very mild it can scarcely be looked upon as such, though when raised in quantity from seed it will be found that some plants retain their leaves much longer than others. This little Barberry is also a native of the Himalayan region. In noting the principal features of *B. aristata*, I omitted to mention that it is often sub-evergreen in character.—T.

**Zenobia speciosa pulverulenta.**—This deserves a place in every garden where there is a suitable position for it, as it is one of our most desirable shrubs, beautiful both in foliage and in bloom. It requires much the same treatment as the hardy Azaleas, and, like them, very much resents being dried up during the summer. *Zenobia speciosa* forms a dense growing shrub about a yard high, clothed with small roundish leaves of a pale green, and about midsummer is thickly laden with drooping bell-shaped blossoms of a pure white wax-like texture. The variety *pulverulenta* has the leaves covered with a white mealy glaucousness, which is so pronounced, that the entire plant is quite a mass of that hue. In common with several of its allies, the blooms of this *Zenobia*, from their thick waxy character, remain in beauty a considerable time, and as a succession is maintained, its flowering season is spread over a longer period than in the case of many shrubs. Where associated with some of the hardy Heaths, *Daboecia polifolia*, the *Andromedas*, and such classes of plants, this *Zenobia* is seen at its best, and will help to make many a pretty picture. It is also known under the name of *Andromeda*, and upon the glaucous variety Dr. Lindley bestowed the name of *Andromeda dealbata*.—T.

**Deutzia crenata fl.-pl.**—A flowering shrub to be made a note of is this *Deutzia*, which when at its best is quite a mass of beautiful rosette-like blossoms. There are two forms, one in which the blooms are pure white, known as *candidissima plena* or *Pride of Rochester*, and the second in which they are more or less tinged with purple on the outside. To this variety the names of *roseo-plena* and *extus purpurea* have been applied, while by some it is simply regarded as a double form of the typical kind under the name of *Deutzia crenata fl.-pl.* This *Deutzia* forms a good-sized bush, which is seen to very great advantage when standing singly, or at all events sufficiently clear of other shrubs to allow the formation of a well-balanced specimen. A little trouble in pruning it is well repaid if properly performed. The time for this to be done is as soon after flowering as possible, and the object aimed at should be the removal of weak and exhausted wood in order that the vigorous shoots, upon which depends a good deal of the future display, may have every opportunity allowed them for their full development. A very fine plant of this was lately a conspicuous object on a wall in the Royal Horticultural Society's Gardens, Chiswick.—H. P.

**Desfontainea spinosa.**—In many districts of England, especially near the sea, this Chilean shrub will both grow and flower in a satisfactory manner, but where such is not the case it is well worth the protection of a greenhouse, as its blossoms are very striking and distinct in character. It is a plant that is pretty well known, but its merits as a greenhouse flowering shrub are not sufficiently recognised, for it is usually seen, except in some favoured spot, struggling for existence outside, and under such conditions it wears a very unhappy look. It may be kept fairly well in pots, but succeeds best where planted out in the cool greenhouse and allowed to remain undisturbed. The plant is of a sturdy, freely branched habit of growth, with foliage very much like that of a Holly, while the drooping tubular-shaped blossoms are scarlet tipped with yellow. This *Desfontainea* was introduced into British gardens by William Lobb at about the same time as *Lapageria rosea*, *Escallonia macrantha*, *Embothrium coccineum*, *Philesia buxifolia*, and *Berberis Dar-*

—truly a brilliant group of flowering shrubs. Though *Desfontainea spinosa* is here spoken of as a beautiful flowering shrub for the greenhouse, plants so treated are, of course, not to be compared with examples of it in the milder districts where it flourishes in the open ground. In Devon, Cornwall, and many parts of Ireland it is at home, and so is the Fire Bush (*Embothrium coccineum*) from the same region, which when laden with its clusters of brilliant Honeysuckle-like blossoms is such a gorgeous sight as to recall some native of the Tropics. The *Desfontainea* may be propagated by means of cuttings, which are not particularly difficult to root, though they generally stand some time before doing so. Treated as greenhouse *Rhododendrons*—that is, taken when the young growth is about half-ripened, inserted into well-drained pots of sandy soil, and kept close in a temperature slightly higher than that in which they have grown—they will give but little trouble. I have also struck the *Embothrium* in the same way, though it has the reputation of being a very difficult subject to root.—T.

## KITCHEN GARDEN.

### LIFTING EARLY POTATOES.

JUDGING by appearance, we are likely to have a fine crop of early Potatoes. Up till now, July 12, the season has been very favourable, and on our heavy soil the dry weather has not affected them in the least, the showers which have fallen at intervals being sufficient to keep them on the move. The June frosts, which proved so disastrous to this and other crops in low-lying districts, have not done the slightest harm. The disease is what we have to reckon with, as now-a-days there appears to be but little difficulty in producing large crops if only the weather during the closing days of July and the early part of August is such as to allow the crop to finish off well. This is the time when the damage is done to our early Potatoes if a spell of cold and wet weather should set in, or even a few days of close and sultry weather. A comparatively low temperature does not hurt Potatoes as long as it is not wet with it. It appears that the one panacea for the disease in early Potatoes is early lifting, or at least when the crop is fit. No set time can be stated, as of course there are local contingencies to be reckoned with, as late districts, late planting, and so forth. Early Potatoes are frequently left in the soil much longer than there is any necessity for, as many people do not care to lift early, thinking by so doing that the tubers will become depreciated through their turning soft, and so forth. Many a fine crop of Potatoes has been lost through the grower's mistaken notion of allowing them to remain in the soil a week or a fortnight longer than they should have been, let alone the baneful practice of letting them wait until the haulm has withered up. Directly the crop is ready is the time to lift it, and more than once I have found to my cost how unwise it is to delay the digging for even a week through the stress, perhaps, of other work. The practice of allowing the haulm to wither up before thinking of taking up the crop cannot be too strongly condemned, for directly the stems commence to change colour all growth has stopped. The most suitable time to lift early Potatoes is after the stems fall over and change colour, and then the quicker they are out of the ground the better.

It must be understood that my observations refer to the early section of Ashleafs, and which in many gardens are still relied upon for daily use throughout the summer and autumn months. Many varieties have been brought forward to

supersede them, but they gradually fall out of general cultivation in favour of the older and well-known kinds of Ashleaf, such as Veitch's Improved, Rivers' Royal, Myatt's Gloucester Kidney, or others of the same section, one and all being of good table quality. In some gardens the storage of these early kinds rarely if ever takes place, there being only just sufficient planted to be dug as required for early use. It is rarely the quality of these first earlies is found fault with. If the Ashleafs are equally good for early and midseason use, or until the later kinds come in, it is greatly in favour of their being more extensively grown.

As a safeguard against the disease, some growers say that pulling the haulm prevents the tubers being attacked. This is put forward as a plea against early digging, or at least if there should not be time to get up the tubers. If it will save them from the disease, well and good, but where large crops are grown the amount of work entailed is against it, and if only a few are grown they are quickly got up. Unless, however, the haulm can be taken clear away and burned, any germs floating in the air will attack the parted haulm just the same and spores be propagated for the later growing crops in the immediate vicinity. Sooner than resort to pulling the haulm, thinking by so doing to keep the disease at bay, the best course, if possible, is to take the tubers up.

After being taken up, what is needed to ensure their finishing up well is a dry, cool, and airy shed from which light is totally excluded, and where there is sufficient space to lay them out thinly to the depth of 10 inches or a foot. When huddled together in heaps and further closely covered up with bags, steam is generated, to the depreciation of the quality in the tubers. When taken up I like to allow the tubers to remain on the surface an hour or two so as to become fairly dry. A. Y. A.

### THE POTATO DISEASE.

THE report of the Board of Agriculture on the recent experiments made with the Bouillie Bordelaise (Bordeaux mixture) for checking the disease of the Potato, if not entirely satisfactory, goes to prove that the remedy, if properly prepared and judiciously applied, is able to combat with, and to a certain extent arrest the disease caused by the fungus *Peronospora infestans*, and justifies the conclusion that the outlay more than repays the cost of the mixture and its application. That these and other experiments should be continued and taken up by all who are interested in the cultivation of this valuable esculent is greatly to be desired, and if satisfactory results are obtained, they may ultimately be the means of stamping out the disease, and bringing an incalculable boon to the country. Instances of the Bouillie Bordelaise having failed are no doubt attributable to the mixture not having been properly prepared, or too large a proportion of sulphate of copper being used, as well as the difficulty in getting the mixture to adhere to the foliage, also spraying the under parts of the leaves. Sulphate of copper in its crude state being poisonous and injurious to vegetation, it is necessary to exercise great care in its preparation and application. If too large a proportion of the sulphate is used it becomes injurious, but when reduced to 10 or 15 per cent., it is then perfectly harmless to vegetation.

One great objection to the Bouillie Bordelaise is the difficulty in applying it so as to spray the whole of the foliage, especially the under portions of the leaves, and without the additions of soap, or as recommended in the report (molasses), it will not adhere to the foliage; consequently it is liable to be washed off by the first shower of rain. A more recent and less expensive preparation of sulphate of copper has been brought out in the form



of extremely fine powder called "Sulfosteatite Cuprique," prepared by a most ingenious process. This specific is an infallible remedy against all cryptogamic diseases, and has been used extensively by the Vine cultivators in the south of France, Germany, and America with most successful results, arresting and destroying the oidium on the Vine, diseases of the Potato, Tomato, Beetroot, as well as mildew on Roses, fruit trees, and mould in the Hop.

This preparation is readily and easily applied with the sulphurator or bellows, and being in the form of extremely fine powder it attaches itself at once to all parts of the plant, being very adhesive; and containing copper in a soluble state, operates as soon as the damp acts upon it, and, different from the Bouillie Bordelaise, is perfectly harmless to vegetable and animal life. J. CRANSTON.

*King's Acre, Hereford.*

### WINTER TOMATOES.

THOSE who value Tomatoes all the year round would do well to make preparations for the winter crop. The growing of Tomatoes in the winter months is not a costly process if special preparations are made in July or August to get strong plants for the purpose. I have tried various kinds for winter cropping, also plants from seed and cutting, and, so far as my experience goes, I prefer seedlings at this season and to strike a good batch of cuttings in September to give the early or spring crop to form a succession to the winter crop. Much has been written about varieties, but as the large smooth kinds, such as those of the Perfection type, are grand for summer work, for mid-winter fruiting they are too shy and a large fruit at that date is not expected. Conference and Prelude are excellent varieties to sow at this date, though some of the old red section should be included, as I find the last-named the best of all for winter, and though less handsome, the flavour at that period of the year is superior to that of the smoother kinds. Last season one or two really useful kinds were exhibited by Mr. Leach at the meetings of the Royal Horticultural Society in the early spring, and one variety named Ladybird was of great merit as a winter fruiter, bearing its fruits in large clusters, the colour being a deep red. This, though small, will undoubtedly prove an excellent winter variety, the flavour being equal to that of summer-grown fruit. I have gone into the merits of the above kinds for this reason, as those who wish to secure a profitable crop of winter fruit would do well to fight shy of showy kinds, as they do not give a heavy return. Whatever variety is grown, it is necessary to get the plants into a fruiting state by the beginning of October and during that month to secure a heavy set of fruit, so that if seedlings are raised at this date good sturdy plants will be had for the autumn supply. I prefer to sow the seeds in 3-inch pots in a cold frame kept close, sowing a few seeds in each, and when above ground removing all but the strongest. Equally good plants may be raised in the usual way by sowing in pans and pricking off, but I think when sown in small pots in a cold frame close to the glass a more sturdy growth is secured from the start, and this latter is a great point in winter fruiting plants. After the seedlings have made a fair growth and filled their first pots with roots, a shift into a 6-inch pot is given, using a good loam, but no manure, which causes too much leaf growth. Another shift takes place early in September, and in our case this is the final one, 8-inch or 9-inch pots being used, the plants securely staked and placed in the open till the end of the month, when they are

removed to their winter quarters, but still kept as cool as possible, as in most gardens there is a supply of fruit from the summer plants till November or December. The plants being grown cool continue to set freely to the end of November if the pots are full of roots and the plants given plenty of light, leaving plenty of air on the ventilators at night. At that date feeding commences. I grow our Tomatoes for winter in low pits, keeping them in pots, but I plunge them as soon as the plants are introduced into their winter quarters, and as the season advances top-dress with richer material; indeed, towards February the roots are thickly matted all over the plunging material. Our plants sown at this date last year are now giving heavy crops, though of smaller size than from spring-sown plants. Of course where there is convenience, plants may do best planted out from the start. I have tried both with equal success, but in private gardens the pits during the summer and early autumn are required for other purposes. Good results are secured from plants in pots, though more attention is necessary. The supply of winter fruit is usually exhausted by March or early in April, as it is almost impossible in many districts to secure a set after midwinter; hence the necessity of getting a good set of fruit in the early autumn, and to keep the plants in a robust condition to finish their fruit during the worst part of the year. To form a succession so that no break occurs in the supply, I have relied upon plants in 6-inch or 7-inch pots raised from cuttings struck in September, and given one shift into the size named, keeping the plants growing in a temperature of 50° all the winter and close to the glass. These fruit very early in the year, and though they do not give a great weight of fruit, they bridge over the interval between the winter and spring-sown plants, as when given a good fertiliser and more warmth in the early spring they soon mature a crop. G. WYTHES.

**A good early Potato.**—Some two or three seasons ago I called attention to the value of a Potato that I had been selected from Covent Garden Perfection, and grown as a first early. A friend learned in Potato lore tells me he thinks it is Sharpe's Duke of Albany. It deserves to be very widely known. A first early (I started digging it on a south border on June 17), it is also of large size and excellent quality. Indeed, so good is the quality, that when I start the later kinds there is generally an outcry "for more of the sort we have been using." Perhaps someone who knows Duke of Albany Potato well will say if it answers this description. I may add that the growth is somewhat strong, the flowers white, tubers of about the size of those of Beauty of Hebron, but quite white white, eyes rather deep.—E. BURRELL.

**Sowing late dwarf Peas in July.**—Some good dishes of Peas in October and November are always appreciated and come in useful, and to get them in quantity there are few better varieties than Chelsea Gem and William I. sown the second or third week in July. If these varieties are sown, there will be little fear of failure if the ground is in good condition and the soil kept moist in dry, hot weather. The value of these dwarf kinds is that they may be sown on a border where protection can be given if the weather is severe. I have in a previous note recommended Success and Sturdy for late sowing, but not so late as the time advised for these dwarf kinds, so that those who have a sheltered place may turn it to good account by a late sowing of Peas. At this season borders that have been cleared of the early Potatoes may often be utilised for a late Pea crop, but if in poor condition a good dressing of decayed manure should be given previous to turning up the soil, as Peas, to do well, require

liberal treatment; it is also best to sow even the dwarf kinds in deep drills, as then moisture can be given them in dry seasons. Some good growers advise the use of the small white kinds for a last sowing, but I do not like them; they are so soon over. Chelsea Gem gives a large yield, and is better in flavour with good colour, coming a short time in advance of William I., which forms a succession, and is hardier in our district than Chelsea Gem. These dwarf Peas may often be planted where others would not have space to grow, in front of walls, houses, and on narrow borders, and if the soil in the drills is very dry, a thorough watering should be given previous to sowing the seed, also sowing the seeds for a few hours previous to sowing will assist in quick germination.—G. WYTHES.

### TOMATO NOTES.

FROM various quarters I hear very glowing accounts of the Tomato crop, the prospects, thanks also to the good prices obtained up till the present time (July 12), being brighter than for several seasons past. It does not appear that a remedy for the worst forms of disease, notably Cladisporium, has been found, but the weather has been more favourable than usual for the formation of hard, disease-resisting growth, and preventive measures are also more generally taken than hitherto. Whether the latter will prove of much avail during a spell of heavy wet weather remains to be seen, as it is during those periods that diseases of a fungoid nature spread the most surely and rapidly. Few will venture to assert that Tomatoes can be profitably grown during any season without the assistance of fire-heat—at any rate, no one with any experience will do so. It is false economy to erect a house or houses principally for Tomatoes without heating them, nor is it always economical to be very sparing of fuel. A stagnant atmosphere is altogether unsuitable for Tomatoes, as the growth they make in this is of neither a productive nor disease-resisting character, but unless fire-heat is turned on, and freely too at times, nothing like a good circulation of the requisite warm dry air can be maintained. No remedy of a chemical nature, as before hinted, has yet been found that will really destroy or materially check the progress of the fungoid diseases to which Tomatoes are most liable—at any rate, unless they are sufficiently strong and applied often enough to nearly or quite kill the plants as well. Anti-fungus powders, or such as are recommended as a preventive of Potato disease, these being distributed by means of a bellows, where given a fair trial certainly do act as a preventive of fungoid diseases, but they have no appreciable effect when applied to diseased plants.

A dry heat accompanied by a good circulation of air, on the other hand, is not only the best preventive of disease, but it is also the nearest approach to a remedy that I have seen or heard of. Some few weeks ago I was consulted upon the subject of the prevention of disease in Tomatoes by the manager of a large fruit-growing establishment in Wiltshire. Last year they had the disease among several houses of plants and the crops did not pay at all well. Some of the houses were not heated, and the rest, although the best crops are had from them, were not kept nearly so hot and dry as they ought to have been. This season my advice was largely acted upon, and fire-heat was freely used, more especially during the nights, and the consequence has been earlier and very much heavier crops, 2 cwt. of fruit being cut daily while the prices were good. Recently I was sent for to see what was wrong in another direction, and I then had a good opportunity to examine the Tomatoes. During the hot weather in May and June no fire-heat had been turned on to one long narrow house of plants, and although these at first sight appeared to be doing remarkably well, I soon discovered plenty of disease. They were anxious to save the coal bill (a company owns the concern), but made a mistake all the same. My advice to repeatedly make the pipes quite hot and to admit only a little air during the hottest part of the day and again dur-



ing the night was acted upon, and I am assured that this has actually cured the disease. Leaves have been sent on which the disease (*Cladisporium*) was at one time in great fluffy patches, but which the strong heat of 100° or thereabouts had killed. I am sorry to state that I cannot claim any credit for discovering this remedy and cannot give the name of the grower who first drew my attention to it. It must be understood that very high temperatures and a dry atmosphere are not recommended only by way of a remedy and not as a preventive of disease, and once they have had their effect, a return to a more congenial state of affairs should be resorted to. I do not believe in any fixed temperatures, as the attempt to keep the houses at or about certain figures may tempt those in charge to be too chary of ventilating. Ventilate according to the external atmosphere. If cold and dry, not much air is needed, but if close and muggy or dull and damp, then should the top ventilators more especially be opened freely and the hot-water pipes be kept quite hot, as it is during the prevalence of such weather that disease is most apt to show itself and spread. All through the late spring and summer months it is a great mistake to ever wholly close the houses, as it is only while they are in a confined atmosphere, always provided the heat in the pipes is kept up, that Tomatoes are liable to go wrong.

The advice to maintain a dry atmosphere does not, or ought not to, include a dry border. Starved plants are certainly the least liable to disease, but it is equally certain they are the least productive. The borders ought to be kept in a fairly moist state, liquid manure also being given freely in all cases where the plants show signs of having exhausted much of the fertility contained in the soil they are rooting in. Some soils are much less retentive of fertility and moisture than others, and should be more liberally treated accordingly. Keeping plants too much on the dry side at the roots has to my knowledge resulted in the production of very light crops, and I have also seen a very marked improvement in their productiveness soon after a change from the starvation treatment had been made. On the other hand, if a rich loose border has been given them, Tomatoes may easily grow too luxuriantly to be productive, and in all such cases an improvement will be effected by keeping them somewhat drier at the roots. Some of the heaviest crops I have ever seen are hanging on extra strong plants in newly-erected vineries at Larkhall, near Bath. In one house an archway of Tomatoes is nearly completed over the central pathway, and some of these plants are not less than 9 feet long. All have extra strong healthy foliage, and great clusters of fruit are swelling off nearly throughout their length. No starvation treatment about that, though it must be added that every plant has double the room usually accorded Tomatoes grown all over the body of a house. They are not 1 foot apart in rows 2 feet or rather more asunder, this being all the space many Guernsey growers allow, and to the extra room, that is to say, double those figures, Mr. Taylor accords must be partly attributed the vigorous, yet most productive habit of growth. If the Tomatoes flower freely and yet fail to set, this difficulty can usually be got over by going over the plants towards midday and smartly tapping the bunches of bloom with a light Hazel or Birch stick, this causing the pollen to disperse, some of it, or enough, inevitably sticking to the moist stigmas.

This season a disease known as *Sporocybe lycopersici* has been very prevalent, complaints having reached me from various parts of the country as to its ill effects. It is worthy of note that during the Jubilee year (1887) this disease was particularly bad, or more so than ever before or since. Then it was troublesome all through the summer, and which, it is almost needless to add, was excessively dry and hot. This year large quantities of early-set fruit had to be cut off, but since the change to cooler weather the disease—if disease it is that causes the decay of the fruit—has nearly or quite disappeared. Only the fruits are affected, these first showing a black speck usually, but not

always in the centre, this gradually spreading till the Tomato is a mass of decay. I have always thought that this premature decay of the fruit was really due to some injury to the fructifying organs of the flower, a scorching hot sunshine being especially injurious. This may or may not be the case, but it is the only solution I can offer. Nor can I hear of any other explanation, and no remedy other than a very light shading during the hottest part of very hot days occurs to me. Outdoor Tomatoes are also liable to this disease, but as yet the plants are very healthy and the fruit sound and swelling satisfactorily. W. I.

**Coleworts.**—A good breadth of Coleworts planted now is of great value where a quantity of vegetables is required in the winter and spring months. The great value of this vegetable is that when several lots are planted at different dates they give a long supply of tender, small Cabbages, and greatly assist in prolonging the Brussels Sprouts and similar vegetables. For early use the London Rosette planted early in July will give a good return in the autumn; another planting may be made the first or second week in August from the same seed-bed, as if sown broadcast and the large plants drawn at the first planting, the smaller will be ready a few weeks later. Another sowing should be made to succeed the first lot. This may be of the hardy green, and if planted when ready at two or three dates with intervals of three weeks between, will continue the supply. The last cutting will then last till the spring Cabbages come in if planted on a north border at the end of August or early in September. The value of the hardy green Colewort is that it often lives when an early-sown Cabbage is killed by frost. Coleworts also take up so little room that they are valuable in gardens of limited size. For late planting, or as the last lot for cutting in the spring, the plants should be given a piece of firm ground not too rich, so as to get a sturdy growth to resist frost. Ground that has grown a crop of Potatoes or other crop should be trodden over and made smooth and replanted, not using manure.—G. WYTHES.

**Potatoes.**—If we only steer clear of the disease, which is too much to expect, as we have had an annual visitation for so many years past, the crop of Potatoes will be an unusually good one, as never do I remember to have seen them looking so well, the haulm being ample and the leafage of a healthy deep green without any twisting or curling. This very satisfactory state of things was brought about by the short spell of hot weather, as then the growth was rapid and the improvement great, and since then heavy rains have fallen which have so thoroughly soaked the ground, that there will be no need for any more wet till the tubers get well advanced, and they must be swelling rapidly now. They have been late in forming, and that is where the danger comes in, as the disease generally appears before the end of July, and if the tops become stricken then, further growth will be stopped and the yield will be bad. Unfortunately, the remedy of spraying does not appear very effectual or of much use in arresting or stopping the disease, and we have yet to wait for something that will. If the fungus only attacked the top of the leaf instead of the undersides, its extirpation or death might be easily brought about, but the difficulty is to wet both sides of the leaves, and the sulphate or arsenic only kills where it touches. In the garden we generally grow our Potatoes wide apart, and have Brussels Sprouts, Broccoli, or other winter stuff between, and though the rows of the first-mentioned are 4 feet asunder, the tops meet, which shows how vigorous and strong Potatoes are this season.—S. D.

**Summer Lettuces.**—Everyone who has a garden and attempts salad growing knows how very difficult it is to keep up a supply of Lettuce if the seed is sown in beds and the plants have to be transplanted, as in the majority of cases when that is done the Lettuces bolt, owing to the great check they receive, and if they do not run to seed there

is no comparison between them and others that are not disturbed at all, as the latter receive no check, but grow quickly on, and if dry weather sets in they are able to hold their own and take care of themselves. The reason of this is that they all have tap roots, and therefore strike well down where they find moisture and food; whereas plants that have been moved have their tap roots broken, and it is some time before they get fresh hold of the ground and are then dependent more on the surface. Instead of sowing in seed beds and having to transplant, it is far better to draw shallow drills a foot or more apart and sow thinly in them, or drop the seed in patches 12 inches asunder, and when the plants are up thin or single them out, leaving the strongest and best. These will become very large and crisp with fine hearts, that is, if the seed be sown in rich soil, a good position for Lettuces at and after this season being between Celery rows, as the earth thrown out from the trenches gives great depth and the plants are well exposed to the air. For late summer and autumn use the Bath Brown Cos and Hicks' Hardy Green are the most serviceable, as the summer kinds do not turn in so well late, but twist in the leaves and become loose, but the two mentioned are more firm and solid.—S. D.

## FLOWER GARDEN.

### TWELVE GOOD HARDY PLANTS.

ABOUT the end of the first week in July, whilst surveying the damage done to my flowers by a violent westerly gale—*Lilium giganteum* prostrate in two places, *Delphiniums* bent double, and so on—I selected a dozen plants as amongst the most showy in the garden then in flower. The finest of all was *Spiraea Aruncus*, which does remarkably well in this retentive soil, growing 6 feet high and 25 feet in circumference, with at least fifty or sixty large panicles of white flowers. It need hardly be added that it is a plant which must not be crowded, but allowed to develop its full growth, which it takes three or four years to attain. The form of the flowering panicle is very different on different individuals. Some have blunt and woolly spikes like those of *Spiraea astilboides*; others (and these are the best forms) have long and loose divisions, running into fine, wavy and drooping points. It is better, therefore, to choose the plants according to taste. The flowers vary also in degree of whiteness, and sometimes the white corolla is entirely absent, the whole panicle remaining green. Every plant in a large sowing lately disappointed me in this way, though the parent plant had flowers of the best type. Many growers will think it best to make a stock by dividing their best plants, but the root-stock is so hard as to require to be sawn through to effect a division, and the pieces are slow in growing to fine specimens. I have found no soil or situation disagree with this species.

A plant bought from Messrs. Fröbel, of Zurich, as *Crepis sibirica* is now very showy, having grown in the same spot for four years, and being now over 3 feet high and at least as much through, covered with large yellow flowers of the Dandelion type. When the flowers are gone the fine plumes of the seeds continue to be ornamental. *Gillenia triflo-*



liata when well established grows 3 feet high, and requires no support for its stiff, wiry stems. It has a very compact base, and, like the *Spirea*, is difficult to divide; but it is one of the most durable of hardy perennials, and is well worth the price charged for it by nurserymen. Its white flowers are evenly spread over the whole plant, and stand the weather well. *Salvia hians* is not often seen in gardens, though I think it the finest of the hardy herbaceous *Salvias*. It has flowers as large as and stouter than those of *S. patens*, purple, with a white throat, and borne on a leafless-branched panicle about 2 feet high. This, too, is a species troublesome to divide, but easily raised from seed, which ripens plentifully. It is a native of the Himalayas, and its hardiness is beyond suspicion. The double *Lychnis vespertina* has the character of being hard to strike, and no one knows how to divide it, but if plenty of cuttings are put in early in spring a few take root. It has grown remarkably tall—more than 5 feet high—this year, and 200 or more of its large and conspicuous flowers on one plant make a fine show. It is at best not a long-lived plant, so a succession of cuttings should be in store. In three or four years in this strong soil the root-stock becomes large and hard and incapable of breaking into growth in spring. The large *Inulas* are nearly over, but have been unusually fine. I have three, *I. glandulosa*, *I. grandiflora* and *I. Hookeri*, which, though they may be distinct at home, assimilate when grown from garden seed, the seedlings uniting the good qualities of all three species. I find that they have the merit of flowering equally well in sun and in shade, and the flowers are in great request for indoor decoration, as they live well in water. *Clematis recta*, from the Swiss and French Alps, is not a climber, as might be supposed, but a herbaceous plant growing about 4 feet or 5 feet high, requiring to be tied to a trellis or a stake when in flower. The flowers are pure white and grow in dense bunches, lasting a long time and being succeeded by a very ornamental seedling resembling that of our native Traveller's Joy. This species cannot be too highly recommended for suitable situations. It grows well in any soil, competing successfully with surrounding shrubs for nourishment, but takes two or three years' growing to become a fine specimen. Another flower which is surpassing itself this season is called in nurseries *Campanula macrantha*. It is, I suppose, a form of *C. latifolia*, but is very superior to the type of that species, having a much longer spike of bells. The whole plant grows here 6 feet high. I have only seen it with purple flowers, for though a white form figures in catalogues, all that I have possessed or seen have turned out to be white typical *C. latifolia*.

*Lychnis Flos Jovis* is a very good rosy pink in colour, very free flowering, and a good perennial, superior in every way to its near relation, *L. coronaria*. It is most easily raised in any number from seeds, and as soon as the flower-stalks begin to get shabby, they

may be cut down without injuring the plant. The wet season we have had has suited the very distinct and useful *Chrysogonum virginianum*. I have for two or three years used this as a bedding plant, and it continues in full flower from the beginning of May until autumn, never becoming shabby. Being a prairie plant it likes moist peat, but it is not exacting about soil, and it grows more luxuriantly in the shade than in full sun. Plants may be pulled to pieces successfully at any time of the year. For broad masses of purple lasting through July, few plants surpass *Campanula rhomboidalis*. It grows about 2 feet high, and the stalks, being rather weak, tumble about on all sides and make gay heaps, though if judiciously tied, the flowers last longer than if allowed to fall. The species seems to cross freely in gardens with *C. rotundifolia*, the common Hairbell, and intermediate flowers are produced freely, some of them being worth picking out. A pure white variety which I got from Geneva a few years back does not flower so freely as the



The Russian Globe Thistle (*Echinops ruthenicus*).

type, but is well worth growing. I mention last an excellent dwarf Phlox growing less than a foot high, and in colour a good pink, being one of the forms of *Phlox glaberrima*. It is a pleasing, bright, clean-looking plant with glazed leaves spreading evenly at the base, so that the heads are not crowded. Of two or three forms in which I have the species this is decidedly the best. All the plants here described may be grown by any gardener in any soil; in fact not one of them requires any special care or cultural skill, yet all of them are good enough to find a place in the choicest collections. C. WOILEY DOD.

*Edge Hall, Malpas.*

**Aubrietias.**—I note not only in "K's" note at p. 10, but also in the short sketch of the labours of Herr Max Leichtlin that this gentleman is credited with having raised one of the best *Aubrietias* ever put into commerce—*violacea*. I have not learned that there were two *A. violacea* in cultivation. Certainly the only one I ever heard of, and which was certificated by the Royal Horticultural Society, was raised by me at Bedford after several years' careful selection, and it originated from Campbell × Hendersoni. One remarkable feature

of this variety is that it not only seeds freely, but also reproduces itself from seedlings with considerable consistency. So far as the production of red-flowered forms is concerned, I hold that it is a mere question of persistence in selection, and as seedlings from *violacea* have shown reddish violet hues I have no doubt whatever but that, carefully selected and pursued, we might have *Aubrietias* with flowers of a distinctive hue of red, although probably never devoid of purple shadings. I had no time when at Bedford to pursue this selection; such work seems to fall more to the province of ardent amateur gardeners. But the nomenclature of *Aubrietias* is very confusing. We have of those in cultivation probably two-thirds mere garden hybrids, and yet all have specific names. Why should *Aubrietias* be so designated, especially that the distinguishing characteristics of so many are not specific, but merely in shades of colour? How many now in cultivation in this country are there that are *bona fide* species, and how under the existing system of naming varieties are we to distinguish the true species from the garden selections? We know that *deltoidea* is a species, but *deltoidea variegata* is not, and how many of the rest have but sprung from *deltoidea*? Perhaps "K." will kindly assist in elucidating this matter, and define what are pure species and what are otherwise.—A. D.

## GLOBE THISTLES.

(ECHINOPS.)

This fine genus which has become more popular within the last dozen years is said to be a very important one to bee keepers. The more striking kinds are being planted largely on the extensive bee farms in Canada, &c. Several new species have been added to the list lately, and of these *E. globifer* and *E. chantavicus* are very distinct and striking plants. All the varieties of *Echinops* require an open situation to be seen at their best, and the richer the soil the better will be the result. They are robust, strong feeders, and are never worth looking at when starved, as one often sees them in a mixed flower or shrubby border. Few plants are better adapted for the wild garden, and mixed or grouped in their several kinds they are always attractive and highly interesting. *E. ruthenicus*, a charming species from Southern Russia, is one of the best for small gardens. It grows about 4 feet high, freely branched in the upper half of the stem, the leaves cut, Thistle-like, and covered more or less with silvery down. The flowers which are very numerous, in a globular head like a ball, are bright steel blue and really handsome. *E. banaticus*, with much the same habit as above, but dwarfer, with paler flowers, is also worth a place in the garden. *E. Ritro*, heads bright blue, not spiny like those of *E. ruthenicus*; *E. spinosus*, bluish heads and very spiny silvery leaves; *E. globifer*, whitish heads and large spiny leaves; *E. chantavicus*, blue, leaves large, green, are all worth growing. *E. sphaerocephalus*, though by no means so attractive as *E. ruthenicus*, is a noble species, and one of the best for the wood or wild garden. The form *giganteus* is a more robust variety with larger greyish heads and huge leaves. They are all easily grown in good rich soil, and are readily increased either by division or seeds. They are widely distributed in Southern Europe, the Levant, &c., and flower all through the summer and autumn. D. K.

**A plea for a good Pink.**—What has become of the old black and white Pink, with clear white petals, very dark centre, and sweetest scent? I cannot find it in any trade catalogue, though I find thirty varieties of laced Pinks. May it not be that this is one of the cases in which a flower is



spoilt by florists, because instead of ascertaining what are the qualities most to be desired in a garden plant, they drive it in a false direction in order to accentuate some "point." Is not lacing such a point? and is it not the case that a flower much praised in catalogues because "heavily laced" is practically useless anywhere but on a show table? I have tried many of these varieties, and have discarded them all as unworthy among good garden flowers; whereas every year I more and more feel the want of a really good black and white—a flower as good as Ascot, but with white petals and darkest warm black blotch. As some proof that others feel the same want, I may say that I never see these laced Pinks in the gardens of amateurs, and cannot think that there can be much demand for them; whereas I feel sure that if some clever florist could produce a white Ascot the demand for it would be very large; it would suit the wants of amateurs as a beautiful border plant, and would assuredly have success as a market flower.—G. JERYLL, *Munstead, Godalming.*

### CARNATION NOTES.

THE present season, in marked contrast to that of last year, promises to be fairly early, and should the fine weather continue, outdoor Carnations ought to be in good form a week hence—the day fixed for the show. Already a few stray blooms have expanded and the numbers will daily increase. Observations, however, extending over several years and confined to a particular selection of kinds, clearly prove that some are naturally early and others late. It is much to be desired that we could extend the season of this flower with more of such kinds. The majority of those that we have are in full flower in the latter half of July and the early part of August. Though we cannot have them much earlier than July, surely there is nothing to prevent the acquisition of kinds that will, either by natural lateness or perpetual habits, carry on the blooming season far into and even through the autumn. It is well perhaps when the improvement of any race of flowers is taken in hand to concentrate attention on one or two points. These have been in regard to size, shape and colour of flowers. Now is the time to see the different variations and characteristics, and to carry out plans for their development. It is more than probable that, by raising seedlings from kinds already having a tendency to throw up successional flower-spikes, we should obtain varieties showing a considerable development of this feature. It must be done systematically, as chance dependence upon seed-production will be a slow and uncertain method of bringing about much improvement.

Some good might result from crossing a few of the better perpetual-flowering kinds with the hardy garden selfs, for it is certain that, could we by any means prolong the blooming season, we should add to the interest and increase the decorative value of this flower. In the flower garden we seek effect, and having obtained that through the medium of some magnificent selfs, the desire is to prolong it. There is no better time than the present for considering these things, because now arises the opportunity for attempting new departures, and if we have made up our minds in what direction they shall be, nothing remains but to try and effect the object in view by crossing and saving of seed.

SEEDLINGS—Those that were raised last year are opening their flowers fast. Even to the cultivator who knows what to expect there are many disappointments, and these are felt the more keenly by the inexperienced. Though the seed is most carefully saved from select varieties, a percentage will revert to single-flowered types. These single ones, too, usually have

abundance of grass, because we do not wish to preserve them; but if a fine, double, distinct-coloured kind appears, more often than not there is scarcely a shoot left that can be layered. This occurs frequently.

LAYERING is the operation now demanding immediate attention. Good advice loses none of its value by being oft repeated, and a reference at present to this practice upon which so much depends at the present is opportune. It is easy to lay down the law as to doing it at this or that time, but even this misleads. For example, I was recently asked by an amateur if he had done wrong by layering some strong shoots early in July. He was perplexed, because afterwards someone had told him it should not be done till the end of the month. If July is in and the shoots are strong enough, I advise layering at once. Much of our work is ruled by the season, and this present one favours early layering. By the time these lines are in print the work in my case will probably be almost or quite completed. We cannot have our layers too well rooted, and it has been proved that the insufficiently rooted plants suffer most and die first. The nursery stock will have first attention, as the shoots are fine and strong in consequence of the removal of the flower-spikes a month since. It will be an easy matter here to have plants well rooted by September. Upon ground like that I have to deal with, which is light and friable, there is no necessity for those mounds of fine soil one sometimes sees around plants that are to be or have been layered. I peg the shoots down direct on to the surface of the ground, having first moistened it if dry and loosened it to the depth of about half an inch. When the shoot is put down it is just covered with fine soil over the part where it has to root. Soils which get very hard and caked upon the surface must be differently treated, and in dealing with these it is sometimes necessary to give a surfacing of an inch or so of fine mould to peg the layers down upon, as they would make few roots otherwise, and these would be broken off when the time came to sever and lift the plants.

A. H.

### PANSIES IN DRY WEATHER.

THESE have been very satisfactory with me this season; indeed I have rarely had such an abundant and fine lot of blooms. Even in the first week of July the flowers were almost equal in quality to those produced early in the season. This is the more remarkable, as the plants are loaded with seed-pods, many of them ripening, my plants being expressly grown for a good supply of seeds. For a period of six months I never remember the rainfall to have been less—in fact we have from the beginning of the year had but two good lots of rain, one of them quite recently. In such a protracted period of drought with hot sun and parching winds it is impossible to keep everything well watered, and although I generally do water my Pansy beds in dry weather, they had to take their chance this spring. The result has been a surprise, for the plants have never shown the slightest symptoms of distress; they have grown with unusual vigour, and are now so covered with bloom as almost to hide the foliage. In what might be considered more favourable seasons, the flowers by this time have deteriorated very much in colour and quality. My success this season I attribute entirely to early planting, but it cannot be due to any great care given to the plants during the growing season. Hitherto I had been content to get them into place during November, and have been so late as the beginning of March. This last season they were put out early in October, and although during the inclement weather early in spring they appeared to make no progress, they were doubtless forming an abundance of roots that

the dry condition of the surface soil drove downwards. Deep culture has probably had something to do with it, the ground having been trenched some years ago. Had they been watered at intervals, it is possible they might not have done so well, as the roots would have remained nearer the surface, in which case, had the ground got very dry, they would have suffered later on. The soil being naturally poor, a rich top dressing was given in the winter. I did not even mulch the plants; had I done so, the blooms would probably have been still larger. J. C. B.

### EREMURUS TURKESTANICUS.

THIS interesting liliaceous plant is a native of Turkestan, as indicated by its specific name. In the matter of beauty it will not bear comparison with *Eremurus robustus* and *E. Olgae*, whose towering stems bear numerous large white flowers delicately tinged with pink, but it deserves especial notice from amateurs, as when grown in the open air it withstands the climate of the central parts of France better than any other species of this genus. Of various species, the open-air cultivation of which has been attempted at the botanical school of the Muséum, this is the only one that has survived. It endures our winters without shelter of any kind, and flowers and bears seed every year. Like all the other species of *Eremurus*, it has perennial fleshy roots, somewhat resembling those of the *Asphodels*, fasciculated, and producing only one terminal shoot. It is, consequently, impossible to propagate the plant by division of the roots, and the only way in which it can be multiplied is by sowing the seed. The leaves, which are about ten in number, measure from 12 inches to 16 inches in length and are about 2 inches broad; they are linear and glabrous, and are disposed in a rosette, from the centre of which in May and June issues the flower-stem, growing to a height of from 20 inches to over a yard, and surmounted by an elongated cluster of flowers. The flowers, which are exceedingly numerous, are 2 inches in diameter. The divisions of the corolla, which are widely expanded while the flower is at its best, are at first of a yellow colour, slightly tinged with brown. They ultimately become recurved towards the centre of the flower and turn quite brown. Each division is traversed throughout its entire length by a green mid-rib. The stamens, which are of the same length as the divisions of the corolla while the flower is at its best, become very prominent after the divisions have curved inwards, and as they are composed of long, slender filaments tipped with orange-coloured anthers, they have the effect of imparting an air of lightness to the spike or cluster of flowers. Individually, these flowers do not last long, but as the spike in the process of elongating itself produces fresh flowers in succession, the plant continues in full beauty for a considerable length of time.

According to Aitchison, *Eremurus turkestanicus* and *E. Olgae* are edible plants. In his "Notes on Products of Western Afghanistan and North-eastern Persia," this traveller says that the young leaves of these plants when cooked form a really good, well-flavoured vegetable, and that these two species, therefore, deserve to be cultivated in European kitchen gardens. In the raw state these leaves have a sweet and rather pleasant taste, somewhat like that of *Scorzonera* leaves, but they are produced in such small quantity on each plant, and, moreover, the growth of the plant is so slow, that we must relinquish the idea of ever seeing them cultivated for table use. The species under notice (*E. turkestanicus*), although



not very ornamental, is, however, in our opinion well worthy of attention as being one of the hardiest of the genus, and it is probable that it would form an excellent starting-point of a new race of *Eremuri* which might result from intercrossing *E. turkestanicus* with other species which bear larger and differently coloured flowers.

The parts of Central Asia in which the *Eremuri* are indigenous possess a climate which is characterised by great dryness all through the summer and up to the beginning of winter. Humidity of soil or atmosphere is, therefore, detrimental to these plants during their period of rest, which commences immediately after their seeds have ripened.—*Revue Horticole*.

#### WILD FLOWERS AROUND DOVER.

THE "white walls of Albion" afford excellent hunting ground to the lover of our native plants, but particularly such as are peculiar to a maritime situation and soil composed for the greater part of chalk. Between the quaint old village of St. Margaret's, with its dilapidated Roman wall and fine old Norman church, and the entrance to Dover, the almost perpendicular cliffs, which rise abruptly in most places to a height of 400 feet, are teeming with plants and are well worthy of a visit by anyone who is at all interested in such plants as are peculiar to the seaside. In places where one would hardly suppose it could eke out an existence the Samphire (*Githium maritimum*) grows in great broad masses and quite scents the air around with its powerful aromatic odour. By mid-July it is in full flower, though the blooms are neither showy nor beautiful, being of a dull yellowish green, but well set off by the fleshy, dark green leaves. This season for the first time I have noticed that the Samphire has become the host plant for one of the Broomrapes (*Orobanchæ corulea*), and at many places along the coast fine stately specimens of this curious half-parasitical plant are to be found. Another uncommon Broomrape (*O. caryophyllacea*) I found in several places, but it was nowhere abundant, and chiefly where one of the *Galiums* (*G. mollugo*) was to be found. Unquestionably the two plants that attract the greatest attention at the seaside are the Horned Poppy (*Glaucium luteum*) and the Viper's Bugloss (*Echium vulgare*), though the Borage (*Borago officinalis*) with its handsome deep blue flowers cannot remain unnoticed. The Horned Poppy grows in pure sand, sending down its thick tap-root into the constantly damp subsoil, and there deriving the nourishment that sustains so large a plant. Between the Hermitage and the lighthouse at St. Margaret's, the property of Lord Sackville Cecil, runs a rather deep and wide valley, and which is one of the richest storehouses for Orchids that I know of. There may be seen great masses of the sweet-scented Orchis *conopsea*, the long lavender spikes of which are visible for a considerable distance. In point of beauty the pyramidal Orchid (*O. pyramidalis*) is not one whit behind the former, for the globose heads of rosy flowers are both interesting and attractive. Both these species are readily cultivated, and being very ornamental in flower are worthy of a place in the alpine garden. Rarer than either of the above is that gem of its tribe, the Scorched Orchid (*O. ustulata*), whose curious brown-hooded flowers rarely rise higher than 3 inches from the ground. It, too, is well worthy of cultivation, and half a dozen roots that I carefully lifted two years ago on the high cliffs near Dover have done well and flowered each season. Such dwarf gems are the delight of everyone who sees them when suitably placed on rockwork. The Mulberry Orchid (*O. Morio*) is here everywhere abundant, and in almost every shade that may intervene between the normal and pure white. Of *O. conopsea* I have found numerous white-flowered forms, but I fancy that most of our native Orchids have white-flowered varieties, and Mr. Lubbock has in his charming garden at The Rookery pure white forms of both *O. mascula* and *O. maculata*.

Some of the dry barren chalk reefs are completely clothed with the wild Thyme (*Thymus serpyllum*), and the plant being now in all its flowering glory, the effect produced by a good-sized mass is almost dazzling. The destructive little Dodder (*Cuscuta Epithymum*) would seem to be pretty frequently distributed, and I found it lately in large tangled masses in several of the fields at St. Margaret's-at-Cliff. How pretty and conspicuous is the Sea Bindweed (*Convolvulus Soldanella*), which clothes and binds together the sandy coast, and which by midsummer is all aglow with its large pale rose-coloured flowers striped with red. High up on the rocks are large breadths of Seakale (*Crambe maritima*) and the dwarf Wallflower (*Cheiranthus Cheiri*), the latter making gay with its heads of flowers many of the inaccessible ledges at 300 feet and 400 feet above high water mark. Exposure to the almost constant winds of the seaside has made this plant assume a dwarf and stunted form, but which in my opinion enhances its beauty at least for rock gardening, and the flowering is not at all retarded by the dwarfing of the plant. The biting Stonecrop (*Sedum acre*) I found sparingly in a deep cleft of the rock, and in company with the Sea Starwort (*Aster Tripodium*), the Sea Campion (*Silene maritima*), and a plant with spiral flower-stalks, which might have been *Ruppia maritima*.

In the garden attached to the Hermitage where I am staying is growing by far the largest and handsomest specimen of the Tree Mallow (*Lavatera arborea*) that I have yet seen. It is planted by an Apple tree, the branches of which act as a friendly support to the heavily flowered branches, although the unusually thick and stout stem is perfectly well able to sustain the plant. Being of great height and width, the abundance of purple flowers is shown off to advantage. It grows plentifully on waste places by the seaside, but is then stunted in habit, though blooming freely. Flowering just now in the wildest luxuriance, and lighting up the limestone or chalky cliffs for a long way off, are masses of the red Valerian (*Centranthus ruber*), the bright red flowers of which are useful for cutting, lasting as they do for a great length of time when placed in water. A worthy companion to the latter is the Field Scabious (*Knautia arvensis*), the large lilac flower-heads forming a nice contrast to the red of the Valerian. Of the Sea Heath (*Frankenia laevis*) I found several small patches, the pretty pinky flowers and dwarf stature of the plant rendering it of value for rock planting.

Many other wild plants that I have noted down might be included, but those already mentioned will give some idea of the richness of the flora in this particular part of Kent.

A. D. WEBSTER

#### TALL-GROWING PLANTS.

I do not know any plant more stately and more picturesque in its grand outline than the wild Mullein (*Verbascum Thapsus*) when it has attained its full height of 6 feet or 8 feet. Mr. Johns says very truly, "This plant together with Burdock and Foxglove is often introduced by painters into the foreground of landscapes." Taken altogether, I think it is by far the most handsome species of this graceful family. *V. phoeniceum* is very beautiful, but as my plants were only sown this year I can scarcely judge of their capabilities. One great advantage in *V. phoeniceum* is the variety of colours which may be obtained from one packet of seed. Moreover, it is a great thing to have a handsome border flower which will flourish and do better in an east aspect than in any other, and a plant which will, I suppose, bear a good deal of shade. It is a great objection to this species that its petals shrink so soon if at all exposed to sunlight, so that their beauty is gone at noonday. The great soft woolly leaves of the wild Mullein are exquisitely beautiful in their grand outline, and they are so thickly covered with a sort of vegetable fur, that the light plays on them as they wave in the wind.

This huge plant gives one no trouble of any kind. It sows itself and comes up in all sorts of places, in odd corners and on the top of walls. But wherever it is allowed to grow in deep, strong soil it towers up above everything else, and its great stiff stem becomes covered with bright yellow flowers. Frequently caterpillars are troublesome on this plant, and once they attack it, they are not easily destroyed. My plants are so far entirely free from this pest, so they can display their perfect symmetry and beauty. I hope no readers of THE GARDEN would object to having this plant in their borders because it may be found wild occasionally in waste places. This should not be any real reason against introducing a plant so singularly grand into our gardens. The same objection might be made to Foxgloves, but I am glad to see that they are becoming more and more common in large borders and shady corners. How strikingly beautiful they are as they tower up with their great spikes above one's head! On the banks of the river Fowey Foxgloves grow to a wonderful height, and add colouring in the foreground to the fine river scenery of Lerrin Creek.

It is a plant much improved by cultivation, for the great spotted varieties are a fine contrast to the old red of our woods and hedges. The name *Digitalis* is, of course, derived from the finger of a glove. The Germans call it "Fingerhut"; in Cornwall it is called "Flopdock," a name taken from the delightful pop which the flowers will make when pinched at both ends and pushed together with a quick movement.

One immense advantage in the Foxglove is that it does so well in shady places. We are often in difficulties how to make a shady part of the garden pretty. If Foxgloves are not too large, they may be easily made to grow and flourish in deep shade, and their large leaves look well before the flower-stalks appear.

Poppies seem to become more and more popular every year. No doubt the introduction of the Shirley Poppies contributed largely to this. They are so easily grown and so exceedingly pretty in the great variety of their colours, that they are to be found generally in gardens now. But almost any form of this tribe of plants is beautiful, and certainly they tend very much at this time of the year to brighten the railway banks as we fly in an express train through the country. *Papaver glaucum*, which I see was much praised in THE GARDEN of July 9, has a fine colour, but it is not very different from the common Corn Poppy, and no very great improvement on it. I have growing near *Papaver glaucum* another new one, which in my opinion is much more striking—*P. cardinale*. *P. cardinale* has large double flowers of a most brilliant scarlet. It has the mode of growth of the common Opium Poppy, so that the plant itself with its buds only is a beautiful thing. But when in bloom nothing can make a greater or more gorgeous display than this cardinal Poppy. It never can be called vulgar in its brightness, because the whole plant is so graceful and picturesque. My cardinal Poppies in their gorgeous scarlet look all the more striking because they are growing among several tall plants of the white Mallow (*Malva moschata alba*). I find the latter a most useful thing for gathering. It comes in well in contrast with scarlet Geraniums in the church vases. It lasts a long time when gathered, and though not by any means pretty in their mode of growth, the flowers in their profusion will always prove an acquisition. It is a plant which from its hardness may be grown anywhere, and in even the flowery month of July it is useful to have something on which you can fall back for an inexhaustible supply of white flowers.

*Lychnis chalcidonica* is a fine old-fashioned, tall-growing border plant. What splendid massive heads of a fine red colour it produces! The flowers do not keep fresh when gathered—a very grave fault, I consider. Columbines can scarcely, perhaps, be reckoned among our tall-growing plants of this season, and they are passing away now, but I was more than ever delighted with the



quaint beauty of their delicate blossoms this year. Both the blue and yellow *Aquilegia cœrulea* and *A. chrysantha* are well worth growing, though they are by no means so hardy as their near cousins the *Columbines* of our woods and hedges. The second tallest of our hardy Lilies (*L. testaceum*) is a grand Lily in every respect. It runs up fine heads of bloom on the top of a stalk some 6 feet high. It is just going to flower with me. *L. giganteum* is, of course, much taller in its growth than *testaceum*, and forms a grand object when it is successfully grown. That, apparently, is not often the case, for it is only in a few gardens that this giant Lily can be found. It is fairly hardy, and seems to require a quantity of water, like *L. pardalinum*. I have plants which look well for another year, sturdy, strong, and vigorous, but so far I must own that I have only once succeeded in flowering this fine tall Lily.

A GLOUCESTERSHIRE PARSON.

### CANTERBURY BELLS.

THE handsomest and most stately among the *Campanulas* of a hardy character is to my mind the biennial Canterbury Bell. The plants are just now in good bloom, and they are most attractive. The Canterbury Bell is *Campanula Medium*, and literally interpreted the generic name means bell-flower. But how did it obtain the name of Canterbury Bell? There is reason to believe the name was originally applied by Gerard to the British Nettle-leaved Bellflower (*C. Trachelium*), from its growing so plentifully in the low woods about Canterbury, and probably in allusion to the bells so called that were used by pilgrims on their road to and from the shrine of St. Thomas. But the Canterbury Bells of our day are the large bell-shaped blossoms of *C. Medium*, which was introduced from Germany nearly 300 years ago. For years we were content to grow the purple and white varieties, or some paler shades of blue and bluish-tinted varieties of the white. The rose-coloured varieties, double and single, were introduced, and the cross-fertilisation of these with selected forms of the old type has given us the fine family of Canterbury Bells seen at the present day, both double and single. It would not be difficult to select a dozen or more distinct varieties, all large, stout and finely formed, and so beautiful are they, that they well deserve a place in the garden. They are particularly well adapted for dotting about in mixed borders with perennial plants, and when they have gone out of bloom they can be removed and room made for late flowering Stocks and things of that kind.

Some years ago the *calycanthema* varieties of the Canterbury Bell were introduced and found much favour. In their case the calyx has broadened out until it has taken the form of a saucer, and in the case of improved varieties it has become of a large size and very conspicuous and striking. There are several varieties of the *calycanthema* type, and they mix well with the improved forms of the ordinary Canterbury Bell. It is quite true seeds of the Canterbury Bell are sown now for blooming next season. It is a biennial, and will bloom in June of next year. A few other good biennials which may be sown at once, and no time should be lost in doing so, are the *Antirrhinum* (Snapdragon), the Forget-me-nots, especially the large blue *Myosotis dissitiflora*, the white and purple *Honesty*, the giant white and scarlet Brompton Stocks, the Sweet William, which is just now in the full flush of its summer bloom; and the yellow and blood-red Wallflowers. Of perennials, *Alyssum saxatile*, the pretty *Columbines*, especially the fine yellow *A. chrysantha*, *Aubrietias*, *Delphiniums*, *Hollyhocks*, the perennial *Eranthis*, Iceland and Oriental Poppies, and Everlasting Peas should be sown. While I prefer to sow early in May in order to have the plants strong and well forward, there are some who sow late, and a seasonable reminder to such may be of benefit. It is good practice to transplant from the seedling beds

to positions where they may remain during the summer, and then transplant again to the beds or borders in which they are to flower. All the subjects named are hardy, but some of the more succulent growers among them sometimes suffer from severe frost following close upon heavy rains.

R. D.

**Mrs. Lakin Pink.**—My favourite white Pink is the one which heads this paragraph. Our large-flowered white Pinks—Mrs. Sinkins, Clifton White, Her Majesty, and others—have the unfortunate peculiarity of bursting the calyx, and so unless the buds are tied to prevent this, the flowers take on a loose and ragged appearance. This is a defect characteristic of Pinks generally, but of some much more than others, and now that it is being insisted upon that a good and effective border Carnation should not split its pot, there is no reason why the same property should not be required in the Pink. Mrs. Lakin is pure white, exquisitely fragrant, a good grower, and very free, and, therefore, in all respects most desirable. I



*Fritillaria verticillata* var. *Thunbergii*.

find the best plants are those obtained from layers, and as the wood is stout, shoots can be layered as readily as those of the Carnation.—R. D.

**Clematis coccinea.**—When this Texan species of *Clematis* was first introduced it was hailed with such a flourish of trumpets, that a feeling akin to disappointment was experienced by many when it flowered, which is, however, easily accounted for from the fact that the blooms of some individuals were much superior both in size and colour to the others. Thus while the possessors of the best forms were perfectly contented, the holders of inferior varieties were not so; and that I should say accounts for it never becoming so popular as it should, for it is a really pretty *Clematis*, and one for which a place could be found in most gardens. It is not of vigorous growth, and consequently a position should be assigned it free from strong-growing climbers. For furnishing a wall or trellis in a warm sunny spot it is well adapted, and during the summer months when in full flower it is very pretty, and in general appearance quite distinct from any other species of *Clematis*. It will not succeed in cold heavy soils, but needs a warm sunny position. When

first introduced it was at times treated as a greenhouse plant, and trained round a few sticks it would flower well, and last in beauty a considerable time. Where shaded, however, the blooms were paler than if fully exposed to the sun.—T.

## GARDEN FLORA.

### PLATE 867.

#### HARDY FRITILLARIES.

(WITH A COLOURED PLATE OF *F. AUREA*.)

WITH the recent additions to this remarkable genus, the species at present known to botanists number not less than about seventy, two-thirds of which are certainly in cultivation at the present time in botanical and other gardens. The genus, however, wants overhauling, and at the instance of a few interested in *Fritillaries*, Mr. Morris, the assistant director of Kew, we are told, has undertaken to make a monograph of the genus on the lines of the *Crocus* by Maw. This is exactly what is wanted, and if Mr. Morris gets support from growers of these bulbs, we may rely on a thoroughly practical and much-needed monograph. As garden bulbs, *Fritillaries* can compare well with many of the other large genera of *Liliaceæ*, inasmuch as they bloom at a time when few flowers are to be seen in the garden, and although not showy as a whole, many of the species are very beautiful; all are interesting, and some few are remarkable. Most of the species are easily managed, but they require care in seeing that no stagnant moisture gets near the bulbs, that they have protection from early spring frosts, a light sandy soil, and a warm sunny position. Much more might be done in naturalising the more robust kinds in our woods and wild gardens. This culture would just suit *Fritillaries*; they dislike being disturbed, and we believe that many of the failures are due not perhaps so much to lifting the bulbs, if done at the right time, as in keeping them too long out of the ground. It has been suggested that *F. recurva* should be taken up and thoroughly dried before replanting again as a means of getting it to flower well. Most of the species in-

crease by offsets, though slowly, and wherever seed can be obtained it should be sown at once in boxes and not disturbed until the second year, when the young bulbs may be turned out and planted in the nursery rows until they reach the flowering stage. The following are among the species now in cultivation:—

**F. ACMOPETALA.**—This fine species was found and introduced by Mr. Elwes. The bulbs which flourished in Mr. Elwes' garden at Cirencester were found at Lycia, in the Dembra gorge. The species is confined to Asia Minor, and is nearly allied to one called *F. lycia*, which I take to be a less robust form of *F. acmopetala*. Both in habit and bulb it most nearly resembles our own *F. Meleagris*. The flower-stems are from 1 foot to 2 feet in height, mottled purple, and usually very slender, leaves narrow linear, glaucous. The flowers, which are large, are solitary, drooping, purple-green, bordered with purple, and not at all tessellated. It does

\* Drawn for THE GARDEN by Gertrude Hamilton, in Mr. Ware's nursery, Tottenham, March 23, 1892. Lithographed and printed by Guillaume Severeys.



well on the ordinary border, and promises to become a strong robust species.

*F. AUREA*, a coloured illustration of which will be found accompanying these notes, is certainly one of the prettiest of the genus, at any rate among the oriental species. Mr. Baker, apparently from want of sufficient material, placed it under *lutea*



*Fritillaria kamschatkensis*.

as a mere form, but since introduced by M. Max Leichtlin, and grown in our gardens, it proves to be not only distinct from *lutea*, but a well-marked and handsome little species. The flowers resemble those of *F. Meleagris*, but are bright yellow both inside and out, with numerous dark brown tessellations, especially near the base. It was first discovered by Dr. Kotschy on the Taurus Mountains in Cilicia, in alpine pastures, and seems to be a very easy one to manage. It is now well established in many gardens, and is certainly a very desirable spring flower.

*F. ARMENA*, thanks to Mr. Whittall, is now plentiful in gardens. The flowers seem to vary in colour, and are rather disappointing until the bulbs get well established. Imported bulbs, from being so long out of the ground, get bruised, and from other causes take a year or two to get well established, after which they will be found to flower freely. The type was first found about Erzeroum at 7000 feet to 8000 feet above sea level. It is also found in the neighbourhood of Smyrna along with a green-flowered and a yellow-flowered variety. It grows about a foot high. The flowers are drooping, tulip-shaped, and dark purple without any tessellation. The leaves are somewhat long, bright green, lanceolate. The variety *fusco-lutea* has bright yellow flowers and is a great acquisition. It flowers in April

and May, and does well in sandy soil on a sunny border.

*F. BUCARICA*, a new species from Central Asia, has broad oval leaves and small greenish-white flowers. It is hardy, but not very showy.

*F. BURNATI*—A charming variety of *F. delphinensis*, and nearly allied to *Mogridgei*. It grows from 9 inches to a foot high, bearing large solitary flowers of a dark plum colour tessellated with yellow and green. A native of the European Alps, Tyrol, &c., flowering with the late Snowdrops, and very easily managed.

*F. DASYPHYLLA*.—Another of Mr. Elwes' discoveries in Asia Minor, at 2000 feet above sea level, between Moolah and Aidin, in light sandy soil. The stems grow about a foot high, with solitary drooping flowers, of a pale purple on the outside, yellowish green inside. Not a showy species, and not to be compared with the above.

*F. GRECA*, figured in the *Botanical Magazine*, tab. 5052, somewhat resembles *F. Meleagris*, but the flowers, which are larger, are scarcely tessellated, and bear a distinctly green line down the centre of each segment, which in some of the more robust forms is entirely wanting. The flowers are solitary, rarely two on a stem. A native of Mount Hymettus and quite hardy, flowering in open ground about the end of March or April.

*F. HISPANICA*.—A distinct species from the hilly districts of Eastern and Central Spain. It grows about a foot high, with narrow leaves scattered on the stem. The flowers are solitary, purplish-brown, with a yellowish line down the centre of each segment, the inside tessellated with dark purple. Flowers in April.

*F. HOOKERI*.—A fine species from the Laching Valley, Sikkim, at 9000 feet to 10,000 feet above sea level, and presumably perfectly hardy. It grows about 2 feet high, bearing about a dozen pale lilac flowers, resembling those of a Lily; indeed, this plant belongs to the group intermediate between *Lilium* and *Fritillaria*. A really charming species, and a desirable border plant.

*F. IMPERIALIS*.—This is one of the most remarkable of the early-flowering Liliaceæ. It was introduced about 1590, and has always been a great favourite in English gardens. Parkinson says that the "*Crowne Imperiale* for its stately beauty, and deserveth the first place in this our garden of delight, to be here entreated of before all other Lilies, because it is so well known to most persons, being in a manner everywhere common." What Parkinson said then is still true to-day, and the Crown Imperial well deserves the place it holds in the garden. It is difficult to establish in light ground, but in deep loamy soils it often does remarkably well, and flowers with great freedom and regularity. There are many varieties, the yellow one being a great favourite as well as the variety with variegated foliage. Native of Persia, India, &c.

*F. INVOLUCRATA*, *F. messanensis*, and *F. montana* are all allied species. The first is peculiar to the Maritime Alps. The leaves are linear, opposite; the flowers deep purple, tessellated. Var. *versicolor* (Baker) is more distinctly tessellated and variable.

*F. KAMTSCHATKENSIS*.—A very charming and distinct species, but whether of *Lilium*, *Fritillaria*, or *Sarana* we are unable to say. It has been at various times placed in all three genera. It is a native of Alaska and Eastern Siberia, and perfectly hardy in gardens. It is indeed more easily managed than most of the genus. This species seems to thrive best in a sandy, peaty soil in a dryish spot. It grows about a foot high, stems very leafy; flowers almost black-purple, and very curious. It flowers in April, and does not like being disturbed.

*F. KABELINI*.—A singular plant from Central Siberia, Afghanistan, &c., and though by no means showy, distinct and well deserving a place in the garden. The flowers are pale purple, with a few dark spots near the base of the segments. A sunny border in light sandy soil with protection in winter suits it best.

*F. LATIFOLIA*. A most variable species, and one that has long been cultivated in gardens. This may be called the florist's *Fritillaria*, as many varieties have been raised, named, grown in florists' gardens, and until lately staged at the shows. It is one of the most easily managed of all the *Fritillaries*, growing freely in any light soil, and rarely failing to produce an abundance of its large flowers, which are in all cases larger than those of our native *F. Meleagris*. They vary in colour from purple to brown, lilac, and yellow, and all are more or less tessellated. It flowers in April and May. A native of the Caucasus.

*F. LUTEA* (the great yellow *Fritillaria* of Parkinson's "*Paradiseus*," 43, fig. 8). A very fine species nearly allied to *F. latifolia*. It is also a native of the Caucasus, and is a rare plant in gardens at the present time. It grows about a foot high. The leaves are spear-shaped, about 4 inches long. The flowers, produced in April and May, are yellow, tessellated with pale purple markings. It is a very desirable species and quite hardy.

*F. MACROPHYLLA* is one of the species on the borderland between *Lilium* and *Fritillaria*. It is the *Lilium Thompsonianum* of Lindley, *L. roseum* of Wallich, &c. It is not easily managed, but when done well is an extremely handsome plant. Loam, leaf soil, and a plentiful supply of limestone are its chief requirements. The flowers are rosy lilac, in a long panicle. Native of the Himalayas, &c.; flowering April and May.

*F. MELEAGRIS*, our British species, and an uncommonly pretty plant when doing well. It is very variable both in the colour and shape of its flowers. It was well known to Gerard and Ray, and John Parkinson describes no less than twelve varieties. The most curious of all the varieties of this species, however, is one known in gardens as *F. contorta*, under which name it was described by



*Fritillaria karelini*.

Mr. Baker in the *Gardeners' Chronicle*. Mr. C. B. Clarke soon after found an identical form near Cirencester growing with the common *F. Meleagris*, which leaves no doubt of the origin of *F. contorta*. It is a monster, the segments free, about one-third down the tube, and instead of forming a shoulder, as in the others, it tapers gradually from the base



to the apex of the flower. *F. Melicagris* is a useful garden bulb. It may readily be naturalised, and looks very fine in mixed colours.

**F. MOGGRIDGEI.**—A charming species from the Maritime Alps, with large drooping flowers of a rich golden yellow, tessellated with brownish crimson on the inside of the flowers. It is nearly allied to *F. delphinensis*, but is a better and showier plant, more easily managed and altogether preferable. It gives the mountain slopes on which it grows quite a brilliant appearance with large sheets of gold, relieved by the stunted Grass and other herbage. A bulb for choice spots on the rockery where it does well and flowers freely in April and May.

**F. PALLIDIFLORA.**—A native of Siberia, and though not so striking as the above, well worth a place in the garden on account of its large flowers and sturdy constitution. The large flowers are borne in twos or threes on stems about a foot high; they are pale greenish yellow, with purple spots inside. It is easily managed, but slow of increase, and rarely ripens seed. It flowers in April.

**F. PERSICA.**—A curious species cultivated in Gerard's garden in 1596. It is supposed to have been originally sent from Persia, but Parkinson tells us that it was sent to us by divers Turkey merchants from Constantinople. It grows from 2 feet to 3 feet high, bearing a raceme with from ten to fifty flowers, varying from dark purple to lilac, not tessellated. It flowers in May, and from its free Campanula-like habit is a very desirable species.

**F. PUDICA.**—A North American species, and one of the most charming of early spring flowers. It grows, we are told, in dry barren soil, and is one of the principal plants in the flora of that region. The flowers, though small, are bright golden yellow, not unlike those of a snowflake. It thrives best on light sandy soil, on a warm sunny border.

**F. RECURVA.**—By far the showiest of this remarkable genus, and first introduced, I believe, by Herr Max Leichtlin, of Baden-Baden, about 20 years ago. It is a native of California, and differs from the European *Fritillaries* in the structure of its bulbs, on account of which, with liliacea, biflora and kamtschatkensis, it has been placed in a sub-genus called *Liliohiza*. It is a difficult plant to grow, the old bulbs continually breaking up and producing innumerable young ones from the scales. The leaves are in whorls of six to eight. The stem, from 2 feet to 3 feet high, bears numerous orange-red flowers, the inside spotted red on a yellow ground. It thrives best in a sandy peaty soil, on a warm sheltered border. It is advisable to protect the bulbs in winter. It flowers in April and May.

**F. SEWERZOWI** and its variety bicolor are very distinct, but by no means showy.

**F. TENELLA.**—A desirable species, native of Southern Europe, nearly allied to *F. involucreata*. The flowers are smaller and darker purple than in that species, and the leaves more scattered. It flowers in April.

**F. THUNBERGI.**—From Japan, and nearly allied to the Altai *F. verticillata*. The flowers are green, tessellated or mottled with pale purple.

In addition to these the following species may be noted as being in cultivation: *F. pyrenaica*, *tristis*, *tulipifolia*, *lusitanica*, *pontica*, *cirrrosa*, *ruthenica*, *crassifolia*, *canaliculata*, *Ehrharti*, *hericulis*, *lanceolata*, *parviflora* and *atropurpurea*.  
D. K.

**Native guano.**—One scarcely likes to praise any one kind of concentrated manure, for all now commonly employed are very good, and most valuable aids to the quick and perfect growth of garden produce. When I first used the preparation from town sewage, which is termed native guano, I was not particularly impressed with its merits. The effects from its application were not so quickly perceived as in the case of Peruvian guano and

some other concentrated stimulants I have used. This arises from its not being so highly concentrated and the nutritive properties passing more slowly into the soil. For this reason, however, it is one of the safest manurial stimulants one can employ. Only in very reckless hands can it be dangerous. In the case of outdoor crops there is but little need to lay down any absolute rule for its application. I use it very freely, just stirring the soil afterwards, and I could not employ any other manure in such a liberal way without danger of burning the roots. Even where other concentrated manures are used this one might find a place, for it is very serviceable for those tender-rooted things which sometimes need help, but which are so sensitive to a little over-dose of manure. For hardy flowers that are pricked out in the open ground I give a liberal dressing before planting, stirring it well in with a coarse rake. The application has frequently been so large as to colour the ground, but the effects have never been otherwise than good, even in the case of the smallest seedlings. I wish it to be understood that I do not recommend this manure as superior in a general way to all others, but simply because it may be used so freely without fear of injury.—J. C. B.

## THE WEEK'S WORK.

### THE KITCHEN GARDEN.

**TOMATOES IN THE OPEN AIR.**—Careful attention is now needed with Tomatoes growing against walls or fences in the open air, and also where the grower has ventured upon growing them in the open trained to sticks. The main point is to keep the stems in an erect position, so that they may receive all the light possible. True, we cannot keep the plants free from attacks, but we can lessen them by attending to their wants. Not only must the main stems be kept erect, but all side growths from the leading stems must be kept closely pinched out, for if allowed to ramble away, the plants will take on a gross habit, which is against the free setting of the flowers. Tomatoes which are growing in the open trained to sticks are best topped after they have formed about three trusses of fruit, this being about all that they will be enabled to bring to maturity.

**GATHERING HERBS.**—Herbs which are required for winter use should now be cut and dried. If a wet time should ensue, particular care must be taken in the drying, for if at all wet and stored away in this state, they quickly become mouldy. Instead of drying in the full sun, tie each kind up in a moderately small bundle and hang in an open shed.

**SHALLOTS AND GARLIC.**—More Shallots are spoiled, perhaps, through not pulling them sufficiently early than from any other cause, for directly they pass a certain stage of maturity, fresh roots are very quickly emitted. Especially is this so if a heavy fall of rain should take place. Directly growth has stopped they must be pulled, and as thorough ripening is very essential, they must be laid in the full sun on a dry and hard bottom. They ripen up better in the open if we were sure of a bright time, but the best course is to lay them under cover, say in a cold frame where they can be protected from wet.

**EARLIEST CELERY.**—This season appears to be very favourable for the free growth of Celery. The exhibitor has his special mode of procedure as regards feeding and other details, and if this course is followed by others where only Celery of the best table quality is needed, huge heads destitute of quality will be the result. The exhibitor's Celery is also forced on too early for general use. Deluging the rows with liquid manure is a mistake, as in Celery we require something more than mere size. Moisture the Celery must have, and especially is this necessary on dry soils. A soaking of liquid manure, according to the richness or fertility of the soil Celery is growing in, may be given occasionally. All that is needed at present is to

go carefully over the plants, remove any suckers which may be showing, and give a sprinkling of salt along each side of the row. The sides should then be broken down, so as to get sufficient soil to form a surface dressing of an inch or thereabouts, this being just sufficient to encourage extra roots and also prevent the stems from spreading. Care must be taken in adding the surface dressing that the soil does not work into the hearts. This surface dressing does not impede the watering, which must be carried on as freely as before or according to the condition of soil and weather. Light showers are often misleading, so during these times the soil should be examined to see whether the rains have reached the roots or not.

**CELERY FLY.**—This destructive pest appears to be very scarce this season, and I have not yet seen a single grub. Probably it may be plentiful in some districts, and as it quickly causes a deal of injury where present in large numbers, the best course is to go over the plants and crush all insects between the finger and thumb, and where only a few, pick off the damaged portions. In either case where present, dusting the foliage over with soot in the early morning is the best course to adopt, following it up if washed off by rains.

A. YOUNG.

### PLANT HOUSES.

**PLANTS FOR THE EARLY AUTUMN.**—Attention should now be turned towards securing a full supply of plants to flower from the middle of September until the Chrysanthemum season is fairly advanced. Early-flowering Chrysanthemums, it is true, supply us with most serviceable material, but variety is needed as well, besides which if the early flowering kinds are in strong force it may to a certain extent militate against the well-being of the main stock either for want of proper room or for time to give all kinds due attention. Again, if the early kinds are too prominent, there is the possibility of the interest in the mid and late season varieties being lessened. Plants of such things which can now be grown on so as to do good service at the time indicated, and afterwards be thrown away, will be found exceedingly useful where any large quantity of decorative work has to be attended to. Annuals, either hardy, half-hardy, or tender, supply this kind of stock; these may be grown under disadvantageous circumstances, comparatively speaking. For instance, just now it would be an easy matter to lift from the open ground, pot up, and keep for a few days in a partially shaded spot some of the best kinds of Asters of the annual section, amongst which there has been such an advance in their good qualities during the past few years. Any fairly good soil will suit them, whilst the trifling check by potting will do good rather than otherwise in retarding the flowering period. Three plants in a 6-inch pot will make an excellent display. Where there is a surplus of Intermediate or East Lothian Stocks these may be treated in like manner, but minus any shade with but little water until again well established. These will quickly recover their usual vitality; any drooping at the time of potting need not cause any anxiety whatever. Another serviceable class of plants for the autumn are the varieties of *Salpiglossis*; these will bear pinching to keep them more bushy. The list may be further increased by such as the annual *Coreopsis*, the *Helichrysums* and *Nicotiana affinis*, all doing a good turn when flowers begin to be somewhat scarce. Of annuals, which may now be sown in pots for the same season, the *Mignonette* is, of course, one of the most popular; the treatment of this in private gardens has before been fully entered into. *Nemophila insignis*, however, seldom seen in pots, but it is a most useful and easily-grown plant, so also is the dwarf type of *Scabious*; whilst if the Stocks before alluded to are not at hand, the Ten-week section should be sown in pots at once, being thinned out as in the case of *Mignonette*. All of these annuals may be grown or raised in the open if there is not room under glass, although the germination of the seed would be surer if protection were afforded.



Of tender annuals care should be taken of the *Celosias*; these are susceptible to attacks of red spider if not sufficiently syringed, or when starved at the root either by poor soil or not enough water. These are best grown in fairly deep pits where they can be plugged in a gentle bottom heat whilst growing quickly. When it is seen that they will flower too soon, or in order to keep the plants compact and bushy, they should be pinched. Although the plumes may not under this treatment be quite so fine, they will yet be very good when the plants are well attended to. Occasional doses of manure water or an artificial stimulant will greatly assist them when the pots are full of roots. Cockscombs should be kept growing without a check until the combs have nearly attained to their full size. *Browallia elata* is a most useful autumn annual to grow in a close pit or frame; by pinching its shoots a few times a much better plant can be formed. This plant will flower about now if not so treated, but it is of most service in the autumn; hence the desirability of pinching. The *Globe Amaranths* are not nearly enough grown, probably because their culture is attempted in too cool a house or pit. With warmth and moisture so that a good foundation can be laid, and occasional stoppings when the plants are seen to be getting too tall, there is yet time to obtain good plants for the season under notice. Balsams for the late autumn could now be grown on from seed if kept in warmth and moisture without any check, but anything larger than 6-inch pots should not for late blooming be ever attempted. The seed of this annual is often sown too soon, the plants not having proper attention simply for want of room when much space is occupied with bedding plants.

Of other plants for the autumn particular note should be taken of zonal *Pelargoniums*. Where these are now well established they should be kept freely exposed, the flower trusses still being picked off as they appear. No potting later than this ought to be attempted, otherwise the growth will tend towards too great luxuriance and loss of flower when needed. Any plants now in bloom, if they have done a good turn and can be spared, should be stood out of doors, being relieved of their spikes of flower; encouragement will thus be given for them to make more growth; then later on they will again come in useful. The early flowering *Chrysanthemums* are now coming into flower, but those for the end of September will be found the more useful; these, too, should be well exposed. Many will soon show their buds. When these are fairly advanced, manure water will benefit them more than at the present time. Earwigs are much complained of in some quarters this season; these should be sharply watched for in these and all *Chrysanthemums* before their ravages become serious.

J. HUDSON.

### ORCHIDS.

ORCHIDS that succeed well in frames, pits, or greenhouses are very interesting even to those who can afford to grow the more aristocratic hothouse kinds. The *Bletias* come into the section, and some of them are very pretty. The Chinese species (*B. hyacintha*) is comparatively hardy. It was introduced early in the present century, and has been reintroduced during the last few years. It is an excellent plant for the cool Orchid house, but I have also grown it well in a house set apart for *Auriculas* where the frost is just kept out; in fact, the temperature in winter frequently falls to the freezing point. Its rosy-purple flowers produced in May have an excellent effect. The plants are now at rest and the leaves will soon decay, leaving an underground tuber at the base of each plant. *Bletias* succeed admirably in a compost of fibrous yellow loam, some light fibrous peat, leaf-mould and sand.

Amongst *Cypripediums* for frames none equal the handsome *C. spectabile*; it is easily cultivated, and should be grown in fibrous sandy peat. The plants are now passing out of bloom, but water should still be applied to the roots; in fact, this is really a bog plant, and must never be dried up. *C.*

*Iraepanum* is a very worthy companion to the above. It has been well flowered by Messrs. Backhouse, of York, and a few other cultivators, but as far as I know no one has succeeded in establishing the plant; the flowers are very large and of a bright yellow colour. I have tried to flower it, but the plants never seem to make really good growth, and with me have soon died. It is said to grow in Mexico at an elevation of 5000 feet. If collectors would describe the nature of the climate and tell us in what kind of soil the plant grows and under what conditions, we might master its culture. I have always grown it in peat soil; some recommend yellow loam of a stiff character. It would be interesting to know if anyone has succeeded in establishing this fine Orchid. *C. macranthum* is a distinct and very handsome species, and should be hardy enough in England, as it is Siberian, but it has not, as far as I know, been cultivated in gardens so as to become established. I have flowered it in the greenhouse several years in succession, the plants growing in very fibrous loam, leaf-mould and sand; the plants have now passed out of bloom, and will be very moderately supplied with water until the leaves decay. *C. pubescens* is one of the more easily cultivated species, and grows very freely indeed; it also grows best in loam and leaf-mould. The plants increase in size with greenhouse culture, which some species do not. There are several other hardy and half-hardy species, some of them very beautiful, but all are interesting and form a unique feature in the greenhouse. One of the most curious of them is the Japanese species, *C. japonicum*, introduced some ten or fifteen years ago, and flowered in England at that time. I fancy it bloomed in 1875, but whether any examples of it flowered later I cannot say. Probably the plants in most instances have disappeared from cultivation. I report all these *Cypripediums* just before they start into growth, and this should be done annually, as the loam oftentimes gets into bad condition if allowed to remain two years or more in the same pots. The flower-pots are filled about a third full of good drainage. At present, as they are making their underground growth, they must have enough, but not too much water, and less when the leaves and stems have decayed; but it is an error, I fancy, to let them become quite dried up, and if any of them get into this state, the evil effects of it are seen in weaker growth.

The Orchises are also very pretty plants to grow in the greenhouse with the same treatment as *Pelargoniums* and *Fuchsias*. The queen amongst them is *Orchis foliosa*, a robust-growing plant which was introduced to this country from Madeira, and when well grown so as to form large specimens about 3 feet in height, the spikes of lilac-purple-coloured flowers of various tints are very effective, and the base of the stems is usually well furnished with glossy green ovate-shaped leaves. *O. latifolia* and *O. maculata* may be said to be quite hardy plants, for they are hardy enough in the open garden and need not be cultivated in flower-pots; but they are truly beautiful in their season, and may be found in great plenty in English meadows. *Ophrys tenthredinifera* is a charming Orchid for greenhouse culture. A few of the others are interesting and pretty, many persons preferring them to the more gorgeous *Lelias* and *Cattleyas*. My experience with them is that they degenerate after a few years, but they are not expensive plants to purchase any more than they are to cultivate. The thing is to plant them in the right potting material and to repot them at the right time. They seem to grow more freely in the limestone districts in well-drained places, and those who collect them should not dig them up when in flower, but wait until the leaves decay, and remove them carefully with all the roots attached. They should be planted at once in fibrous yellow loam and some coarse sand if necessary, with an intermixture of small nodules of chalk. I have had plants sent from the south of France, where, I believe, many pretty species and varieties of *Ophrys* are found in abundance. *Satyrion aureum* is a very distinct and interesting greenhouse Orchid. The plant is not difficult to cultivate, and its spikes of flowers of a rich orange colour are freely produced. Some

persons grow it in a mixture of peat and loam, but I have found it do well in peat only. Like all the half-hardy Orchids I have named, this species, which has been introduced from the Cape of Good Hope, dies down after flowering and maturing of its tuberous roots. When growing, water freely, but during the season of rest I withhold water altogether, and I have also found that plants needing much water when growing, if peat soil is suitable for them, ought to be grown in that material, as the roots have not so much tendency to decay in good, light fibrous peat as they have in loam. All these greenhouse Orchids can be grown without much fear of injury from frost in winter or from the vicissitudes of our changeable climate in summer. We had quite warm weather this year early in June, but as I write these lines it has become suddenly cold again, so that we have to be continually changing the treatment of the houses in which the tropical Orchids are growing. One week no fire-heat is needed, but the week following it is impossible to do without it.

J. DOUGLAS.

### HARDY FRUITS.

PEACHES AND NECTARINES.—Better crops of these were never seen on the open walls, and in very many cases the thinning out has not been nearly severe enough. It cannot be too often pointed out that over-cropping has an extremely weakening effect upon the trees, from which they do not quickly recover, while the chances are a considerable number of fruit of the present crop will never attain an eatable condition. Those undersized fruits which partially colour and drop prematurely are never fit to eat, though they are good enough for pies. In a green state the fruit does not look so plentiful as it really is, and not till it is colouring does it become only too evident what a heavy crop the trees are bearing. It is not yet too late to lighten the crops on all but Waterloo, and perhaps Early Alexander, the removal of about one in three that are left, instead of being a great waste, eventually proving the making of the crop. Instead of leaving the fruits not more than 4 inches apart, they ought to be not less than 8 inches apart each way, another 3 inches or 4 inches being none too much for Barrington, Walburton Admirable, Sea Eagle, Salway, Princess of Wales, and other large Peaches—Lord Napier Nectarine meriting nearly as much thinning out. Showery weather has done the trees good, but in but few cases have the roots had enough to properly sustain them many days together. They ought to have a good soaking of liquid manure now, and another of soft water when the fruit is nearly ripe. If they are not heavily mulched, or the position is naturally hot and dry, a soaking once a week is none too often. Red spider has been rather more troublesome of late, and nothing but repeated syringings or a free use of the garden engine every evening after hot days will keep this insect in check.

COLOURING THE FRUIT.—It is the fault of the cultivator if Peaches and Nectarines in the open air fail to colour beautifully. They are rarely so large or good in quality as those grown under glass, but their superior colour to a certain extent compensates for other failings, especially if the fruit is marketed. Before the end of July there will be plenty of highly coloured ripe fruit of Waterloo Peach, Early Alexander and Hale's Early following closely. The first named is already coloured, at any rate in forward localities, but in later districts it is not yet too late to more fully expose the fast swelling fruit, and thereby ensure perfect colouring. All young shoots ought to be either tied in or fastened back to the wall by the aid of shreds and light Hazel or other twigs, and, in addition, the trees should be gone over every few days, and all leaves that shade the swelling fruit in the least bit either tucked back or pinched off. If the Nectarines give signs of cracking or scarring, syringing must be discontinued, and rains warded off if possible by means of either spare pit lights or thick canvas blinds.



Moisture hanging for several hours on Nectarines appears to injure their smooth delicate skins. If kept drier, there would be fewer failures. Peaches are not similarly affected, but overhead syringing ought to cease when the fruits are nearly ripe and be re-commenced after the fruit is gathered.

**TEMPORARY STRAWBERRY BORDERS.**—Strawberries in pots under glass are always a nuisance, and never more so than late in May and early in June. In numberless places pot plants had to be depended upon till the middle of June, if not later, for the requisite supplies of dessert fruit; whereas by a little contrivance it might have been possible to have had good dishes of fruit from plants growing in the open by June 1. On page 30 it was pointed out how well Noble succeeds on raised wall borders, that is to say, those in front of walls with a southern aspect, but in some cases these are not available, and in others where they are fruit might yet be had still earlier by means of temporary beds. In many instances the south front walls of greenhouses, vineries, forcing pits, and such like are 18 inches and upwards above the ordinary ground level, and it is against these that it is advised, where possible, to form a bed for early Strawberries. They may be of any width and depth, but should have a good slope to the front. If the position permits, break up the bottom with a pick, and on this place a fairly rich bed of soil, composed, say, of fresh loam, garden soil, and manure, well mixed. Make this firm and plant not later than the first week in August with well-rooted runners of Laxton's Noble, 18 inches apart each way. Being kept well supplied with water, the plants soon attain a very serviceable size, and next spring, if duly mulched and watered, will flower strongly. It pays well to protect the flowers from frost, this frequently making a considerable difference in the earliness and weight of crop. Only once ought the plants to be cropped in this position, young stuff invariably producing the earliest and finest fruit. A fresh site is not needed for a new bed, and all that is necessary is to break up the old one, well mix a layer 6 inches thick of fresh, rich compost with the old soil, and replant with newly-rooted runners as before. In this manner several good dishes of fruit can be had when they could not be bought under 2s. 6d. per pound.

**OLD STRAWBERRY BEDS.**—In very many gardens it does not pay to take more than three crops from the plants, and there are places where they are of no service after the first year. Those, therefore, who would be successful with Strawberries must annually plant a bed or beds and destroy a similar number of old ones, the aim being to have plantations of three different ages in full bearing every season. The youngest plants usually give the earliest and best fruit; those two years old the best all-round crops, and any a year older heavy crops of moderately good fruit. Strong runners ought to be layered early in order that the planting may be completed during the first week in August. Directly the old or most exhausted beds are cleared of fruit, hoe up the plants and remove all rubbish prior to putting out Broccoli, no digging being requisite or advisable for the latter.

W. ICULDEN.

#### GARDEN REFUSE.

It is only by comparison that one can fully appreciate the value of decayed vegetable matter. Let a piece of ground be partly dressed with it, putting no manure of any kind on the remaining portion, and the importance of garden refuse as an element of fertility will be recognised. I once had occasion to remark the very fine appearance of a bed of early Cabbages in a cottager's garden. I naturally thought they had been heavily manured, but the owner told me they had nothing but the Ivy trimmings from the cottage dug in at planting time. In this locality it is customary to sow Wheat after Mangold Wurtzel, and the leaves that are cut from the latter are of course ploughed in. Last autumn the roots in a field here were pulled up rather late, and, as is often done, the heaps were covered with

the leaves to keep off frost until they could be carted off the land. When the land was ploughed the leaves were turned in just as they were taken from the heap, and one may tell to an inch where the heaps of roots laid. The Corn is many shades greener there, the stems are stouter and quite 4 inches higher than the crop generally. This difference has been plainly discernible from the time the Corn began to grow freely. The season being so dry, the Corn crop in a general way had in the early part of it a very meagre and rather yellow appearance. It was curious and instructive to see these patches of verdure at regular intervals throughout the field. I should say that such a dressing over the whole breadth would have made a difference in the field of from two to three sacks to the acre. For Potatoes especially refuse vegetable matter is excellent, and with a liberal application of it one does not need manure, that is if the ground has not been allowed to get into a very impoverished condition. I think that the best results are obtained when the matter is not too much decomposed. Twelve months suffice to bring it into the right condition for use, especially in the case of land of a sandy, parched nature, as the organic matter helps to retain moisture through the summer. Weeds that have attained any size should, however, never be put on the rubbish heap. They are sure to have seeds among them, and the safest way is to burn them and utilise the ashes.

Many weeds, such as Groundsel, Chickweed, Shepherd's Purse and Grass, form seeds with great rapidity when they come to blooming size, and if cast on the rubbish heap, they will later form a source of much trouble. A good way of using garden refuse is to mix with it some concentrated manure, such as native or fish guano, or bone-dust. This may be done in the winter in frosty weather, and will sweeten the refuse and increase its manurial value. A good-sized heap thus prepared will be found of immense value for the growth of spring vegetables of all kinds. This mixture is probably the very finest thing that can be used for top-dressing hardy flower borders; it puts back into the soil just what has been taken out of it. It is, however, a mistake to wait till spring before applying this top-dressing, for although even then very beneficial, if the season happens to be dry the roots do not get the full benefit of the nutriment until their blooming time is over. It should be applied at the beginning of winter, and will then serve the double purpose of protecting the roots and crowns and nourishing the plants.

J. C. B.

**Painting greenhouses white.**—I have always painted my greenhouses a chocolate-brown outside, which I find wears every bit as well as the white, does not draw down the heat (as I was told it would), and is, moreover, a most excellent setting for the flowers inside. It makes the houses an ornament instead of a disfigurement, and the flowers can be seen from outside very much farther off than when I painted them white, there being no glare to take one's eyes away from them.—H. H. D.

—In reference to this, I do not find that "J. I. R." in his note in THE GARDEN, July 2 (p. 17), has any explanation of his own to offer. When we have found out whether the use of white paint is due to the cause I have suggested, or simply to want of taste, it will be time enough to turn to "J. I. R.'s" question as to what is the best colour to substitute for it. I dislike white paint as much as "F. W. B." or "J. I. R.," but when I found it was a case of renewing coloured annually as against every second or third year for white, my pocket and not my will induced me to consent.—T. J. WEAVER.

—The common practice of painting greenhouses white has no doubt been carried on for the sake of light more than anything else; but now, with the improved horticultural structures that are built with much less wood and the sash-bars so much wider apart, the colour of paint ought not to matter as regards the welfare of plants in

houses, and a pale green may be considered by many more in accord with the trees and foliage and other surroundings, as a structure so painted would be less conspicuous. But all colouring matter added detracts from the strength of the paint, the body or preservative quality being in the lead and oil with which it is mixed. For the interior of a greenhouse there is no shade that, in my opinion, looks or answers so well as grey or sky colour, and I can testify to the good effect it has in a conservatory, as all our panels and walls are of that colour, and the creepers and plants in front show off to the greatest advantage.—S. D.

—"J. I. R." is unfairly hard upon Mr. Weaver's painter, because I never yet met with any conscientious painter (not artist, but artisan) who did not advise dull white or stone colour as the best outdoor wearing colour in paint. Surely that commendation deserves respect, because the man making it, assuming it to be true, is actually checking the giving himself the job to paint greenhouses once in every two years, as the white paint will endure for three years. It is not fair thus to twist or garble what is such a plain simple fact; as evidence of the truth of what the painter has asserted there is the fact that all our market growers who regard paint from a purely utilitarian aspect always use light coloured compounds. If any other colour were as cheap and enduring or more so, they would have adopted it long since. Now as to whether greenhouses situate in the forcing department of a garden are painted white or any other colour is a matter of very little moment, as in no well-arranged garden do they become conspicuous objects. A big white structure in the form of a conservatory set in pleasure grounds is very diverse, and should have some coloured paint which should harmonise a little with the surroundings. And after all, which is the best tint for glasshouses? If not white or stone, certainly not yellow, red, blue or even green, for of greens we have enough. Soft browns are perhaps best, but these very soon assume a rusty hue. After all, few tints seem better for all purposes than a stone colour.—A. D.

## ORCHIDS.

### BULBOPHYLLUM RETICULATUM AND OTHERS.

**BULBOPHYLLUM RETICULATUM** was discovered by Thomas Lobb in Borneo when collecting for the Messrs. Veitch and Sons, and to their nursery it was sent about forty years ago. It flowered for the first time in England in their nurseries at Chelsea, I believe, in the summer of 1866. I was pleased to see it blooming on a recent visit to Mr. Wm. Bull's establishment at Chelsea. The name given it by Bateman is very applicable, for its leaves, which are each about 3 inches or 4 inches long, have a pale green ground colour, conspicuously and regularly netted with veins of a much darker hue, thus rendering the plant strikingly handsome, independently of its fine flowers. The plant has a creeping rhizome, more or less branched, and this bears somewhat distant ovate pseudo-bulbs each an inch or more long, and bearing a large single leaf. The peduncle issuing from the base of the young pseudo-bulb bears two flowers, which are individually nearly 1½ inches across, the petals boldly striped with reddish carmine, the interior streaked and spotted with white; lip spotted and dotted with purple. It is a very rare plant, and it is to be hoped Mr. Bull will increase it. *B. Dayanum*, another singular species and also very rare, was introduced from Burmah by the late Mr. Day, of Tottenham. The pseudo-bulbs are ovoid and much furrowed, supporting a thick, plain green leaf, vinous-purple beneath. The peduncle



bears about three flowers, each being about an inch across; the sepals are yellowish green with lines of purple dots, and long spreading hairs on the edges; petals very small, purple, with green border, the edges lined with long hairs; lip small, coloured like the petals. *B. psittacoglossum* is another of the large-flowered species received by Mr. Low, of Clapton, from the Rev. C. Parish from Burmah at about the same time that Mr. Day imported the last-named plant. At the present time this is very scarce in cultivation. From its creeping rhizome it produces numerous ovate pseudo-bulbs, each of which bears a single large thick and fleshy leaf, which is deep green on both sides, the scape bearing two flowers each being about 1½ inches across, the sepals and petals yellow, suffused with a shade of pale green, streaked with narrow lines of reddish purple; lip white blotched with reddish purple. *B. Dearei* is another beautiful plant, but it is not to be met with in many collections. It has a one-flowered scape. The flowers are very showy, the sepals and petals rich yellow, dotted with red and tinged with purple. The shape of the lip, white blotched more or less with purple, is very curious. *B. Lobbi* is perhaps the oldest plant here mentioned, it having been in cultivation nearly fifty years. The flowers of this are some 3 inches or more in width, the colour being rich buff-yellow with some lines of purple dots and suffused with purple. *B. barbigerum*, although not a large-flowered kind, is perhaps one of the most curious plants to be found among Orchids. There is a plant of this in the collection of Sir Trevor Lawrence at Burford Lodge. It is a native of Sierra Leone, in West Africa, and has been in cultivation between fifty and sixty years. From a creeping rhizome it produces its nearly circular pseudo-bulbs, which are somewhat flattened, each bearing a single leaf; the flowers are borne in a raceme of from five to nine, and sometimes twelve flowers; the sepals and petals are small and of a dull brown colour.

*Bulbophyllums* are mostly grown as curiosities. They may be easily grown into good specimens by using small earthenware baskets drained well. The plants should be set upon a cone of mould, consisting of good peat fibre and living Sphagnum, chopped and well mixed. They should be hung up near the glass and be screened from the hot burning sun, but should have plenty of light. Abundance of water should be given during the growing season, and at no period should they be kept entirely deprived of moisture. The heat of the East India house is requisite for them to grow in, and the atmosphere must be kept well charged with moisture. During the winter they may be removed to the coolest end of the same structure, but on no account should they be subjected to a very low temperature or to long and continued drought.

WM. HUGH GOWER.

#### *Odontoglossum crispum elegantissimum.*

—From Mr. Norman. The Firs, Sydenham, comes a very fine flower of this variety. It is pure white, having the sepals much spotted and blotched with bright chestnut; the petals are pure white, toothed and undulated on the edges, bearing two circular spots about the centre, and a median line at the base; the lip is heavily blotched in front with chestnut, and the column also ornamented with the same colour.—G.

*Cattleya speciosissima.*—Mr. W. Marshall, of Norton Manor, Taunton, sends me flowers of a very fine and large-flowered *Cattleya*, which I can-

not but think is a very fine form of this variety. The flowers were much too far advanced for me to be quite certain. In the shrivelled dilapidated state in which the flower arrived it measured upwards of 8 inches across. The petals are nearly 3 inches over. It certainly is a magnificent *Cattleya*, and appears to come very near to the variety called *speciosissima Buchananiana*. I should much like to see it again when fresh.—W.

#### ORCHIDS AT MR. BULL'S.

I HAVE never been to see the exhibition of Orchids so late in the season before, and I was struck with the quantities flowering. Mr. Bull, I am glad to see, is adding more and more every season to his stock of distichous-leaved Orchids, and I saw more *Saccolabiums*, *Aerides*, and *Vandas* in bloom than I have seen for many a day. There were fine healthy plants of *Saccolabium guttatum*, *S. premorsum* and others carrying many spikes of their lovely spotted flowers. *S. Blumei* and its varieties were just about to open, whilst the lovely bright flowers of *S. cuneifolium* were conspicuous. *Aerides Lobbi* in many varieties was very telling. *A. Godefroyanum*, with its large and brightly coloured flowers, and *A. crassifolium*, with its magnificent spike of many flowers, were also conspicuous. The beautiful *A. Houlettianum* was to be seen in considerable numbers; this is very distinct and noticeable by its tawny yellow flowers having a deep purple tip to the sepals and petals, rendering it very distinct from *A. expansum*, which was to be seen in many parts of the house. In this variety the flowers are larger, waxy-white, tipped with bright purple, the lip being deep purple in front, dotted and spotted towards the base with lighter purple. *Vanda suavis* and tricolor in variety were numerous and beautiful. Turning from these, however, we have a glorious display still of *Cattleyas*, amongst which I noted splendid forms of *C. Eldorado splendens*, a fine *Cattleya* especially when seen in such good forms. I also saw a strikingly good form of the pure white variety known as *virginialis*, sometimes known as *C. Wallisi*. The whole of the flower is pure white, saving the disc of the lip, which is orange-yellow. *C. Warneri* I was glad to see with its rich purple front lobe, *C. gigas* in quantity, and a form of this plant bearing the name of *regalis*, having immense flowers and a very deeply coloured lip, whilst *C. Gaskelliana* was just opening. Of their near relatives, the *Lælias*, *L. xanthina* was noteworthy, and I never saw this kind with such large and richly coloured flowers. *Cypripediums* were represented in quantity by *C. Lawrenceanum*, *C. barbatum*, *C. bellatulum*, *C. Curtisi*, *C. niveum*, *C. Chamberlaini*, the latest introduction from New Guinea, and by many others. I noticed many fine plants of *Dendrobium Phalenopsis* and *D. bigibbum*, also a rich golden yellow flower having two distinct black eye-like spots on the lip, but without any fringe, called *D. Gibsoni*. *D. suavisimum* was very fine, showing how useful a species it is. This was elegantly contrasted with large masses of *D. Dearei*, with its pure white flowers just tinged with emerald-green, and the lovely cherry-coloured *D. MacArthurii*. *Cymbidium Lowianum* was still fresh and good, whilst flowering plants of the grand and massive *Oncidium macranthum* were scattered about in profusion. Some of the older kinds of *Oncids* were beautiful. Amongst these may be mentioned *O. divaricatum* having spikes several feet in length, much branched, and bearing many flowers of a rich chestnut and gold, and dotted with bright brown; *O. pulvinatum* in the way of the former plant, but with flowers of a rich coppery brown, the lip pale yellow spotted with reddish brown; *O. sphegiferum*, similar to the last two, yet quite distinct; and the grand old species *O. phymatochilum*, which was represented by plants with large much-branched spikes laden with their white flowers, streaked and spotted with reddish brown and golden yellow. Among *Odontoglossums*, *O. Harryanum*, *O. vexillarium*, and *vexillarium rubrum* in all sizes and of various depths of colour, *O. cordatum*, *O. Sanderianum*,

and many others were noteworthy. Amongst these I may mention *O. diversum*, supposed to be the only plant in Europe, a natural hybrid between *O. crispum* and *O. Pescatorei*, bearing many large pure white flowers, having the sepals only spotted with rosy purple, the broad petals pure white, the lip having a large blotch of rosy purple; and *O. blepharicanthum*, having flowers much after the style of *nevium*, but wanting in the deep colours, the narrow sepals and petals being white, dotted and freckled with light ferruginous brown. *O. polyanthum*, *O. Hunnewellianum*, and *O. hastilabium* were also very fine. *Epidendrum vitellinum majus* was bright and conspicuous, as were also *E. Wallisi*, *E. nemorale*, *Disa grandiflora*, and *Cœlogyne Mas-angeana*. *Calanthe Textori*, *pleiochroma*, and *veratrifolia* plainly showed how valuable white flowers are amongst such a host of coloured ones. *Masdevallias* were represented by forms of *Chimæra*, *corniculata*, *Harryana*, *Veitchi*, and many others. The *Promenæas* were represented by large masses in hanging baskets of the bright *P. citrina* and the deep, but richly coloured *P. stapelioides*, against which the white and green flowers of *Ornithocephalus grandiflorus* made an elegant contrast. Many other species might be named as contributing to make up the display, which is well worthy of a visit, in spite of the lateness of the season. W. H. G.

*Odontoglossum crispum imperiale.*—This is another superb variety of this species now flowering in Mr. Dorman's garden, Laurie Park, Sydenham. It has massive broad sepals and petals, which make a round and perfect flower. The sepals are white, heavily stained with purple on the outside, which shows through in front with a heavy tinge of rosy purple; the full round petals are dentate on the edges and pure white; the large lip is prettily frilled round the edge, and also pure white, saving two or three chestnut-coloured spots under the crest, which is rich yellow.—H.

*Oncidium zebrinum.*—G. Rintoul sends a very nice form of this species which flowered for the first time in this country just twenty years ago in the nurseries of Mr. W. Bull, of Chelsea. When out of flower it is difficult to distinguish the plant from *O. macranthum*, for which species my friend had purchased it. The spike grows some 10 feet or 12 feet, or more long, producing many of its singularly-coloured blooms, which are white, much crisped, and transversely barred with reddish violet, base of lip yellow. It comes from the high mountains in Venezuela.—W. H. G.

*Oncidium serratum.*—C. Chowles sends flowers of this species. The plant is an old one, now somewhat looked down upon by Orchid growers. It was figured in the *Botanical Magazine*, t. 5632, from a plant which bloomed in the gardens of the Bishop of Winchester, but it flowered for the first time in Europe in 1850 with M. Pescatore, near Paris. I believe M. Linden was the introducer of the plant which he called *O. diadema*, so that Mr. Chowles may see his plant is not a new one; it comes from some considerable altitude in the Andes, and belongs to the same section as *O. macranthum*.—W. H. G.

*Stanhopea oculata.*—This *Stanhopea* and some others have been blooming very freely in the nurseries of Messrs. John Laing and Sons, Forest Hill, producing long, many-flowered racemes of bloom. The flowers are large, pale yellow, thickly spotted with soft purple or lilac, the lip having in addition some blackish spots on the side of the lip. The flowers of this species last about four days in good condition, and yield a delicious perfume. It seems to flower most freely when not grown in too strong heat.—W.

**Alpine flowers for English gardens.**—It is proposed to reprint this book, which has been now long out of print. But as it would not be well to do so without bringing it up to time as regards the



artistic part of it, we would ask any of our readers who may have or who may know of beautiful rock gardens to kindly inform us of them.

## ROSE GARDEN.

### ROSES AT COLCHESTER.

THE Braiswick Nursery of Mr. F. Cant is a gentle slope, and thus one standing at the top has a splendid view of the whole, and sees a good example of the effect of Roses in the landscape. The very first idea that such a picture suggests is reproduction on a smaller scale in the garden landscape. Educational advantages attend a visit to a nursery such as this, as it is only by seeing the Roses where they are grown that we can obtain perfect knowledge. That which is gained from visiting the shows alone is most imperfect, as many ultimately find out to their cost. Anyone making a selection from Mr. Cant's winning boxes would, of course, include Her Majesty. Let him see it at home, however, and he will speedily come to the conclusion that though it may be indispensable to the exhibitor, he who wants few kinds and many flowers must have nothing to do with this one. The Hybrid Perpetuals on a recent visit being at their best, so these kinds naturally made the greatest display, but their brilliance was matched by the delicacy and lovely colouring of huge breadths of charming Teas. Amongst Hybrid Perpetuals Earl of Dufferin was superb. It is very full and double, of perfect shape, and a massive flower, the rich velvet crimson being shaded with a deeper, darker tint. Boieldieu, one of Margottin's old Roses, was fine. It is rare to see it in such good condition, the hot, dry weather being doubtless the real cause. Of full and globular form, it takes some time to open, but is very bright and distinct when good. Victor Hugo is grand for any purpose to make a show in the garden or to add to the merit of a box of exhibition blooms. Its rich dazzling colour, fine form, freedom and continuity leave nothing to be desired. The finest Rose of all here, however, was Suzanne Marie Rodocanachi. It is most unfortunate that such a splendid Rose should have a name like this. Even the experienced Rose grower knows the difficulty of giving the name at first sight of some of the many red and rose-coloured Hybrid Perpetuals, they are so near each other, but the kind under notice is conspicuous enough. It is one of the bold varieties that are so characteristically distinct; we are never deceived by them. It attracts chiefly by reason of its clear bright transparent rose colour and the erectness of the flower, which by the way has petals of great size and breadth. Pride of Waltham was good; it is charming in colour, shading from flesh pink to rich rose in the centre. Mary Bennett, though not generally very reliable, was extremely good, the flowers fine, the colour a clear rosy-cerise. Marguerite de St. Amand can still hold its own among pink Roses. Since its advent in 1861 many have come and gone, but this remains as good as ever. Victor Verdier, too, though old is good, and Duke of Edinburgh and Duke of Connaught are as free, distinct, and fine, and as much valued as ever.

Those who know the standard kinds, such as the Duchess of Bedford, Prince Arthur, John Bright, Duchesse de Morny, Baroness Rothschild, Marie Baumann, Alfred Colomb, Star of Waltham, Countess of Oxford, Merveille de Lyon, Ulrich Brunner, John Hopper, &c., can imagine the effect of these in large breadths. When all are so fine selection is difficult, but the names here given are of those that were particularly striking at the time. For all purposes what Roses can surpass Mme. Gabriel Luizet and Mrs. John Laing? Her Majesty was bearing majestic blooms, but one shoot and one flower too often are the total of a plant, and we shall rarely see it away from the nursery. A few of the newer kinds must be mentioned before leaving this section, and of these Gustave Piganeau is deservedly first. It is an 1889 Rose, but two or three seasons usually elapse before we can fully

test a new kind. Now that Rose growers have a stock of it they are no longer in doubt as to its merits, and it has been prominent at recent shows. The flower, though of great size, is good in form and colour, as the clear carmine-like hue has no suspicion of the dingy shades of lilac or purple with it. Mme. Henri Perière was sent out six years ago, but its merits are not well known. It is very sweet, vigorous, and constant, the flowers bright red with a darker shading of crimson. It is decidedly a good Rose, and so is Jennie Dickson, which was sent out two years ago. It is very bright in colour, with long buds that have high centres and open into flowers remarkable for the size and width of their petals.

### TEAS.

All the best were very much in evidence, and flowers could be numbered by the thousand. It is most satisfactory to see their increased culture in the nurseries, as this indicates plainly that they are being sought after. It should be so, for they are the most charming and most constant of all, and I am now convinced that under rational culture we have little to fear from the winter. In regard to these, Mr. Cant has from the first proclaimed their hardiness. We were too long deluded into the belief that Tea Roses were tender, but now the race of Roses that deserves supreme position is on the way to obtain it. The first and best substitute for tender summer-flowering plants is to be found in Tea Roses. A great many Teas were extra good in consequence of the brilliant weather, and none more so than Comtesse de Nadailac. Perhaps this kind needs a little coaxing, and no doubt some of us have been encouraged to try it again when Mr. Prince has brought up to London a box of matchless blooms from Longworth. Jean Ducher is another lover of heat and drought, and we enjoy it the more from the fact that it is not constant annually. Francisca Krüger is similar as regards its requirements, and we shall be grateful this season for the fact that we have had of these two noble, free, but uncertain kinds. The same is true of Mme. Hippolyte Jamain. It is always vigorous and an abundant bloomer. Its colour is exquisite, the great drooping flowers being white externally, but the tips of the inner petals are tinged with rosy pink and shaded with apricot-yellow at the base. Mme. Cusin and Ethel Brownlow I have never before seen so fine as they were here. If *Homère* must be starved into producing perfect flowers, the very opposite treatment must be adopted in regard to these kinds. If they lack good food, or if the weather is against their rapid opening, the flowers develop tints that are decidedly not pretty. In the rosy shade of both there is a purplish lilac tinge, and if this is much developed, the appearance of the flower is marred. As I saw them they are two of the very best, and the bold, erect blooms of Ethel Brownlow were magnificent in form and substance. Mme. de Watteville is at home in this nursery, and no Tea Rose looks brighter on a sunny day. Of the white ones, Hon. Edith Gifford, S. A. Prince, The Bride and Innocente Pirola are four that will take some beating, but the kind first named is the best of them all, if we regard it from all points. In the garden or in the nursery nothing quite equals it in its dense dwarf habit, combined with vigour, exceptional freedom and fine form and erectness. With so many fine Roses in existence it is difficult to see how much more improvement can be effected except in one direction. So many Tea Roses droop their flowers and we have to lift them up in order to see them properly, that an endeavour should be made to produce new kinds that hold their flowers erect. We have a good example of the type required in Ernest Metz. This kind has fulfilled all that was predicted of it. We can judge it truly now that the quantity in nurseries is larger. Fine flowers were abundant, of great size, fine form and exquisite colouring, the pale tender rose of the bud deepening into rich carmine-rose as the flower expands fully. Mme. Pierre Guillot is another kind, with bold, full flowers, but as yet it hardly seems possible to give it unqualified praise. It wants

heat to bring it to perfection, and that it has had of late, and has been fine in consequence. If the flowers are slow in opening they are rather green externally, and this detracts from their beauty. A perfect flower is distinct and delightful in colour. Mrs. James Wilson grows more promising, and though at first it was thought to bear a close resemblance to Marie van Houtte, it has shown distinctive merits. It has the colour of this last-named variety combined with habit and form more like those of The Bride. White Perle was in flower, and proves that those who are successful with the parent need not hesitate as regards the sport. It has the same strong habit and produces fine flowers, which are not truly white, but of a very pale lemon shade. Cleopatra has caused disappointment to many in failing to grow well. This may again be but a temporary result of excessive propagation, for I saw strong plants and grand flowers of soft colour and fine form. The breadth and smoothness of petal are a striking feature of the kind. We shall find it valuable if it ultimately becomes vigorous and constant. May Rivers looked decidedly promising. The plant is vigorous and the flowers are distinct and fine. They are of a globular form, full and double, palest yellow internally, shading to creamy white. Jean Guillaumez will attract the notice of those who love the Teas for their varied tints. It is in the way of the old Adrienne Christophe, but promises to be more regular and constant than that fine-weather Rose. It can hardly be clearly described, but it is of a salmon-yellow shade with a peculiar metallic-red hue in the centre. Small plants producing good flowers testify strongly to its worth. J. B. Varonne is one of Guillot's new Roses, and it should be watched, for it seems a promising kind. It has long pointed buds, recalling those of Luciole, but the colour was quite different from that of this variety, being a China Rose tint deepening into carmine. So much for the varieties, and a word must be said for the plants. Among them and most conspicuous was a magnificent breadth of standard Teas which could not possibly be finer. The finest flowers among the Tea section were seen upon these plants. T. W.

### THE ORANGE FUNGUS ON THE ROSE.

SOME Rose leaves have been forwarded to me from the south of Scotland affected with what is known as the orange fungus. The leaves appear to be attacked in a somewhat early stage of the growth, the disease appearing on the under sides of the leaves and their petioles in the form of deep orange-coloured spots and beads, some larger than the others, and in lines along the midribs of the leaves. The sender states it is fortunately very little known in the neighbourhood, and no one appeared to exactly know its real character. Some of the older Rose growers appeared to think this fungus to be of a somewhat harmless character, and as it appeared later in the season and affected only the leaves, they did not take much notice of it. The modern Rose grower estimates it at a different value, and is found asserting there is no disease to which the Rose is liable that is so destructive in its effects as a virulent attack of orange fungus. Mr. George Baker, writing upon the enemies of the Rose in the "Rosarian's Year Book" a few years ago, stated, "It is most subtle in its action, attacking the foliage sometimes in the early stage of its growth and spreading rapidly over a collection of plants. It makes its appearance on the under sides of the leaves in the form and size of the heads of very small pins. The fungus sometimes increases very rapidly, with the result that the vitality of the plant is destroyed. The plants are denuded of foliage long before the wood has time to ripen; consequently the plants are in a very delicate state to stand against hard winter weather, and those that have to undergo that ordeal invariably start weakly the following spring."

As to the remedies suggested, Mr. Baker admits they are, unfortunately, not very successful, and though he has but faint hopes of being able to



effectually cure this pernicious disease, the next best thing is to endeavour to check its vegetative power and prevent its re-appearance. "This can be attempted by raking off all loose materials and as much soil as possible and burning them. At the same time give the ground a good dressing of quicklime. The burnt soil and other matters can be returned to the Roses greatly improved by the change they have undergone." Mr. Baker also recommends that at pruning time everything cut from the plants be collected and destroyed. This done, then to give the plants, "stems and branches, stakes and ties a good coating of the following mixture, applied with a brush: Quicklime and soot mixed to the consistency of paint, to a paiful of which add half a pound of the sublimated sulphur and a small handful of coarse salt, stir and mix well together before applying." The object sought by the application of this paint is to destroy the resting spores of this troublesome fungus. Mr. Baker adds: "I have tried washes of all kinds, carefully syringing and brushing over the leaves with various compounds, but with little success, and in some instances finding the remedies even more fatal than the disease. I have most faith in an infusion of Hellebore root—four ounces to half a gallon of boiling water, then add half a drachm of the bichloride of mercury (first dissolve the mercury in a little spirit), and lastly, add half a gallon of lime water. I have certainly seen good results from this application, though I must also admit it has sometimes failed. I have observed we get the orange fungus or mildew in long-continued dry weather, and chiefly on the lower leaves of the smooth-wooded class of Rose plants, such as Victor Verdier, Comtesse d'Oxford, Hippolyte Jamain, and the like, but it is worthy of remark that Mme. Clemence Joigneaux, William Warden, Edouard Morren, and others of the same character of foliage, &c., are seldom subject to these forms of fungoid disease." R. D.

#### NOTES ON NEW ROSES AT THE CRYSTAL PALACE.

SEVERAL new Roses were shown on this occasion, and although none of them were considered worthy of a medal or special mention by the judges, they may well receive a few comments here. The judges were undoubtedly acting rightly in not awarding the gold medal to any new Rose that was not a decided improvement upon existing varieties, both in distinction, form, and colour. I am under the impression that in the last few years this honour has been too readily conferred. A "gold medal" Rose should be an improvement in form, size, and colour, and no medal should be awarded unless the variety is thoroughly deserving of such an honour. Unless this aim be kept in view more persistently than has hitherto been the case, and with the exception of the last show, I fear that the designation "gold medal" Rose will be of small use as pointing out really first-class new Roses, as most certainly all should be that receive this high honour.

HENRY GOW, a cross between Star of Waltham and President Leon de St. Jean, was exhibited by Mr. G. B. Basket, The Gardens, Easing Park, Godalming. This is a good grower, and to all appearances a free bloomer, of fairly good shape, and sweetly scented. Its colour is not so distinct as is desirable in a new Rose.

Messrs. W. Paul and Son, of Waltham Cross, showed three varieties, viz.:—

SPENSER (H.P.).—A pretty flesh-coloured Rose of good substance and fairly good form when in a younger stage than the three blooms shown at this meeting. I saw many flowers of this kind exhibited at the Temple show, and also at the International shows of a short time back that were a great deal better than the three blooms staged. It is only fair, therefore, to say that this variety is much better than it appeared at the Crystal Palace. Spenser as seen at the spring shows, is a splendid pot Rose. Unfortunately, it goes very flat with age, and does not retain the cupped form of Baroness Rothschild for any length of time.

CORINNA (Tea) is a pretty Rose of the Grace Darling class and colour, but with a less globular form.

LADY H. GROSVENOR (H.T.) has the same bold and upright habit as Elith Gifford, with the same ground colour, but with a deeper tinge of pink in the centre. To my mind this Rose is too flat to ever rank as a good exhibition variety, but from the ground plant—which it is necessary to show with the flowers when competing in this class—exhibited it is likely to make a good garden Rose.

CAPTAIN HAYWARD is a pedigree seedling Rose, exhibited by Mr. E. Bennett, Exotic Nursery, Chigwell, Essex. This is of a grandly cupped shape, scarcely so full as might be desired, and with a very bright and clear colour of the Mrs. Baker type, with a little of the peculiar purplish tinge seen in Mons. G. Tournier. Its growth is wonderfully strong and covered with extra stout thorns.

CLARA WATSON is a new Tea from Mr. Prince, of Oxford. It was not specified whether it belonged to the so-called Hybrid Teas or not. From its appearance I should take it to be a true Tea-scented variety. It is likely to prove a useful Rose and is quite distinct.

MRS. W. J. GRANT, exhibited by Messrs. Dickson, of Newtownards, Ireland, is a pretty Rose, and may be described as a very bright La France, with the same build and shading as a good Mlle. Eugénie Verdier. The petals are reflexed as in La France. This is likely to prove an acquisition to its colour.

In the class for twelve new Roses, *i.e.*, Roses offered for the first time in English nurserymen's lists in the spring of 1890 and subsequently, there were two exhibitors; the cream of the lot being the following:—

GUSTAVE PIGANEAU.—A grand Hybrid Perpetual Rose, and one which it would be difficult to speak too highly of. This Rose had the honour of being awarded the silver medal as the best Hybrid Perpetual exhibited by nurserymen. It also gained the silver medal at the same show last season; and when one considers that this was in competition against many hundreds of blooms of the very grandest varieties, there can be no need for further comment upon its first-class qualities. It is of grand size and shape, with a purplish rosy crimson colour.

GUSTAVE REGIS (H.T.) is a very pretty Rose for cut flower work, but does not give me the impression of being full or heavy enough to exhibit in company with the grand varieties of Teas and hybrids of Teas now in cultivation. This variety is classed as a Hybrid Tea; probably it is so, but in appearance it is as true a Tea-scented Rose as Safrano or Sunset.

CAROLINE TESTOUT (H.T.) is a very pretty pink Rose likely to be useful for garden work, and as noticed at the Temple show it will be a good variety for pot cultivation. I have seen this described as a salmon La France, but I failed to see any resemblance to the shape of that Rose in the flowers shown at the Temple and Crystal Palace.

TRIOMPHE DE PERNIT PERE is described both as a Hybrid Tea and as a Noisette, and resembles Mme. Cusin and Souvenir de Thérèse Levet, partaking about equally of the characteristics of both of those Roses.

JEANNIE DICKSON (H.P.), as shown at this meeting and as it has come with me, is of splendid shape and size, but scarcely so full as is desirable.

J. B. VARONNE (T.) is of a peculiar colour, giving me the impression of being a heavier flower of l'Idéale with a touch of Mme. de Watteville.

There were a few more, comparatively speaking, new Roses exhibited throughout the show, the most notable of which were Cleopatra (Tea) and Ernest Metz (Tea). These are undoubtedly two of the grandest Tea-scented Roses ever sent out.

RIDGEWOOD.

Rose Souvenir de Gabrielle Drevet was conspicuous during the past week. Unfortunately, it does not appear to be a first-rate grower, judging from our group which has been planted three years. The plants, however, though only of moderate vigour, have never failed to produce fine flowers. In colour and in other ways some have compared it with Mme. de Watteville, but there is no ground for comparison, unless it be in the loveliness and variety of tints embraced by the flowers of both kinds. This now under notice bears most of its flowers singly on strong stalks,

which hold the blooms very erect, and through their erectness they display their charming colour to the best advantage—a rich copper rose glowing in the base of the flower, and shading to salmon and pale yellow. The effect of newly-opened flowers is brilliant in bright sunshine.

Rose Mme. Bravy.—When selecting the best Tea Roses for grouping this kind was omitted, but the neglect was hardly deserved, as we have since proved. An unsatisfactory sort was removed, and we fell back upon this to fill the vacancy, which it has worthily done. Although this is its first season every plant has flowered freely, and the flowers were fine, full and perfect in shape. Although sent out by Guillot as far back as 1848, it is evident that we must yet regard this kind as fit to rank among the best white Teas of the present day. Its flowers are drooping; so are those of The Bride, Souv. de S. A. Prince, Niphotos, and others. We want more white ones as good as these, that can support their flowers like the new variety Ernest Metz.

## STOVE AND GREENHOUSE.

### POTTING INDIAN AZALEAS.

THIS all-important item of culture is oftentimes neglected, if not to a really serious extent, at any rate sufficiently so to weaken the constitution of the plants. This omission is further aggravated by non-attention to or carelessness in respect to the watering by flooding the plants. These latter failings act in two directly opposite ways. In the case of any plants that are much pot-bound with none too much room on the surface to receive a due proportion of water, it will happen that the lower portion of the ball will become much too dry; hence the roots suffer and die if not attended to in time. On the other hand, plants which have any great amount of sour soil (oftentimes caused by using inferior peat) in their pots, will, in due course, go from bad to worse. Plants when in this condition are frequently very deceiving if sounding the pots with the knuckles is too much depended upon. They will sound as if they were dry when they are not; hence the roots, through not being in sufficient quantity to absorb the moisture, will eventually succumb to the inevitable when watering is still persisted in. When plants are therefore tending towards either of these extremes it is high time to set about repotting them, otherwise the consequences will become serious. Supposing the plants are pot-bound, not having to all appearances been potted for some years, it requires a considerable amount of care in the potting to ensure future success. If the roots next the crocks are either unhealthy or dead, these should be removed, whilst the sides of the ball may be gently pricked to liberate healthy roots, so that they take more kindly to the new soil. It is an all-important item of culture to see that the potting is done quite firmly; the work of potting should not on any account be treated as a light matter, as if dealing with soft-wooded plants of quick growth, which are either repotted two or three times a year, with reductions in the spring, or thrown away after flowering. If the potting be done thoroughly well, the plants will remain in a healthy condition for a much greater length of time, thus actually saving labour, whilst the results in other ways are far better. If I were asked to name one error above all others in the culture of hard-wooded plants, it would be that of bad or indifferent potting. The work is often hurried through too quickly; whereas both time and patience are needed to do it satisfactorily. The



potting must be done in a firm manner, only adding a little soil at a time, so that no vacancies are left around the ball. Peat will, of course, form the staple soil; this should be firm in texture with plenty of fibre in it, that which contains the roots of the Heather being much to be preferred to that with Bracken in it. Where the latter is found the peat is usually softer and more porous. When the peat is inferior and light fibrous loam or leaf soil can be had, I would add either one or both of these latter composts; this would correct the tendency that would otherwise take place in time towards sourness and an inert condition of the roots. Strong growing kinds of these Azaleas can also be checked so as to induce them to flower more freely when a little light loam is used with the peat. Sand of good quality should, of course, be pretty freely used, whilst if there be any great deficiency of fibre in the compost I would add a fair amount of charcoal about the size of nuts and some crocks broken down fine. Bones, either as meal or crushed, it is never desirable to use; the growth for a time might be all that one would desire, but a failing would come in time. Neither is it desirable to use any stimulants in the way of artificial manures; these should be rigorously excluded from the new compost. The soil should be in a medium state as to moisture; if much exposed to light and air the outer sods of peat where stacked will be too dry; these should be laid aside for a time. When the soil handles so that it does not stick to the hands, it may be taken that it is in fairly good condition for use. A thin surface dressing only should be allowed for upon the surface, not half an inch even being desirable. When much is thus allowed the surface never becomes firm by root action, even if pressed down well when potting is done. Loose soil is never desirable upon the surface; it is deceiving as to the watering. As a rule a sufficient shift only should be allowed so that a potting stick of about three-quarters of an inch in thickness can be easily worked, its end being of course more tapering. Clean crocks are highly important; so also are clean pots; these latter if new should be well soaked in water beforehand. When dealing with plants that are unhealthy at the roots, particularly large ones, the reducing of the ball so that the same size of pot can again be used should be practised. This is sometimes done by means of a pointed stick, but a far better way is to take a piece of an old scythe blade and cut it clean away at once. Plants thus treated will need to be kept in a shady place and where not exposed too much to air for a time with occasional light syringings. If a moist pit can be spared, so much the better for such plants until fairly well re-established. Others when in good health may be stood out in the open as usual where this is found to be possible. I prefer this season of the year to any other for potting Azaleas; if done early in the spring there is a tendency towards too vigorous a growth. Imported plants as soon as they arrive in the autumn should then be gone over. It will be much safer to pot these at once, the conditions under which they have been grown having been so different to our methods; hence the sooner they are placed in our soil the better will it be for them.

PLANTSMAN.

**Pink Souvenir de la Malmaison Carnation.**—This is undoubtedly a very fine Carnation, and a good companion to the ordinary blush form. I find, however, that it requires more care in the primary stages of growth, for it is certainly less robust and makes roots less freely. One thing to be guarded against in its culture is overpotting.

Every effort should be made to get the pots well filled with roots by the time the buds are formed, or the blooms will come loose and very deficient in size. Early layering is important and should be done during this month or early in August, but the sooner the better. The loam should, if possible, be rather light and very fibrous, and I find that a liberal addition of thoroughly decomposed leaf soil stimulates root action, and coarse silver sand should be freely added, as this keeps the roots healthy during the dull months. With early layering and no delay in putting the layers into small pots when rooted, there will be a mass of white roots at the beginning of the year ready to grasp the new soil. For single plants 5-inch pots are quite large enough, and when 6-inch ones are used I find that better results are obtained by putting two plants in a pot. Putting Carnations into large pots is a great error; they are not gross feeders, and make roots much less freely than most flowering plants, and consequently suffer acutely from a little overdose of water. The earlier in the year they go into blooming pots the



*Fritillaria Meleagris alba.* (See p. 73.)

better. I use the compost just moist, and do not water for some little time after potting; indeed, at this time of year very little water is needful. One watering out of place will make the soil close and sour for the remainder of the season.—J. C. B.

**Gloxinias without artificial heat.**—Where Gloxinias are required for cutting from, they are sometimes planted on a gentle hot-bed and covered by a frame, and in this way a few plants will during the season yield a far greater number of blossoms than would be the case if they were grown altogether in pots, but even this amount of heat is not necessary in order to have Gloxinia blooms during the summer, for they will do very well in an ordinary cold frame if carefully treated. If tubers that flowered last year are given greenhouse treatment such as that usually accorded the tuberous Begonia, they will grow slowly, but sturdily, and about the end of May they can be shifted into the frame, to which air must be sparingly given. Light shading is necessary, and precaution should be taken to shut up early to husband the sun-heat as much as possible. In this way the plants will flower beautifully for some time. Seedlings, as is well known, bloom

freely the first season, but in their case it is necessary to grow them on quickly in order to get them as strong as possible, so that for this cool treatment second season tubers are the best.—H. P.

#### GLORIOSA SUPERBA.

In the whole Lily order there are few, if any, flowers more striking from their singular shape and bright colours (in which scarlet and yellow are contrasted with each other) than is the case with the blooms of this *Gloriosa*. In some stages they remind one strongly of a curious tropical insect rather than a flower. This *Gloriosa*, of which by the way a beautiful coloured plate was given in *THE GARDEN*, December 20, 1890, has within the last two or three years become far more common than was formerly the case, owing to some of our nurserymen importing it in considerable numbers when dormant. As it forms an elongated fleshy tuber about the size of one's finger, it will of course travel easily when in that state. In cultivating this *Gloriosa* no particular care is necessary, for it will succeed perfectly with the treatment given to many other stove plants. The soil should be of a good open nature, and if the tubers are potted about February they will soon start into growth, and as a rule mount up rapidly, for their slender climbing stems will reach a height of 8 feet or 10 feet, on the upper part of which the flowers are produced. A special feature is the great change that takes place in the colour of the bloom between the opening and fading thereof. This is especially noticeable from the fact that the flowers last some days, and thus when different stages are represented on the same plant the blooms appear to be of varying colours. A great variety exists among them, as some individuals are much superior to others in the colour of their blossoms, while a good deal also depends upon the position in which the plant is grown, for where heavily shaded the blooms are not nearly of so rich a hue as when they expand in a light open position. The temperature of a stove or intermediate house is necessary to the well-doing of this *Gloriosa*. As with those climbing *Alstromeriacs*, the *Bomarea*s, the points of the shoots when growing must be jealously guarded, as an injury there will stop the flowering of that particular shoot. In the winter the *Gloriosa* should be given much the same treatment as *Gloxinias* and such like plants.

H. P.

**The Marguerite maggot.**—Having seen no answer to Mr. Burrell's query for a preventive of the Marguerite leaf miner, I venture to send the following method of treatment which is, as far as I know, the only effective means of getting rid of the pest. I have on two occasions got rid of it for a year or two in this way. Take cuttings early so as to get them well rooted before winter, winter them in the coolest possible place without getting them frozen, and after the new year, as soon as the cuttings show the least sign of starting, pick off every leaf except those on the extreme points, and continue to do this up to within three weeks of planting time; plant early and the cure will be effected, while they will grow away just as though they had been previously in the best possible condition. If, however, there are any of last year's plants potted up for winter and spring flowering on the place, the chances are that the cure will not last long, as the young plants will become infested with the flies that are hatched off at this season, so that the value of Marguerites for winter flowering is not an unmixed blessing. When I have had trouble with the fly and maggot, I have either not grown Marguerites in pots for a season, or cut them hard back beyond the leaves,



which of course throws them later into flowering, and robs them to some extent of their value.—J. C. TALLACK.

## NOTES OF THE WEEK.

**Lilium giganteum.**—I have several nice specimens flowering fairly well this season 10 feet high. I thought you might be interested. The plant does not seem to create much enthusiasm, but it is very lovely.—CHARLES NOBLE, *Bayshut*.

**Solanum crispum.**—Mr. F. M. Burton, Highfield, Gainsborough, sends us a beautiful box of the true *Solanum crispum*, which is really a lovely and distinct plant. The fact that it is so perfectly healthy and so full of flower in that district is proof enough of its value for a wall at all events.

**Royal Horticultural Society.**—The next meeting of the above society will be held in the Drill Hall, James Street, Victoria Street, S.W., on Tuesday, July 26. At 3 p.m. Mr. A. J. Manda, of the United States Nurseries, Hextable, Swanley, will give a lecture on "Insect-eating Plants," in connection with which many exhibits are expected.

**Mimulus from Utah.**—It may interest you to see the specimen I send you herewith of a *Mimulus* from Utah, the seed of which was sent to me last year. It may be *M. Lewisii*, but I am not sure. I never saw a red *Mimulus* before. It should be valuable for hybridising.—A. RENSIAW.

\* \* Your *Mimulus* is certainly not true *M. Lewisii*. It is called *M. cardinalis roseus* in gardens, and we believe it is a hybrid between *M. cardinalis* and *M. Lewisii*.—ED.

**Mariposa Lilies.**—I have sent you a box containing some cut flowers of *Calochortus* as an illustration of the excellent results obtained by my method of cultivating them. I hope they will arrive in good condition.—C. G. VAN TUBERGEN, JUN., *Haarlem*.

\* \* The best grown Mariposa Lilies we have ever seen. M. Tubergen also sends us an article detailing his method of cultivation. This we hope to give in our next issue.—ED.

**Lilium testaceum in a London garden.**—This handsome Lily came into flower with me on July 15, just as my white Martagons were over. Last year this Lily did not bloom till the first week in August. Its flowers are very graceful, and of a buff or delicate apricot colour, and very sweetly scented. *Lilium testaceum* is a grand plant for a London garden, as it is very vigorous and hardy. I planted mine in good garden soil with plenty of mortar rubbish, and they have made fine growth every year, with spikes of bloom 5 feet high.—R. A. JENKINS, *Highgate*.

**Beautiful Sweet Peas.**—In spite of the recent drought our Sweet Peas have done splendidly. Of the thirty-nine varieties in the garden I send you specimens of the twenty-six most distinct. You will, I think, allow that the flowers and trusses are alike fine. It seems a pity Sweet Peas are not grown in greater variety in most gardens, as they travel well, and the more they are cut the more they flower.—H. W. B. SCHOLFIELD.

\* \* A most charming series, for which we thank Mr. Scholfield—creamy whites, pale mauves, light and delicate rose, and a pale lemon (to get as near it as we can); all very beautiful.—ED.

**A new annual** (*Actinolepis coronaria*).—We are ever on the alert for new annuals, and almost every season sees the number increasing. But whether new or old, if they are really good they are welcome. We have now to note an old friend under a new name. *Actinolepis coronaria* is the new name. We first knew the plant as *Shortia californica*, then as *Hymenoxys californica*, then as *Bæria coronaria*; and now having lost sight of it for a few years, it turns up as *Actinolepis*. It is, however, a charming dwarf hardy annual, rarely exceeding 6 inches in height, and just now a sheet of the loveliest golden yellow. It may, indeed, be described as a winter annual. Plants raised in au-

turn flower early in spring, and successional sowings in spring, bloom until the plants are cut off by frost. It is a native of California and a most useful plant for forming a groundwork to subtropical and other bedding plants. It likes a dry sunny border or bed.—K.

**Geum chilense** and its variety *grandiflorum plenum* are amongst the most striking plants in flower on the rockery at present. This plant used to be called *G. coccineum* in gardens, but the latter is a very distinct, though not so showy a species as *G. chilense*, and we have never seen it in cultivation. The double or semi-double variety, a most beautiful and useful border plant, was, we are told, first raised at Paul's nursery at Broxbourne. It is now pretty common in gardens, and well deserves to be so. *C. miniatum*, another break from this species, is also a very beautiful border plant; the flowers are very large for a *Geum*, of a deep rich brick-red colour, very striking when seen in large clumps. Increased readily by division.

**A really fine double Begonia.**—A striking instance of the great improvement which is being steadily made from year to year in the size of bloom and upright-growing habit of the new varieties of these most lovely flowers by the leading nurserymen and raisers is to be found in the exquisite variety sent out this spring for the first time by Messrs. Cannell, Swanley, under the name of Miss Ellen Kirk. Of the large number known to me, this comes quite the nearest to perfection, the handsome and fully double flowers of a soft and pleasing shade of salmon colour being borne on stout, perfectly erect footstalks and looking you straight in the face. This is indeed a great acquisition.—W. E. GUMBLETON.

**Phlox Drummondii cuspidata** is a very remarkable break from the old circular-flowered *P. Drummondii* so long cultivated in gardens. Each of the flower segments is furnished with one long tail, giving the blooms a peculiar starry appearance. The new varieties vary just as much in colour as the old forms, and when these strange flowers are parti-coloured and the colours true and distinct, the contrast is indeed pretty. This variety is quite as hardy as the old type, and may be managed much in the same way. The seeds should be sown indoors if wanted in flower very early, but if sown in the open in March the flowering will only be about a fortnight later and all the trouble of pricking out, &c., will be saved.

**Lychnis vespertina plena.**—Among many showy plants now flowering in the herbaceous border, the above may be reckoned among the most useful. The flowers, pure white and fragrant, are produced in great profusion over a somewhat lengthened season. The flowers, however, are not so useful in a cut state as many, a fact due no doubt to the hardness of the stems of this plant, and which in consequence do not take up the moisture readily. The variety in question has never been common, because it can scarcely be divided with any degree of certainty, as is the case with most kinds. A good stock may be raised by cuttings, particularly where old-established plants exist.—H. H. M.

**National Carnation and Picotee Society** (Southern Section).—The sixteenth annual exhibition of the above society will be held in the Drill Hall of the London Scottish Rifle Volunteers, James Street, Westminster, on Tuesday, July 26. Seventy-four prizes are offered in sixteen classes. Special prizes are also offered for border Carnations by Mr. Martin R. Smith. The exhibition will be open to visitors at 1 p.m. A luncheon will be provided at the Hotel Windsor adjoining the hall at 1.30 p.m. for members and their friends. Tickets 2s. 6d. each. The "Carnation Manual," which has been in preparation for some time, is nearly ready, and will be published by Cassell and Company, Limited, about the first week in August.—JAMES DOUGLAS, *Hon. Secretary*.

**Notospartium Carmichaeliæ.**—The pink Broom of New Zealand has proved perfectly hardy

at Messrs. Veitch's nurseries, Exeter, where it has been planted out on the rockwork for four or five years, and has never been in any way protected. This year two plants are blooming beautifully, and the pendent shoots have an exceedingly graceful appearance as they droop over the stones. The position is shown on the enclosed photograph, and the flowering branches sent you herewith will give an idea of the pretty blossoms. There it is planted in a half-shady position in ordinary loam and peat. It is a leafless shrub of Broom-like habit, but more graceful in outline. The flowers are pink and resemble those of the Broom, but they are much smaller and crowded together in dense racemes at the tips of the branches. This should be a most suitable shrub for prominent parts of a large rockwork.—F. W. MEYER, *Exeter*.

**Gaillardias.**—These are very gay just now, and useful alike for cutting or for the beautifying of the garden generally. Gaillardias are so easily raised from seed, that they should be found in every garden where cut flowers are required in quantity. We have scarcely another border flower possessed of such gay and brilliant colours. Those who do not possess these showy Gaillardias would do well to add them for the ensuing year. By sowing seed at once in the open in fairly rich ground, nice sturdy plants will be forthcoming for placing in permanent positions in early autumn. These with good culture will flower freely when a year old, and it is quite surprising how great a variety is obtainable from a packet of good seed. When in flower the inferior ones may be discarded, and by selection a good and useful strain may be obtained.

**Iris Kämpferi at Highgate.**—I have had these Irises in bloom on a sunny border since the 10th instant. I have found them do best in a sunny border at the foot of a south fence in a compost of two parts good garden soil and one part each peat and leaf-mould. In this position they are kept warm and fairly dry during winter, while in summer they enjoy the full sunshine and the copious supplies of water which they receive. I use no manure either when planting or as a mulch. A little weak liquid manure in summer, however, does them good. The best half-dozen kinds are Nippon, pure white; Kämpferi (type), violet; Alexander von Humboldt, white with yellow stripe; Alexander von Siebold, maroon with orange blotch; Rutherford Alcock, blue; Ernst Moritz Arndt, pink; Souvenir, rose with lemon blotch.—R. A. JENKINS, *Highgate*.

## SOCIETIES AND EXHIBITIONS.

### NATIONAL ROSE SOCIETY.

#### CHESTER SHOW.

THE provincial show of the National Rose Society was held this year in the ancient city of Chester in the grounds of the well-known and popular mayor of the city, Alderman Charles Brown, who is now filling the office of mayor for the fifth occasion. The weather at Chester on the 16th inst. was about as dismal as the most earnest believer in the vagaries of St. Swithin could possibly desire, and to add to the discomfort of the wet ground, the preparatory arrangements of the local management of the show appeared to be chiefly remarkable for an absence of knowledge of the requirements of such meetings, the consequence naturally being a state of chaos for nearly two hours prior to the judging, and it is therefore the more gratifying to be able to report that in the final result the exhibits were well staged and very little damage done to the splendid blooms, which had to be shifted frequently before the final completion of the arrangement of classes was effected. The exhibition may be shortly defined as a complete reversal of the positions held by exhibitors at the Crystal Palace, in so far that the professionals were here in grand form, but the standard of the amateurs' exhibits was inferior to what we expect and usually see. Moreover, the premier positions held at the great metropolitan show



were reversed in almost all cases at Chester, the peculiarity of this fact being in no way influenced by any special circumstances, the same competitors still appearing as the leading exhibitors and prize-winners.

In the classes for nurserymen the exhibits were exceptionally good, and far superior to those staged at the Crystal Palace, and the competition was larger, several of the leading northern nurserymen competing, but, with the exception of the Messrs. Merryweather, of Southwell, Notts, without any marked success. To put the results shortly and without the repetition of their respective prize positions, we may say that Mr. Benjamin Cant defeated his greatest opponent, Mr. Frank Cant (who was second in each case), for the Jubilee cup—the class for seventy-two distinct varieties and the thirty-six distinct trebles. The competition, always keen between these two great rosarians, was unusually severe at this meeting, but Mr. Benjamin Cant won decisively. The colour, size, and arrangement in both competition boxes were almost perfect. Messrs. Harkness, of Bedale, Cranston, of Hereford, and Paul and Son, of Cheshunt, took the minor prizes.

In the classes for nurserymen of what might be called a lower grade as exhibitors, the principal prizes were won by Messrs. Merryweather, of Southwell, who staged some splendid specimens, the colouring of their exhibit in the class for thirty-six distinct being superb, and we single out two blooms for special remark, viz., *Gloire de Margottin*—which was perfectly dazzling and the admiration of all observers—and *Gustave Piganeau*, which worthily won the National Rose Society's medal, a splendid bloom of *La France* in Mr. B. Cant's boxes running it very close. The other prize-winners were Messrs. Prior, of Colchester, and Jefferies, of Cirencester.

As already mentioned, the amateurs showed in comparatively inferior form to their Crystal Palace exhibits, but it is noteworthy that the amateurs who showed successfully at the metropolitan show were still the principal winning exhibitors at the northern meeting, the smaller classes, however, bringing in a very heavy competition of rosarians from the local district and midland counties whose proximity to Chester enabled them to defeat their southern opponents by the freshness of their blooms. For the Jubilee trophy, Dr. Budd of Bath, Mr. Pemberton of Havering-atte-Bower, and Mr. Lindsell of Hitchin were placed in the order named, this victory of Dr. Budd being achieved partly, we understand, by the fact that he grows a large stock of Roses on the *Manetti*, the maidens on that stock aiding him materially on this occasion. Dr. Budd, Mr. Pemberton, and Mr. Lindsell were also successful in the other classes open to them, in all cases exhibiting well, but Mr. Lindsell was not showing quite up to his usual very high standard. Mr. Pemberton took the National Rose Society's medal for *Comte Raimbaud*, two blooms of this beautiful Rose exhibited in two of his boxes being first-class specimens.

In the classes open to growers of under 2000, under 1000, &c., the only southern amateurs who exhibited, Messrs. Mawley, Page-Roberts, and Grahame, tried ineffectually to repeat their victories at the metropolitan show, but were defeated by the local amateurs, who sent a large number of entries, and had the advantage of freshness, and, moreover, had escaped the heavy rains with which the home counties have been visited. Mr. L. Garnett of Christleton Rectory, Colonel Hore of St. Asaph, and Mr. Boyes, Derby, took nearly all the principal prizes open to them, staging their flowers in a very effective manner.

The Tea classes were more remarkable for inferiority of exhibits than for any other marked peculiarity, there being no blooms of the highest class staged amongst them, and when we mention that the National Rose Society's medal (won by Mr. George Paul) was conferred on a *Souvenir d'Elise* staged in a mixed class box, we emphasise this fact, the Rose which came second to it (a fine *Ernest Metz*) being also in a mixed box shown by Mr. Benjamin Cant. Mr. Edward Mawley won the medal for the best amateur's Tea (*Souvenir de S. A.*

Prince), a very good specimen of that variety. Mr. Burnside, of Hereford, effectually turned the tables on his old opponent, Mr. Hill Gray, of Bath, exactly reversing their positions at the Crystal Palace.

There were several new seedling Roses shown by Messrs. Dickson, of Newtownards, Ireland, and Messrs. Harkness, of Bedale, Yorkshire, the exhibits of Messrs. Harkness being two sports from Heinrich Schultheis, one being a very pale striped Rose of the *Pride of Reigate* type, a very undesirable class to perpetuate, and a very pale pink Rose named Mrs. Harkness, somewhat of the shape of *Merveille de Lyon* in the advanced bud state, of a beautiful colour, but apparently with a bad tendency to develop the eye too quickly. A third Rose exhibited was named Mrs. Arthur Wilson, of a type similar in every way to *Mme. Gabriel Luizet*, except absence of thorns on the stem. None of these Roses, although much admired, were awarded the gold medal, but after a very long and careful discussion, the gold medal was awarded to Messrs. Dickson's, of Newtownards, exhibit of a new seedling Rose named Mrs. W. J. Grant. This Rose will, hereafter, we fear, have, from its similarity, to be bracketed with *Jeannie Dickson*, another production of this eminent Irish firm; the colour and form are almost identical, but the growth is entirely dissimilar, and from the strength of the plant shown it may be described as very robust. The view of the judges was that the growth is likely to prove generally satisfactory, and that the Rose being slightly superior to *Jeannie Dickson* in shade of colour may eventually take the place of that Rose as an exhibition flower.

Three very fine exhibits of perennials were staged by the Rev. Lionel Garnett, of Christleton, Rev. Page Roberts, of Scole, Norfolk, and Mr. R. L. Garnett, of Wyreside, Lancaster—Mr. Lionel Garnett showing an exceptionally fine specimen of *Lilium giganteum*, which was much admired. Mr. Garnett's perennials had, as in his Rose exhibits, the great advantage of freshness, but Mr. Page-Roberts had a greater variety of plants in his stand.

In an annexe of the large tent the Messrs. Dickson, of Chester, had staged a most interesting and beautiful collection of Roses, greenhouse plants, Ferns, herbaceous and foliage plants, which formed quite an interesting feature, and was highly creditable to them. Only for the unfortunate weather the meeting would have been a great success in all respects.

We propose in a subsequent issue to refer to and enter at some length into the question of the working of the National Rose Society's new schedule. We understand that in the opinion of those best qualified to judge, the result so far has been an unqualified success, the number of competitors showing a marked increase. Even at the metropolitan show there were over 7000 blooms staged, being more than 1000 over a previous record.

A full prize list will be found in our advertisement columns.

## NATIONAL PINK SOCIETY.

### MIDLAND SECTION.

WHAT is known as the midland section of the National Pink Society held its annual exhibition a few days ago at Wolverhampton, where the pretty and fragrant laced florists' Pinks were seen to advantage. The laced Pink must be grown in the open ground all through the autumn and winter to have the flowers handsomely laced. At one time the Pink was small flowered, thin in substance, imperfectly laced, and with narrow spade-like petals fimbriated on the edges. During the last thirty or forty years the florist has changed the character of the Pink in a remarkable degree; the flowers are now large and full, the petals shell-shaped, smooth on the edge, the ground colour white, and handsomely and regularly laced with some shade of purple or red. Thus the florist divides his Pinks into two classes, red laced and purple laced. The brighter and more distinct the red lacing, the greater value does the florist attach to it. In the case of the purple laced some sorts have the lacing very

deep, approaching a wine-purple, and some, as in the case of *Modesty*, have the lacing of a pale colour, a kind of rosy-lilac tint. Another class of Pinks has almost fallen out of cultivation, namely, that known as the white and red, having the deep markings or blotches in the centre of the flower which is common in all laced Pinks, but the petals entirely destitute of any colour. This class of Pink is more common in the north than in the south, where it may be said to have gone out of cultivation. Sometimes a laced variety will throw flowers of this character, caused by poorness of the soil, hot and drying weather or some other cause, but it is simply a temporary stage, and cannot be depended upon to continue.

The stand of twelve Pinks which won the first prize at Wolverhampton for Mr. A. R. Brown, Handsworth, Birmingham, contained the following fine varieties: *Jeannette*, *Briard*, *Amy*, a very fine new purple laced variety, which was selected as the premier purple laced Pink in the show; *Minerva*, *Ethel*, *Modesty*, *Ernest*, *Empress of India*, *Bertha*, *Henry Hooper*, *R. L. Hector*, and *Godfrey*; all these were large, full flowers, finely laced and beautifully fragrant. The second prize stand, shown by Mr. C. F. Thurstan, Wolverhampton, contained some very good flowers also, such as *Duke of York*, new in 1891, a very fine red laced flower, the petals pure in the ground, shell-shaped, and handsomely laced (this was selected as the premier red laced flower); *Duchess of Fife*, delicately laced with lilac; *Briard*, *Modesty*, *Empress of India*, *John Dorrington*, *Lady Louisa*, *James Thurstan*, a new and beautiful variety, and seedlings. Add to the foregoing *The Rector*, *Eurydice*, *George Hodgkinson*, *John Ball*, and *George White*, and there is afforded a select list of the finest laced Pinks in cultivation. There were several classes for Pinks, but the varieties named were foremost in all of them. Prizes were offered for bunches of Pinks, including border varieties, and these were very interesting. A few bunches of laced varieties were shown, but the sorts were mainly fine border kinds well worthy of being grown for cutting. Among them were *Ascot*, *Derby Day*, *Lord Lyon*, reddish-purple, an excellent forcing variety; *Scuvenir de Sale*, pale rosy-pink, large and very pleasing; *Picotée* Pink, white ground, with a narrow lacing of pink like a *Picotée*; *W. Brownhill*, a fine white; *Pelican*, white, and *Progress*, a soft rose. All these are sweetly fragrant, which greatly adds to their beauty and usefulness as border varieties and for cutting.

July is the month for propagating the Pink, and it is done by means of layers, as in the case of the *Carnation*, a practice now much followed, or by means of cuttings or "pipings," as they are termed. Layering is done when the wood is fairly hard, and when performed with care is as successful as in the case of the *Carnation*. Cuttings of Pinks which are taken just as the plants are going out of flower, are best put into pots 4 inches or so in diameter. The pots should be well drained and filled with fine light sandy soil, half an inch of silver sand being laid upon the surface. Then cuttings are made of the young growths, which are cut across just below a joint, and about a dozen put into one of the pots. They strike quickest when the pots are placed on a gentle bottom-heat, but, failing that, the pots can be stood in a cold frame, kept fairly moist, shaded from the sun, and in about three weeks or a month they will strike root; or a bed can be made of a light sandy compost on a shady border, the surface pressed down somewhat firmly, the cuttings put in, using silver sand in doing so, and then covering them with an ordinary hand-light and shading from the sun.

To have fine laced Pinks, a bed should be deeply dug in September, well manured, and raised 9 inches above the ground level, and the Pinks can be planted early in October. The usual practice is to plant in threes—of one variety, of course—in the form of a triangle. The bed is raised above the ground-level, so that in the case of heavy autumnal and winter rains the water should not lie about the roots of the plants. The plants should be secured so that they cannot be damaged



by being blown about by the wind. In the spring great advantage results from the application of a good surface dressing of thoroughly decomposed manure. R. D.

## NOTES FROM ALMONDSBURY.

TO THE EDITOR OF THE GARDEN.

SIR,—1·21 of rain on July 5 and 1·56 on July 17 have provided us with a good supply of moisture, and I think the soil under the Potatoes has at length been reached. Among a batch of seedlings from *Alstroemeria pelegina* one has come pure white. As I much prefer *A. p. alba* to any other of that family, I note this for the sake of others who may share my partiality. Many persons are interested in the weekly decorating of churches with flowers placed on the altar, and I personally have a great dislike to the ill-treatment these flowers are exposed to. They are crowded very closely to make sundry effects. A white cross, for instance, very square and ugly, surrounded by a red circle is a common device, and if there is not enough white flowers provided, cotton wool is used. I protest against this treatment, considering the present wealth of flowers. If gardeners are willing to give, as they ought, of the best flowers in their gardens or greenhouses, let those who put them in position see that they place them so as to show their true character. It is a petty kind of ritualism which thinks that flowers must be treated so as to form some kind of ecclesiastical emblem. Flowers should be placed in vases or glasses of various heights, provided they are unobtrusive. In connection with this subject I would urge all lovers of flowers to pay attention to the planting of churchyards with shrubs and flowers. Begin by destroying every bit of Laurel which is not required for shelter or for hiding an ugly object. I would treat Yew and Cypress in the same way. I admire a Laurel left to grow and smothered in bloom, but a trimmed Laurel is an abomination when there are so many lovely flowering shrubs. Plant *Choisya ternata*, *Rhododendrons*, and *Hydrangeas* wherever possible. If hedges are required, plant the Cherokee Rose, *R. rugosa*, and *R. polyantha* G. de Bruant. Border paths with fine Michaelmas Daisies like *A. Hind*. Encourage the planting of spring bulbs and Primroses on the grassy mounds. On one grave here there are four plants of *Helleborus maximus*; there were certainly 500 buds and blooms out together last March. A long bed made in the shape of a cross and filled with flowers, only red, white and blue—the three sacred colours of Scripture—is much admired here. If beds close to the walls can be made, plant Roses and creepers at the back, *Malva moschata* alba in front. This followed by *Chrysanthemums* will give but little trouble, but discourage the ordinary bedding-out plants. Oak or Larch rustic-work along paths can be made very ornamental. Our country churchyards may then be easily made into lovely approaches to the House of God. C. O. MILES.

**The Flame Nasturtium** (*Tropæolum speciosum*).—This is at once one of the most brilliant of hardy climbers, and forms quite a feature in any garden when a proper place for it has been found. Frequently the most unlikely places prove to be the best suited for this plant. One thing, however, I regard as important in planting it, and that is to place the tubers a good depth in the ground, fully 6 inches or 8 inches, planting them in a variety of places. Near where I write a friend has it growing at the foot of some large shrubby *Spiræas*. The *Spiræas* are standing for the most part quite in the open to form part of a newly-made shrubbery. In every case the *Tropæolum* is springing up thickly at the base, and in a season or two will no doubt constitute an attractive feature. The roots were obtained from Scotland and were planted deeply as soon as they came to hand. No special soil was given them, the natural soil of the garden being a rather heavy loam with a gravel subsoil. In another garden also in this district a fine old plant of *Fuchsia Riccartoni* is well-nigh smothered annually by the charming *Flame Nasturtium*. I am not aware that the two were pur-

posely planted together or whether it is the result of accident; be this as it may, it proves that the *Tropæolum* does well when growing among the roots of other plants, while the branches provide it with support. In planting in such places it would be well to select spring-flowering shrubs for it to ramble over, as the blooming of each would not necessarily be interfered with. The hardy *Fuchsias* are in themselves quite elegant enough, especially when in good condition, and it is not desirable, therefore, to associate anything with these plants which would lessen their beauty.—E. J.

**The goat moth.**—The mischief which this caterpillar does is not merely the eating away of the solid part of the timber; that in itself may be carried to a great extent without destroying the life of the tree. Its life resides in the outer circle of cambium, or at most in it and the sap-conveying tubes forming the outer circles of timber; the inner wood is dead matter, and might all be removed without other bad consequences than the deprivation of support. Of course, without the support, and the continuous support, of the inner wood a tree could not stand long. It would be broken over by the wind, and when only part has been removed, it is at that weak part that the fracture takes place. But the goat moth caterpillar not only removes much of the substance of the inner timber, but begins by removing the cambium or living part, and, moreover, damages what it leaves, and lays a foundation for general rotteness and decay. Trees affected by it may easily be detected by the disagreeable scent infused into them by this destructive caterpillar. It feeds on the solid and sound wood of various kinds of trees, preferring the different kinds of Willow and Poplar, and next to them the Elm, but it by no means restricts itself to them. It is also found in the Lime, the Alder, Beech, Walnut, and different fruit trees, and it has even been met with in the hardest of all our woods—the Oak. The work of the goat moth may easily be recognised from the size and proximity of the galleries made. The injury it does is often very great; and unfortunately, after the tree has been once attacked by the coccus, it never recovers, although it may languish, spreading infection all around for a long series of years. When at last cut down, the timber is so bored and damaged as to be only fit for firewood.—M.

## PUBLIC GARDENS.

**Open spaces.**—The Local Government Board has sanctioned the borrowing of £41,250 by the corporation of Dewsbury for the purchase and laying out of a public park and street improvements. The estimated cost of the park is £33,250.

**Gray's Inn Gardens.**—The benchers of Gray's Inn have informed the Earl of Meath, the chairman of the Metropolitan Public Gardens Association, that they are unable to adopt the suggestion that the gardens of the inn should be thrown open in the evening during the summer months for the benefit of the poor of the neighbourhood.

**Recreation ground at Spitalfields.**—On Monday afternoon the Earl of Meath, as president of the Metropolitan Public Gardens Association, formally opened the disused burial-ground at Christ Church, Spitalfields, which has been laid out by the association as a recreation ground. An address, which was read by Mrs. Scott in the absence of her husband, the rector, explained that the churchyard had been laid out at a cost of about £450, and that it was to be maintained at the expense of the association for a period not exceeding five years. The Earl of Meath, in declaring the ground open, stated that the association made it a rule never to maintain the gardens which they were the means of opening to the public; but on the present occasion several members of the association, including Lord Rothschild, Mr. Samuel Montagu, M.P., Mr. F. D. Mocatta, Messrs. Hanbury, Buxton and Co., Mr. Ernest Hart, and Sir Julian Goldsmid, M.P., had guaranteed a sum of

money sufficient for maintaining that open space for five years. It was hoped, however, that by the close of that period some public authority would take the matter in hand.

**Lincoln's Inn Fields.**—The Parks Committee reported that they had had under consideration the question of acquiring by compulsion the garden in the centre of Lincoln's Inn Fields for public use, Parliament having refused in the last session to pass a clause in the Council's General Powers Bill, enabling a voluntary agreement to be arrived at. They were strongly of opinion that the Council should leave no step untaken which might secure to the public the use of this garden, situated as it was in the densely-crowded neighbourhood of Drury Lane and Clare Market. The committee therefore recommended that the Council should take steps for the opening of the fields to the public, and refer it to the Parliamentary Committee to consider what action should be taken. Alderman Beachcroft moved an amendment to refer it to the Parliamentary Committee "to consider what action can be taken with a view of opening Lincoln's Inn Fields to the public." Mr. Henry Clarke seconded. Mr. John Lloyd hoped that the Council would adopt the committee's recommendation. This matter had been played with long enough, and if the benchers would not consent to the opening of the garden they must again ask Parliament to give them power to purchase the land. A Parliamentary Committee had already said that it was necessary for the health of the people in that crowded neighbourhood that the gardens should be thrown open. The amendment was put and lost, the recommendation of the committee being agreed to.

## OBITUARY.

**Mr. Joseph Ellam.**—We are very sorry to hear of the death of Mr. Joseph Ellam at Oxford on Sunday last. He was at one time head gardener at Bodorgan, and afterwards had charge for several years of the gardens at Cliveden.

**Mr. John Matthews.**—We also learn with regret of the death, at the age of 67, of Mr. J. Matthews, so long connected with the Weston-super-Mare Potteries.

**Physalis edulis** (the Cape Gooseberry).—If "T. R." will kindly send his address I will send him ripe fruit of the above, containing enough seed to obtain a stock. If planted out or grown in pots in a cool house it will produce abundance of fruits. I have found it do better with me without manure or manure water.—ALFRED TAYLOR, Woodlands, West Hartlepool, Durham.

**Rosa gigantea.**—Has anyone experience of the above plant grown in the open? One on a W.S.W. wall of house, sheltered by sideboards in winter from cold winds, has grown luxuriantly, one shoot several feet high, and from old wood numerous side shoots; very healthy, but no sign whatever of bloom. It was not pruned. It was planted in May, 1891, and was green all winter. Another on a south-east wall is much the same.—J. R. D., Reigate.

**Names of plants.**—*Homo Pontis*.—*Trichopilia crispata*.—G. Brewin.—1, *Cattleya Gaskelliana*; 2, *Dendrobium fimbriatum oculatum*; 3, *D. moschatum*; 4, *Eria obesa*.—H. B.—Cannot name Ferns sent in such a rough and careless manner; 1, 2, and 3, send again; 4, *Scelopendrium indivisifolium*; 5, send again; 6, *Polystichum angulare grandiceps*.—J. Gould.—1, *Griffinia hyacinthina*; 2, *Utricularia montana* (not an Orchid, but a Bladderwort); 3, *Dalechampia Roeziana*.—G. Neil.—1, *Cattleya Warocqueana*, ordinary form; 2, *C. Schilleriana*; 3, *Bolbophyllum pavimentatum*; 4, *Bifrenaria vitellina*.—H. H.—1, *Vanda Stangeana*; 2, *Saccolabium gemmatum*; 3, *Cycnoches barbatum*.—G. Wheeler.—1, *Angracum Scottianum*; 2, *Aerides maculosum*.—G. Thomson.—*Lilium testaceum*; cannot name Carnations.—J. A. G., Wimbledon.—1, *Amelanchier canadensis*; 2, *Crataegus coccinea*; 3, *Pyrus eleagnifolia*.—A. E. Lowe, New Zealand.—*Broussonetia papyrifera*.—Fulby.—*Rhinanthus crista-galli*.—Clement Dalby.—*Festuca ovina tenuifolia*.—G. A. Knight.—*Eleagnus* sp., but impossible to say with certainty from such a scrap.—W. W. P.—*Poa alpina* var. *vivipara*.—T. B., by Aberdeen.—*Phacelia viscidula*.



## WOODS AND FORESTS.

### FORESTRY NOTES.

**THINNING.**—Plantations of coniferous trees may still be thinned, but those merely composed of hard-wooded kinds may be left over till the fall of the leaf. Do not thin with too weighty a hand Larch or other coniferous woods, unless ornament, not utility, is of first importance, the maintaining of an unbroken leaf canopy being one of the necessities of a Pine plantation where economic value is of first consideration. The finest Larch timber is always produced where, from growing the trees thickly together, the branches are killed back for fully half the height of the trees. All trees that are felled should at once be removed from the woodland and lotted in convenient spots without the enclosure, and branches that are not to be bound up for faggots burned on the ground to prevent the spread of injurious forest insects. For fencing, the thinnings of young Larch plantations will sell readily at so much per dozen or hundred, those of from 12 feet to 16 feet in length bringing about 6s. per dozen.

**ROADS AND WALKS.**—The severe thunderstorms with which we have of late been visited have done much damage to park drives and paths by washing the gravel and stones into heaps, and thereby causing deep ruts in the roads. These should at once be filled up and made level and hard by passing a heavy two-horse roller over them, and all the better if this can be done in showery weather, or better still after a night of rain. Water tables and culverts will require to be freed of all accumulations of road drift, and put in working order before the recurrence of storms at all approaching in severity those lately experienced. Now is a good time to prepare and stock road metalling, and also to procure gravel for binding. Edge drives and roads, and keep the Grass for 2 feet in width alongside all roads and paths cut back, which will not only be pleasant for pedestrians in wet weather, but prevent to some extent the shedding of seeds by the overhanging Grass. Soft parts of the roads should be dug out and filled up with finely broken stones placed on a well-picked surface to assist in binding, and afterwards thinly strewn with gravel and the whole beaten or rolled down. Well-kept roads are an ornament and pleasure to any estate, and the cost of keeping them well is amply repaid by the increased ease of either riding or driving. Where weeds are very abundant, any of the weed-killers now so commonly offered for sale will, if properly applied, soon destroy them. Hand-picking is apt to injure the roads by pulling up the surface in getting out the roots of the weeds. Salt is very useful on weedy roads, but either this or the weed-killer before mentioned must be used with caution to prevent injuring the Grass edgings.

**INSECT PESTS.**—Judging from the number of specimens of various insects that have been sent to me for naming and from what I have myself seen, the present season is one of the worst that we have experienced for many years in so far as these in connection with our forest rees are concerned. The Pine beetle (*Hylurgus piniperda*) is very abundant, and hundreds of healthy Scotch and Austrian Pines are fast falling a prey to its tunnelling propensities. I have seen numbers of specimen trees in young mixed plantations with their leading shoots hanging limp and dying, as if they had been exposed to some blight or fire, and on examin-

ing them have found that in all cases this same beetle is at the root of the evil. It forms a tunnel up the centre of the shoot, and by so doing renders it so weak that it readily gets broken over by the first storm of wind. Cutting down and burning infested plants is the only cure—a cure, however, that cannot be extended to a whole plantation. By collecting and burning all woodland *débris* the breeding ground of the insect is destroyed. The Spruce Fir gall aphid is also very plentiful, even in the most flourishing plantations, and hand-picking will minimise the damages to some extent.

**GENERAL WORK.**—Rank Grass and weeds should not be allowed to smother up young trees, but be cut away with a scythe or hook before the seeds become ripe. Look over trees that have been recently transplanted and see that none of them are suffering from wind-swaying, as the past weather has told somewhat severely in various parts of the country. Charcoal-making may still go on whilst the weather is warm and the daylight long. Shrubbery plants will require attention in the way of pruning and cleaning. A. D. W.

**Age of Oaks for felling.**—I should be obliged if some of your readers who are practical foresters would tell me how I may determine with accuracy the proper age at which to cut down Oak trees. There must be a period in the growth of every timber tree at which its increase becomes so small, as that it would not pay the annual interest of the sum which the tree would sell for. Is there any approved, definite, and practicable plan by which this can be ascertained? It occurs to me that the point might be determined with sufficient accuracy by taking the growth of the tree at a certain distance from the ground. Whether the tree had a long clean trunk, or a short thick trunk with a branching head, might, perhaps, affect this test, in which case, perhaps, it would be necessary to make the height of the trunk, as well as its circumference, an element in the calculation desired.—P.

**The Weymouth Pine (*Pinus Strobus*).**—In this country this has long proved to be perfectly hardy, forming a straight-growing, handsome tree, with smooth shining bark of a deep ash colour. As the tree advances in height, the lower branches die and drop off of their own accord, so that the timber is remarkably clean, free of knots, and easily wrought. As it is a vigorous grower in early life, it should be well handled in the way of transplanting, to encourage the formation of good roots, which will ensure success when planted out where it is to remain. It is not adapted for planting on stiff clay, unless the latter is well broken up and mixed with bog earth. It is likewise not at home on rank peat bog. I have, however, planted it with success on boggy ground, thoroughly drained and containing about 65 per cent. of organic matter. It is likewise perfectly at home on calcareous soil resting upon limestone rock, provided it is sheltered by hardier trees at the margin of the plantation from the severity of the weather.—J.

**Dry-rot in timber.**—When timber is decaying by dry-rot, it will be found to be connected with the growth of a small plant in the wood belonging to the fungi. It feeds upon the sap and grows very fast; and by its rapid growth, and by removing all the sap from the wood, the timber very soon becomes brittle. This plant also spreads rapidly, but a good free circulation of air often prevents it. What the true cause of dry-rot is has never been determined, but it frequently shows itself by a species of mildew, which covers the timber, and the action of which apparently causes the wood to decay and crumble down into powder. The mildew, however, is neither the dry-rot nor its cause, but its effect. Whatever may be the cause of dry-rot in timber, there is no doubt that simply steeping it in a solution of corrosive sublimate preserves

it from decay. After it has been subjected to this process, it is requisite that it should have plenty of air. Whatever other causes may combine to promote the decomposition of wood by dry-rot or other forms of decay, there can be no doubt that imperfect seasoning, by leaving in the pores of the timber a large proportion of the fermentable juices always found in recently felled timber, is one of the most important. Good seasoning is as essential in promoting the durability of wood as it is in lessening the tendency to those changes of form and bulk which so greatly increase the difficulties of the carpenter and joiner.

**Thinning trees.**—Some writers give rules for thinning so exactly that the number of thinnings is stated, as also the number of trees to be thinned out at each operation, and the number left as the permanent crop. It is comparatively easy to draw out rules for thinning; but when we would reduce these rules to practice they will often be found impracticable. Although general principles can be given which may help to guide the inexperienced, mathematical rules cannot; not even by the most experienced practical men, far less by the mere theorist, who has had little or no experience. Theory and practice combined are what we wish to see more extensively brought to bear on all the operations in the cultivation of trees, but theory made subservient to practical experience, and practice divested of all old preconceived notions and prejudices—then, and not till then, may we reasonably expect to see improvement in arboriculture. No specified time for thinning a plantation can be positively stated; the general health and progress which it may have made since last thinned must in a great measure determine when it requires the assistance of the hand of man. Some years will prove more favourable to the growth of the Fir tribe, and others to the growth of hard-wooded trees, and should a few years succeed each other favourable to either, a plantation may want thinning as much in three years as it would in five not so favourable.

**Tree drapery.**—Few objects are more beautiful than a tree over-run with some handsome climbers, which in wild luxuriance cover it with leaves or blossoms. Landscape gardeners often attempt the introduction of such combinations into park or garden scenery, and sometimes with good effect, but oftener without, on account of the improper positions in which they are placed. Planting or training in a systematic way will not produce a natural effect. In the wild garden the introduction of such displays produces most charming results. Ivy scrambling over the ruins of Kenilworth is a lovely sight; but the same Ivy creeping over a marble structure in the Renaissance style would be quite the reverse. The Virginian Creeper, overtopping the tallest trees in the woods of Southern Illinois, crimsoning the whole summit as with a glow of fire in an October sunset, is a sight never to be forgotten; but the same climber over-running a Tulip tree or Magnolia on the smoothly-shaven lawn would produce no such impression. In landscape gardening, as in other fine arts, everything should be in keeping; no over-strained efforts should be made to produce effects which would be incongruous, for even if beautiful in themselves, their beauty would be lost through want of fitness or propriety.

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No. 1080. SATURDAY, July 30, 1892. Vol. XLII

"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—Shakespeare.

## ROSE GARDEN.

THE NATIONAL ROSE SOCIETY'S NEW  
SCHEDULES OF 1892.

MUCH interest was manifested last year by a correspondence which took place during the holiday season, and shortly after the great Rose shows had been held, in reference to the undue competition which was becoming each year more apparent at the National Rose Society's meetings between the great and small amateurs.

In consequence of one or two circumstances which especially affected him at the Crystal Palace meeting, a small amateur grower of Croydon took up the subject and wrote in our columns a letter calling attention to the grievance, and he subsequently drew up a proposed new schedule which we published in the autumn. As might naturally be expected, any new scheme would meet with some opposition, and in this case most naturally the opponents of the measure were those who thought the smaller amateurs had no real grievance, and also were opposed to any innovation; however, in this age of radical tendencies, the scheme set forth met with considerable support, and after much consultation and controversy with men of light and leading in the Rose world, the subject was finally brought on for discussion at the annual meeting of the society last December. A full report of that meeting duly appeared in our columns, the question of the position and grievances of the exhibiting members was fully and most ably discussed, the opinions set forth by the various supporters and opponents being lucidly stated, and the vote at this, the largest meeting the National Rose Society ever held, was decisive in favour of the grievances of small amateurs being, if possible, removed, and the working out of the scheme as proposed was relegated to the more serene discussion of the committees *in camera*. The result of the committee's investigation was practically an enlargement of the trial schedule, which we printed, and instead of curtailing its proposals, the committee somewhat enlarged them, the only material alteration made being a temporary abolition of fourth prizes, which, however, may next year be reinstated, especially if then, as we hope and believe it will, the society is able to show a satisfactory balance-sheet.

Many looked forward with alarm to the meetings held at the Crystal Palace on July 2 and at Chester on the 16th inst. There were not wanting alarmists, who foretold dire results, and eventually possible dissolution of the society. We are happy to be able to report that the results of the new schedule have been very encouraging, both to the society in the acquisition of a large addition of new members induced by the more liberal treatment of smaller rosarians, and to the *éclat* given to their meetings at the Crystal Palace and Chester by a very largely increased number of exhibits amongst the amateurs. Many classes which hitherto had entries of a number even insufficient to claim the prizes given in previous years had entries of nearly a dozen exhibitors, and the total number of Roses staged at the Crystal Palace on July 2 was 7014 (a record) as against 6000 in

1891. Similarly at Chester, notwithstanding the terribly bad weather, the Roses staged numbered 3900 against 3240 staged at Hereford last year, that event being held on one of the most beautiful days of the year.

We congratulate the management of the Society on the success of their new departure, and trust that the financial results of the year may enable them to restore the fourth prizes at present withheld. The matter is in reality a small one, but we understand that to some it is a grievance. It cannot be one to any National Rose Society member having at heart the true interests of this society of the national flower, but the more the exhibitor who only humbly covets minor prizes is encouraged, the more, we believe, will the society's finances flourish. We have much pleasure in also being able, on good authority, to state that those who at first opposed the changes have, in the best spirit and with great magnanimity, sunk their own personal bias and loyally contributed to the great success achieved.

**New Roses at the National Rose Society's shows.**—In "Ridgewood's" interesting remarks on new Roses at the Crystal Palace, I see that he describes Mrs. W. J. Grant as a very bright *La France*, as staged at Chester for the gold medal new seedling competition, which prize it was awarded. It in no way resembled *La France*, being more cupped than imbricated in shape, and its colour and shape are almost facsimiles of *Jeannie Dickson*—in fact so alike were they considered, that several specimens of *Jeannie Dickson* were taken from the boxes staged in other competitions and placed beside Mrs. W. J. Grant. I think the newer Rose has two superior advantages, *i.e.*, in the growth and foliage, the latter showing its Tea origin, and in its being a more beautiful and fuller shade of colour than *Jeannie Dickson*. These advantages enabled it to obtain the award of a gold medal, but many of the experts—good judges, too—thought they were too much alike, except in foliage, to be classed hereafter as distinct varieties, and with the frequent cases of disqualification for duplicates which have occurred this year, it is most desirable that great caution should be observed in awarding the gold medal to Roses which are similar to others in commerce.—CHARLES J. GRAHAME, *Croydon*.

**The orange rust on smooth-leaved Roses.**—Having carefully read "R. D.'s" remarks on this subject, the only points that seem to need more extensive consideration are those adverted to in the last sentence of the paragraph: "R. D.'s" observation that we get orange fungus or mildew in long-continued dry weather will be generally agreed with by rosarians, though the following will give rise to considerable surprise, *viz.*, that the rust comes chiefly on the lower leaves of the smooth-wooded class of Roses, such as *Victor Verdier*, *Comtesse d'Oxford*, *Hippolyte Jamain*, and the like, though "R. D." adds that it is worthy of remark that *Mme. Clemence Joigneaux*, *William Warden*, *Edouard Morren*, and others of the same character of foliage, &c., are seldom subject to these forms of fungoid disease. Just so; and many years ago it was strongly recommended by myself and other writers, I think, in *THE GARDEN* that we should try and reduce the number or wholly get rid of the rough-leaved Roses, and multiply the smooth, glossy-leaved sorts as one means of getting rid of the red rust. After all this it is rather too bad to have three varieties of smooth-leaved Roses fetched as evidence of a predisposition to rust, and three of similar smooth finish as proof against its power of attack. I should like to ask "R. D." and your Rose readers in general their experience as to Tea Roses. Is it not that the rust seldom attacks them at all? or if it does, it makes little progress on their semi-varnished foliage. To take a well-known example, has any reader of *THE GARDEN* had rust on *Homère*? and if so, what progress did the fungus make? The common pink *Monthly* or *China Rose* has also specially smooth leaves. Has

anyone seen red rust on it? I never remember to have done so, though I have grown these and the dwarf varieties of the crimson and pink *China* Roses as edgings to other Roses often badly infested with red rust.—D. T. F.

## OLD ROSES STILL IN CULTIVATION.

Roses introduced more than a quarter of a century ago, and which are still appreciated, must be worth looking after by those who merely want a garden full of Roses. Who would care to be without General Jacquemont, so sweet for cutting either under glass or against a wall outside? The General was introduced in 1853, just about or a little before the time of the Crimean War. *Géant des Batailles*, introduced in 1848, or perhaps a little earlier, was thought a good deal of at that time, but is so liable to mildew, and is not, I think, so much grown now; still, in well-drained situations it will make a good bedding Rose. I remember distinctly the grand masses we had of it in 1850, all on their own roots, struck from cuttings principally from single buds in heat. The following list with the date of introduction may be of interest: Alfred Colomb, 1865; Anna Alexieff, 1836; Anna de Diesbach, 1858; Baroness Rothschild, 1869; Beauty of Waltham, 1862; Boule de Neige, 1867; Camille Bernardin, 1865; Charles Lefebvre, 1861; Comtesse de Chabillant, 1856; Dr. Andry, 1864; John Hopper, 1862; Jules Margottin, 1853; La France, 1867; Mme. Charles Crapelet, 1859; Mme. Clemence Joigneaux, 1861; Mme. Charles Wood, 1861; Mme. Victor Verdier, 1863; Mlle. Bonnaire, 1859; Maréchal Vaillant, 1861; Pierre Notting, 1863; Marie Baumann, 1863; Prince Camille de Rohan, 1861; Sénateur Vaisse, 1859; Victor Verdier, 1859.

Among Tea and Noisette Roses some of the favourites of the present have a still more ancient record. *Niphetos*, for instance, was introduced in 1844. A long list of really splendid Roses might be given which were introduced much over a quarter of a century ago. Goubault is the first Tea Rose I remember anything about, and has fixed itself in my memory because somewhere in the forties I was working in a garden where several plants of this very fragrant Rose were introduced from France. Ladies often went to France for their Roses in those days. Safrano is still to the fore, though introduced so long ago as 1839. Solfaterre, 1843; Rubens, 1859; Adam, 1833; Céline Forestier, 1858; Devoniensis, 1840; Elise Sauvage, 1843; Gloire de Dijon, 1853; *Homère*, 1859; Lamarque, 1830; Mme. Falcot, 1858; Mme. Willermoz, 1845; Mrs. Bosanquet (China), I forget the date of introduction of this useful old wall or pillar Rose, but I think somewhere about 1850; *Souvenir de la Malmaison*, 1843; *Souvenir d'un Ami*, 1846; *Triomphe de Rennes*, 1857. These may be termed the remnants which remain from the hundreds which have been introduced since 1840, and which have disappeared. I am speaking of the old Roses only. Doubtless many of the newer Roses now in cultivation will still be found after many years in most gardens. Such Roses as Ulrich Brunner and Gustave Piganeau will doubtless be in evidence in the twentieth century.

E. H.

**Rose Cloth of Gold.**—Although this is a very old Rose, it is doubtful if it is surpassed in colour by any other. I note this is spoken of at p. 42 of *THE GARDEN* as doing well at Boscombe. Some cultivators look on this as a tender kind, but with me it is as hardy as most Teas. I have a plant growing against a low south wall, and during the last three winters it has not received the least protection, and it has not been injured in the least, although we have had as much as 25° of frost several times. Cloth of Gold cannot be considered a strong growing kind. In this garden we grow many Tea and other Roses, but we have no kind that gives more blooms according to the space occupied than Cloth of Gold. The plant is an old one, and some three years ago I took off the old soil down to and round its roots, replacing it with



good rich material. In the growing season we give it a good soaking with manure water. During the last two months it is astonishing the large amount of blooms this Rose has produced. In the bud state it is matchless, and for button-holes, bouquets or sprays for ladies it is charming. With us it is early in coming into bloom and continues blooming over a long period. I remember this Rose doing good service some thirty-five years ago in the gardens of Farleigh Castle, near Bath, on a warm south wall.—J. C., *Forde Abbey*.

**Luciole.**—In "Short Notes of Roses," p. 45, I find a favourable notice of the beauty of the all too seldom grown Rose Luciole. I quite agree with all that is said of the chasteness and beauty of its buds and the delicacy of its tints of bronze, rose, yellow, &c., but nothing is said of its growth. Is it not a fact that it often proves a poor, weakly grower where most other Roses do well?—D. T. F.

**Rose Cheshunt Hybrid.**—A short time ago some remarks were made in THE GARDEN respecting this Rose, and how quickly it lost its colour. I too have often observed the same failing, more especially when grown on a warm aspect. The plant from which I obtain the best coloured blooms and the most enduring is growing against a north wall. Recently I noted that some blooms on this plant retained their colour for several days. I have observed the same thing with Reine Marie Henriette when growing under the same conditions. Cheshunt Hybrid is a very hardy Rose; it has stood the last two severe winters in the above position without the slightest protection, although this is a very low situation. Standards have passed through the ordeal equally as well.—J. C., *Forde Abbey*.

## NOTES OF THE WEEK.

**Late Strawberries.**—Mr. Gilbert, of Burghley Gardens, sends us some really well-flavoured late Strawberries. The flavour of Waterloo and Latest of All reminds one of that of the British Queen. Both are really well flavoured Strawberries. The common market Strawberries being so sour, ill-flavoured and even unwholesome, it behoves all who grow for their own tables to take care they get well-flavoured kinds.

**Campanula Waldsteiniana.**—A native of Southern Austria, and a very charming dwarf species, is now in full flower. The plant forms dense tufts, and rarely exceeds 6 inches in height, more often 3 inches or 4 inches only. The stems are stiff, upright, and the flowers, which are broadly campanulate, are always upright and of a deep bright blue. It is a rare species, and one seldom meets with it in gardens, although easily managed. It requires a light rich soil well drained and an eastern exposure. It may be increased freely either by cuttings or division. We have never seen it ripen good seed.

**Linaria Peloria.**—A large bed of this in the herbaceous grounds at Kew is now in full flower, and is very charming. The leaves are greenish-yellow, and each flower has five or six spurs, one or two of which are often petaloid. The type (*L. vulgaris*), of which *L. Peloria* is a variety, produces flowers with only one spur, as in all the other species, *L. Peloria* being the only monster in the genus so far as we know. It received a well-deserved recognition in the form of a certificate at the Royal Horticultural Society a fortnight ago. It is very easily propagated, and may be increased to any extent by suckers. It has, however, a habit of dying out every few years.

**Aubrietias.**—I do not know who made me the raiser of *A. violacea*, but "A. D." in your latest issue is perfectly right in his protest against the declaration that I had raised it. I never knew nor have seen *A. violacea*. About twenty-five years ago I received from Messrs. E. G. Henderson and Son, A. Henderson, and it is from seeds of this variety that I raised by careful selection the pur-

plish crimson var. *Leichtlini* and the rose-purple rosea. There are about six regular species under cultivation but, except *tauricola* (Boiss.), which is a very dwarf, rich flowering plant, most of those cultivated in gardens are varieties of *deltoidea*. I hope in a few years to produce even more striking varieties than those now under question. Neither was I the introducer of *Ostrowskya magnifica*—this was my now deceased friend Dr. von Regel—but the plant flowered for the first time in Europe in my garden at Baden-Baden. *Kniphofia Macowani* was introduced by me in 1874.—MAX LEICHTLIN, *Baden-Baden*.

**Geranium argenteum.**—Among the choice alpine in flower on the rockery at Kew just now not the least beautiful is *Geranium argenteum*, one of the prettiest of the dwarfier species, and one that always attracts attention, especially when seen in quantity. It forms dense tufts of fine silvery leaves, which are evergreen, and look interesting in winter when plants of this class are most needed. The flowers, of a purplish-pink, are large and freely produced. A near ally and very charming plant is *G. subcaulescens*, in which the leaves are larger, only slightly silvery, the flowers larger, of a deeper shade, and the whole plant stronger. Both these species well deserve a place in the rockery, both are easily grown, and both may readily be increased by division.

**Morina longifolia.**—Few herbaceous plants in flower at the present time can vie with this. It is a well-known hardy plant, although one does not often see it in first class condition. This, in many instances, can be accounted for by the fact of its being a gross feeder. It likes a rich, deep soil, and a liberal addition of cow manure goes a long way in giving a robust, free-flowering plant. Our plant with such treatment is just over 3 feet high, the numerous thistle-like flower-stems covered with white and rose coloured flowers, intermixed with long spiny leaves. *M. Coulteriana* is a much rarer plant; the tufts of base leaves are very similar, but the flowers are rich yellow and very sweet. *M. betonicaefolia* is a much smaller species, requiring a peaty soil in a half-shady spot; the leaves are narrow, spiny, and the flowers dark purple, smaller and not so showy as either of the above.—K.

**Campanula Tommasiniana.**—A fine patch of this bearing hundreds of flowers may be seen on the rockery at Kew just now. It is the finest tuft we have ever seen, and is apparently quite at home. It forms dense tufts of slender, arching stems about a foot long, one third of which is covered with numerous drooping, long, bell-shaped flowers. The individual bells are about an inch long, about half as broad, and of a fine blue colour. The arching stems and numerous narrow leaves give a very graceful appearance to the tuft, and as it flowers most profusely it certainly ought to be on every rockery. We have managed to propagate it from cuttings, so that it need not be so scarce in gardens as it appears to be. To our mind it is the best of all the species for rockwork, besides being a useful border plant. It seems to like an eastern exposure best, and does not object to limestone. It is a native of Italy, near Lake Maggiore.

**Bulbophyllum barbigerrum.**—At the Inner Temple show of the Royal Horticultural Society in May, 1890, a flowering specimen of this curious little plant attracted more attention than perhaps any individual Orchid there. It was exhibited by Sir Trevor Lawrence, in whose collection it has for some years been grown. Like most of the *Bulbophyllums*, it has no colour attraction to recommend it, its remarkable character being due entirely to the structure of the lip. A plant now flowering in the Orchid house at Kew carries a spike of fifteen flowers, whose colours are dull reddish-brown and purple. The sepals are half-an-inch in length and of narrow triangular shape, the petals being so small as to be scarcely discernible. The body of the lip is long and narrow, furnished towards the apex with a tuft of short hairs on the upper and lower sides, the tip itself carrying a semi-

spherical cluster of longer ones. The whole has a curious resemblance to a hairy caterpillar, a likeness which is rendered still more striking by the jerky up-and-downward movement of the jointed lip, which goes on whenever a breath of air passes over the flower. This disturbance of the air caused by a person talking within a foot or two of the plant is quite sufficient to keep up the motion. Although the species has been known ever since 1836, in which year it was introduced from Sierra Leone, it has never been common, and is still one of the rarities of the Orchid family.—B.

**Codonopsis ovata.**—A remarkable plant, nearly allied to the Campanulas, and quite as useful in half shady spots in the rockery. The genus is a small one, comprising not more than five or six really distinct species, all of which have bell-shaped flowers more or less drooping. Of the two species in cultivation, the one, *C. ovata*, is hardy, herbaceous, while *C. lurida* is a herbaceous climber not nearly so showy as *C. ovata*, but of a free, graceful habit; the stems climb up loose branches and form pretty festoons, covered with flowers as large or larger than those of the Canterbury Bell, greyish white and streaked with lurid purple. *C. ovata* grows about a couple of feet high, the stems arching, and the leaves whitish. The flowers are pale blue outside, beautifully marked and blended inside with various shades of blue and purple. Both are natives of the Himalayas and are increased by seed, which they ripen freely.

**Oncidium dasyle.**—Not only is this species one of the most curious of Orchids, but it is also, when well grown, one of the prettiest. It is a native of the Organ Mountains, of Brazil, whence it was introduced to cultivation in 1873. Commencing to flower during the present month, it will continue to do so right up to September. Better varieties of it appear latterly to have been obtained, or else its treatment is better understood than formerly, for during the past week we have seen plants much superior to those figured and described in the *Botanical Magazine* and other works, not only in the strength of their flower-spikes, but also in the size of their individual blossoms. In depth the flower measures about 2 inches, but is scarcely so broad. The sepals and petals are creamy-yellow, very much blotched with brownish purple. The lip makes a pretty contrast, being flat (except for a slight frilling near the margin), broad, and of a pale sulphur-yellow. On the centre, however, there occurs a conspicuous black and shiny crest, which both in colour and shape much resembles a small beetle. This *Oncidium* should be grown at the warmest end of the Odonoglossum house, giving it a compost of fibrous peat and Sphagnum and abundance of moisture during growth.

**Bamboos at Kew.**—A new garden has been made for these and allied plants in a wood near the Rhododendron dell. The *Kew Bulletin* gives the following account of this garden: It is in the form of a shallow depression with sloping banks 12 feet wide and a central pear-shaped bed 125 feet by 75 feet. To make it, the surface soil had to be removed and the gravel taken out to a depth of about 3 feet. A large quantity of new soil and manure was added, so that the Bamboos have now a good depth of rich soil. Two new paths leading to the Bamboo garden have been made, one from the Syon vista and the other from the Stafford walk. The Bamboos planted in the garden are *Arundinaria Fortunei* (*Bambusa Fortunei*), *A. japonica* (*Bambusa Metake*), *Bambusa albo-striata*, *B. gracilis*, *B. nana* (Hort.), *B. palmata*, *B. plicata*, *B. pumila*, *B. tessellata*, *B. Veitchi*, *Phyllostachys bambusoides*, *P. nigra*, *P. Quilloi* (*Bambusa Quilloi*), *P. violascens* (*Bambusa violascens*), *P. viridi-glaucescens* (*Bambusa viridi-glaucescens*), *Thamnochlamus Falconeri* (*Bambusa Falconeri*), and several others unnamed. Besides Bamboos it contains such plants as *Arundo*, *Eulalia*, *Crinum*, *Funkia*, *Yucca*, &c. It is also intended to bring together in this garden a number of the coarser growing monocotyledonous plants which can be grown in the open air at Kew.



## FERNs.

## THE LADY FERN.

(ATHYRIUM FILIX-FEMINA.)

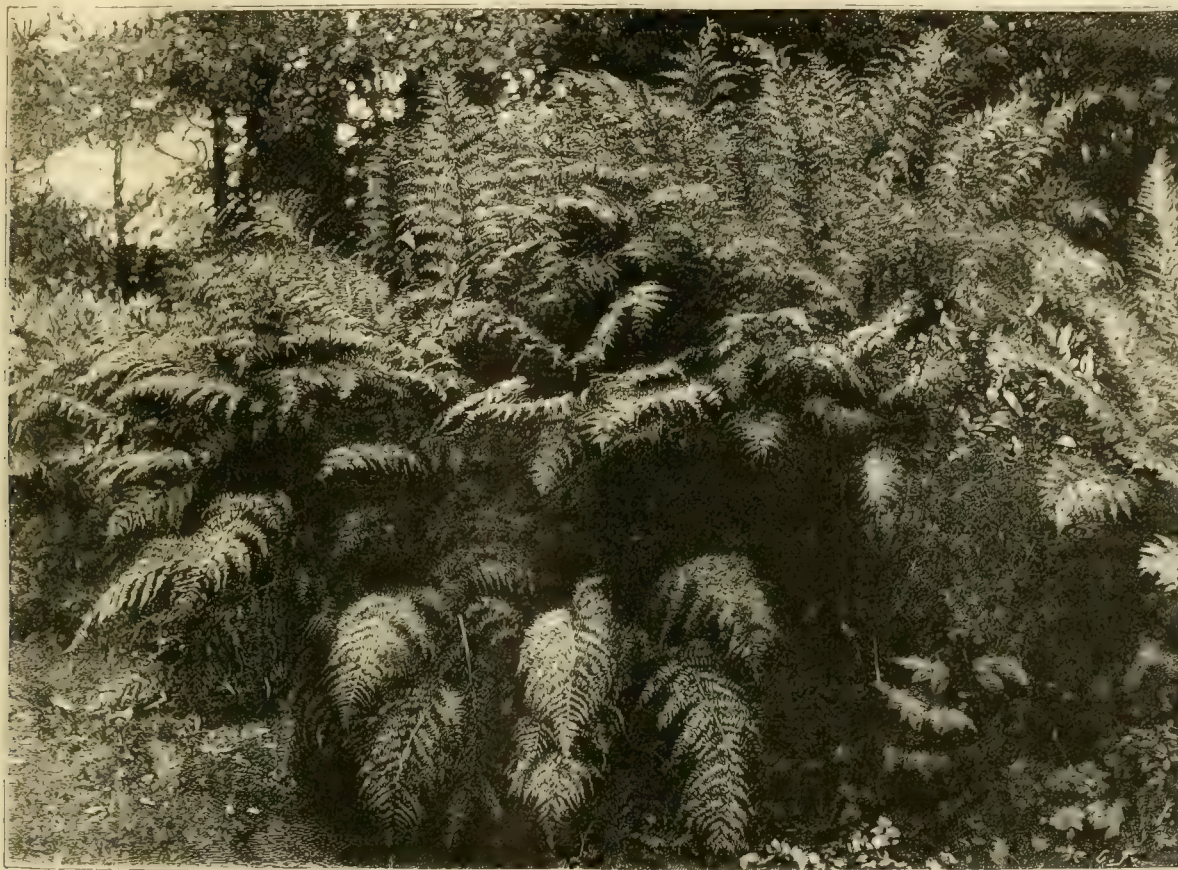
THIS is one of the most elegant of our native species, even in its normal condition. The Lady Fern when growing freely attains a height of some 4 feet, sometimes even more, the large, finely-divided, feathery fronds being exceedingly beautiful. I cannot understand why this plant is not more grown in small suburban gardens, which now remain bare and unsightly. How beautiful this Fern is, with many others, in the garden of Mr. Smee, The Grange, Wallington, its roots going down into the water of the river Wandle, which meanders through the grounds. Besides the normal form, as shown

*A. FILIX-FEMINA KALOTHRIX*.—This is not a crested plant, but it is one of the very handsomest forms into which the species has sported, and were it not known to be a seedling it might lay claim to specific origin. The fronds are of large size, and the divisions of each are as fine as hair, with a peculiar translucent lustre. It requires to be sheltered from rough winds to preserve its beauty.

*A. FILIX-FEMINA PLUMOSUM ELEGANS* is another form of exceeding beauty, but not in any way crested. The fronds are large, much broader and longer in the pinnæ than those of the type, and very elegantly divided. Every lover of Ferns should grow this variety.

*A. FILIX-FEMINA VICTORIE*.—In the present plant we have one of the most extraordinary crested forms it is possible to conceive, and at the same time one of the most beautiful. The pinnæ are reduced in width, so that no confusion can be detected; in fact, had the plant been grown by

after. Although many Ferns can be increased by division, it is not in the majority of cases so satisfactory a mode of increase as from spores. Young plants where self-sown will be springing up in all conceivable places; these should be well looked after by slight dampings with the syringe in any needful case until they are fit for careful handling and pricking off into a shallow pan, which is a better plan to adopt at this stage than that of at once potting into small pots. The plants being still young and tender can thus be better managed with less attention. It is always well to have a young stock of plants coming on to take the place of others that have either grown too large or have become stunted by being confined in too small pots. For instance, young growing plants of the *Pteris* family are infinitely better than those that are in a measure stunted in growth. This will be the case where the plants have been used for decoration in positions where a good growth is hardly



Group of the Lady Fern (*Athyrium Filix-femina*). From a photograph sent by Miss A. Godley, Killegar, Co. Cavan, Ireland.

in the illustration, there are many varieties, a few of the best of which are named below, all of them exceedingly beautiful and deserving careful attention. It is not amongst the earliest kinds to put forth its fronds in spring.

*A. FILIX-FEMINA CORYMBIFERUM*.—This is a bold-growing, handsome Fern, nearly of normal size, having the apex of the frond and each of the pinnæ densely tasselled. It is one of the oldest recognised sports of this species, and up to the present it retains a first place amongst them.

*A. FILIX-FEMINA CLARISSIMUM*.—This is a very large form of great beauty; it is not crested in any way, but the pinnæ are unusually long and the segments very finely cut. It does not produce young plants readily.

*A. FILIX-FEMINA ACROCLADON*.—Of this form there exist many sub-varieties, all of which are beautiful. The apex of the frond is more or less densely crested with a very finely divided mass of short Moss-like tufts.

rule and compass, it could not have been more strictly symmetrical. The pinnules fork immediately upon the rachis, spread out, and each side pinnule crosses the next one near the point, and the apex of each one has a small crest or tassel. The top of the frond has a large crest; the colour is deep green. The plant under cultivation produces forms more or less true. Only one plant was found in a wild state in Scotland.

Besides the above kinds, there is an immense number of all sizes and density. Some are small kinds heavily crested and much forked. The smaller kinds, which require an elevated situation on the rockwork, will thrive well in a Wardian case.

W.

## NOTES ON FERNS.

SEEDLING Ferns, either self-sown or otherwise from spores of this year, will now be of fairly good size. If any are needed to keep up the requisite stock of any given kind, these should be carefully looked

possible, yet the plants serve a good purpose. Seedlings of the best kinds of *Adiantums*, whether small-growing sorts for a supply of cut fronds are the chief item or if larger kinds for ornament in the fernery are needed to take the place of older ones, should be especially looked after. It is much the best way of increasing the stock of Maiden-hairs for any purpose. When treating *Aspleniums* which form bulbils upon the fronds, the best mode of increase is by means of these miniature plants. For instance, *Asplenium bulbiferum*, *A. diversifolium* and *A. flaccidum*, three most useful sorts, may all be easily increased in this way. When treating such as *Davallias* for increase, the rhizomes which are exceeding their bounds may now be taken off, but the work is more one for the early spring-time before growth commences. *Gleichenias* are well known to be difficult Ferns to increase by any method. Where, however, the slender creeping rhizomes have run outside of the pot or pan and are of sufficient length to be pegged upon some peaty soil in



small pots or pans, this will be found one of the best methods to adopt. It may take a little time, but it is a safe process with care, separation from the old stool being deferred until a good number of roots have been made. All of this work as to Ferns and their increase is now seasonable, there being yet time to obtain nice young plants before another winter sets in. FILICES.

#### BRITISH FERNS AS TOWN PLANTS.

ALTHOUGH there are no more useful plants in existence for decoration than our hardy British Ferns, yet, singular as it may appear, they are not valued as they should be. They are the best of all plants for town gardens, in which their graceful fronds keep fresh and green where ordinary bedding plants could not exist. The value of Ferns for cutting is admitted, else they would not be brought to market so largely. It is, however, to their value under cultivation that I wish to direct attention. In stands in sitting-rooms, even in the darkest streets, British Ferns will remain fresh and continue to throw up their cheerful-looking green fronds year after year. Small gardens, too, even though surrounded by high walls or fences, might be made attractive simply by the introduction of a few Ferns. The great drawback to British Ferns appears to be that they can be bought cheaply, or can be had for the trouble of carrying home after a day's ramble among country lanes. In nearly every house the inmates of which are fond of flowers will be found a *Wardian case*, or a pan covered by a bell-glass, in which a few exotic Ferns are vainly striving to live and look healthy. Such Ferns receive every attention; their glass covers are now and then removed to give them air, and yet in point of freshness and greenness they cannot be compared with hardy native Ferns, which only require a little water to keep them in good health. For small stands, the best suited are *Asplenium*, *Adiantum-nigrum*, *A. marinum*, *A. Trichomanes*, *Blechnum Spicant*, and *Polypodium vulgare*. These are all dwarf kinds which make very effective table ornaments if placed in 10-inch seed-pans, the surface of the soil being covered with fresh wood Moss. Should an ordinary pan not be considered sufficiently ornamental, one of a rustic character, which is generally covered by a bell-glass, may be obtained. For window boxes, varieties of a more robust growth than those just named should be chosen, say such kinds as *Athyrium Filix-femina*, *Polystichum aculeatum*, *Lactrea dilatata*, *L. Filix-mas*, *Polystichum angulare*, *Osmunda regalis*, *Scolopendrium vulgare*, and others of a similar character. These look well placed in halls, and are not readily injured by the draughts to which they are there subjected. The roots of such Ferns are these, though lifted from a hedgerow and planted even in some London back yard, push up fronds in spring as fresh as if they had never been disturbed. Most Ferns in the growing season require plenty of water, though even on this point they are very accommodating. I have seen *Asplenium*, *Adiantum-nigrum* growing so near the edge of water that the roots have been in it, and I have seen it also on hillsides growing equally well, overhung by rocks, which must have screened it even from rain. Out of all the Ferns just enumerated, the one which revels in dampness more than any of the others is *Asplenium Trichomanes*. Of this elegant little Fern I have seen some fronds quite a foot in height when growing near water. Amongst other kinds, the Parsley Fern (*Allosorus crispus*) should not be forgotten. It is dwarf in habit, has bright foliage, and, even when planted in a pan, has an excellent effect. Townspeople who do not find ordinary plants thrive with them so satisfactorily as they could wish would do well to obtain a few hardy Ferns from the country to take their places. Were they to do this, I feel confident that they would not be disappointed with the result. In some little London gardens I have seen hardy Ferns in excellent condition, and if well attended to they last good for years. H.

## KITCHEN GARDEN.

### ENDIVE IN SMALL GARDENS.

WELL-GROWN, properly-blanching Endive is only slightly inferior to the best Lettuce, and during the late autumn and winter months it is really superior in a salad to anything in the shape of the latter that may be forthcoming. So crisp and good is well-grown Endive, that there is really no need of Lettuce being added to winter salads; but even if the latter is plentiful, its appearance is always improved by a free addition of blanching Endive to the salad bowl. Whether or not the owners of, or those in charge of small gardens, or any, say, 1 acre or less in extent, appreciate Endive, there is no mistaking the fact that but very little of it is to be seen, and that of the poorest description, in such places. Not a few gardeners, amateur and otherwise, raise a number of plants only to leave them in the seed-bed to spoil, while others are altogether too late in either sowing or planting out, or it may be both operations, to be successful in the end. Now, unless Endive is given a fair chance and well grown, it is of little or no value, only the nearly or quite fully-grown plants attaining perfection. It is not often needed for use earlier than October or November, or until fairly good Lettuces are available, and those, therefore, who want it principally for late autumn and winter use should not sow seed before the middle of or third week in July, another sowing a fortnight later answering well in the more southern localities. Raised much earlier, the plants are perhaps ready for moving before their intended site can be got ready for them, spoiling each other in the seed bed accordingly, and it is also no unusual occurrence for the early-raised plants to run to seed prematurely.

The two best varieties, or all that need be grown, are the Green Curled (or any form of the same) and the Broad-leaved Batavian. The former is the sooner fit for use and the latter somewhat the hardier, but it more nearly resembles a Lettuce in appearance and quality, and the best salad is made with a mixture of the two. Supposing early Potatoes have recently been cleared off either a moderately warm border or a sunny open spot, a portion of this might well be given up to Endive, or the latter may succeed early Peas or Cauliflowers. The ground usually requires to be dug after Peas, but in the case of either Potatoes or Cauliflowers, cleaning, levelling, and fining down the surface is all the preparation necessary. At this comparatively late date for sowing, it is advisable that a fairly large breadth of ground, or say a space 8 feet by 6 feet, be given up to the seed-beds for a reason which will soon appear. Most probably all that will be necessary is to open shallow drills 9 inches or rather less apart, sowing seed thinly in these and smoothing over with a rake. Should, however, the ground be fine and dry, gently water the drills prior to sowing the seed, and in the event of its being dry and lumpy, water over-night and then break it down with a fork and iron rake. Where the ground cannot be got into a finely-divided state, break it down as well as possible, sow the seed thinly broadcast, and cover with sifted soil. Should slugs interfere with the seedlings when coming up, dust them over frequently with soot and lime. Also very lightly thin out wherever the plants are in patches. When not more than 3 inches high, the time has arrived for transplanting. More ground will have been cleared of Potatoes, Kidney Beans, or other early crops,

and Endive should have a fair share of the space thus vacated. Prepare much as advised for the seed-bed, Endive thriving best in moderately rich, well-worked, and not wet and heavy ground. In order to have fully-grown plants they ought to be put out 12 inches apart each way, 10 inches being perhaps enough space for the latest batches. The latter distance also answers well if the plants are not to be removed for blanching, pressing against each other tending to promote blanching. Plant out with a dibber, taking care not to bury the heart and also to well fix the soil about the roots. Water if the ground is at all dry and follow up with the watering-pot till the plants are growing strongly, when there ought to be no further need of this assistance. Keep the ground free of weeds. Do not wholly clear the seed bed, but leave the plants about 6 inches apart. They will grow rapidly, and the outer leaves so press against each other as to eventually quite enclose the heart, an early supply of well-blanching Endive being thus had with very little trouble on the part of the cultivator.

Endive in a small state is comparatively hardy, but when nearly or quite fully grown it is easily injured by frosts, keeping badly accordingly, and it also fails to keep long after the hearts are blanched. Some provision ought, therefore, to be made for protecting a portion at least of the crop, and the blanching should be done piecemeal. A few strong stakes, side and end boards, cross bars of some description, and either spare glazed lights, wooden shutters, or strips of galvanised iron—the two former for choice—would, if further supplemented with mats or straw litter, save a lot of Endive during severe weather, and they would pay well for the trouble. Much may also be done in the way of transplanting to frames, pits, vineries, open and close sheds, and light cellars. Moved before the tops are injured with a little soil about the roots and packed moderately closely together in moist, good soil, they will keep well for many weeks if not allowed to become dry at the roots. The blanching should not be commenced till the hearts are well advanced in growth, as they will not grow much more afterwards. This may be accomplished either by tying the outer leaves up together after the manner some Lettuces are treated, or by covering with boards, slates, tiles, or flower-pots with their holes stopped. They blanch admirably in either Mushroom houses or dark cellars. In any case, as before hinted, only cover or move in to a dark place a few plants at a time, the quantity and the frequency being determined by the requirements of the establishment to be supplied. W. I. M.

**Vegetable Marrows.**—The unusually low temperature for July and the frequent heavy rains are not conducive to the production of fruit on Marrow plants. Without doubt, apart from the fact that the plants naturally need warmth, the fertilisation of the flowers is largely dependent upon bumble bees, and these insects find it difficult to perform their ordinary labour of collecting food in the process of fertilising the female flowers. To remedy this defect, it is well to fertilise the flowers artificially as Cucumber blooms are fertilised, for whilst Cucumbers in frames or houses will produce very good fruits that are non-fertile, Vegetable Marrows will not set fruits unless they have been properly fertilised. But even the greatest care in the hand-fertilisation of blooms may be set at naught if the blooms be exposed day after day to drenching rains; hence it is worth while to give some of them protection during wet, cold weather by placing over them small handlights or other coverings, which, whilst



so placed as not to exclude light, air, and insects, shall at least protect somewhat from heavy rains. Once the pollen is disturbed or saturated with moisture, it has very little value as a fertiliser. It may seem as if this were advising the performance of needless work. Still, as the plants are grown to produce fruits, and fruits will come only under proper conditions, there is some wisdom in furnishing those conditions if the weather fails to grant them. Last year some Marrows that were planted out at the ordinary season fruited very late, and were cut off prematurely by early frost. This year plants were seriously injured in many places by the sharp frosts of the middle of June, and the recent cold wet weather has not helped them to recover. If a little protection can be afforded, therefore, it should not be withheld.—A. D.

#### EARLY VEGETABLES.

To get a supply of early vegetables requires some consideration, and as often there is a scarcity early in the spring, a good breadth of Cabbage fills up a void that would be difficult to bridge over. In this note it is not my intention to go fully into cultural details, as these are fully given in your calendar notes, and to do so would only be repetition.

**CABBAGE.**—This is one of the best and earliest of spring vegetables, but one that often fails to come in at the time required owing to a variety of circumstances. Bolting is a common occurrence in some soils; early or late sowing is equally disastrous. I prefer to make two or three sowings, the first between the 15th and 20th of July, another ten days later, and if any doubt exists as to bolting, a pinch of seed sown later about August 7 will give abundance of plants. I also advise pricking off the first two sowings. This is additional labour, but it is time well spent, as out of thousands we do not lose a score by bolting, as the plants are dwarfed by the process, and when planted in their permanent quarters are sturdy, close to the ground, and able to resist frost. In cold exposed positions deep drills are very useful for protecting the plants. The best variety I have found for early cutting is Ellam's. It turns in early in April in favourable seasons. This year I have cut in quantity the first week in May from plants sown on July 20 the preceding year. I also sow Nonpareil, a sterling variety coming in a few days after Ellam's Early. There is much gain in pricking off the seedlings into lines, as often plants are required for mending, and they lift with better roots, and when pricked off they stand severe weather, when if left in the seed beds they are totally lost. I need scarcely point out good land is necessary to secure an early crop, and early in March a dressing of fish or artificial manure in showery weather gives the plants a start into rapid growth.

**CAULIFLOWERS** are always best when secured as early as possible; indeed with care there need be no gap between the late Broccoli and the early Cauliflowers, especially if a good breadth of Model is planted on a north border. I have often seen Early London recommended for first cutting, but for years I have given up growing this variety, using Walcheren instead. I find Walcheren resists frost better, as the plants are more sturdy. For wintering the plants I do not think the old hand-glass system can be beaten, as the plants get more hardened than if coddled up in frames or pots. A warm raised border or at the foot of a wall is a good place to winter Cauliflowers. The second or third week in August is a good time to sow the seed, varying the date to suit locality and planting out before too large in several sheltered places, as often one lot is taken when another is scarcely injured. When plants can be grown as advised and kept growing, there is no difficulty in cutting nice heads early in June. In case there are no means to protect these plants a little seed sown in heat early in February of Snowball or Pearl will give plants that will have nice heads at the same date as autumn sown.

**PEAS.**—This, one of the most valued of all vegetables for the table, may be grown in various

ways, but so far I have never reaped any benefit by sowing in November or December. I prefer to sow a small early Pea for first crop, one of the earliest I know being Veitch's Selected Early; this when sown the first week in February on a warm border came in for use this year on June 2. I have had it ten days earlier, but in more favourable seasons. To follow this, Chelsea Gem and W. Hurst are sterling varieties, and come into use a week later. It is not generally known that if these last named kinds and Duke of Albany are sown in pots in January and planted out, the Duke is only three or four days later if the haulm is topped to induce early bloom. I gathered the Duke on the 12th of June, and when topped at 2 feet from the ground very little room is occupied.

**FRENCH BEANS** may be had some time before those sown under ordinary conditions if a little extra trouble is taken to raise the plants. I find Mohawk the earliest of all. I sow about 200  $\frac{1}{2}$ -inch pots early in April and place in a close frame. These are given plenty of room and are planted out at the end of April, protected with old lights or frames for a time, and covered at night with mats. The plants are put out rather close, only 2 feet apart, as they do not grow much. Early in the season good light soil, well manured, with plenty of moisture in warm weather, is essential to success. I generally gather from these the third week in June, and those sown in the open at the same time as sown in pots form a succession. Broad Beans are also worth a little trouble to secure a few early dishes, and if seeds of Early Longpod are sown at the end of February in boxes or pots in frames and planted out, they give a lot of dishes three to four weeks earlier than when sown in the open. They are easily raised and give little trouble, being a long way before Beans sown in November. They bear a heavy crop, care being taken to protect at planting by drawing the soil close up to the leaves and giving moisture in dry weather, making the soil firm round the roots.

**POTATOES.**—This crop in most gardens is more valued if secured early. Much may be done to assist the early formation of tubers by planting suitable varieties and well ripened seed. Of course, in light soils earlier crops may be had. From sets planted on February 13 I got nice tubers in the middle of June, the varieties being Sharpe's Victor and Early May, both very short-topped varieties. I also like Early Puritan when a large supply is required, as it fills the basket and cooks beautifully. Veitch's Ashleaf is good to succeed those named.

**TURNIPS** are always valuable in the early spring, and, so far as regards earliness, I have found none to equal Early Milan. Sown in early March, it was fit for table at the end of May. I do not advise a large sowing, but a few for early dishes and another sowing ten days later; after that time there are better varieties for summer work.

**CARROTS** may often be had earlier if sown in a sheltered corner and well supplied with moisture, Early Nantes being good for the purpose. It is surprising how much earlier these roots come in if sown in suitable soil. I find a bed specially prepared well repays any trouble. I make a raised bed of soil—the refuse from the potting bench—and place a light over this on a rough wood framework, and the result is that several weeks are gained. Of course, when a warm bed of manure and litter can be employed so much the better; but it is not always possible to provide the latter, it being required at that season in a variety of ways. There are several other vegetables which are more valuable if secured early. For instance, Vegetable Marrows may often be had much earlier by timely shelter, one of the best varieties for early fruiting being Pen-y-byd. Tomatoes sown early and grown to a good size give far better returns than when weak plants are placed in the open. Good plants of such early kinds as Prelude and Conference well repay by the heavy weight of fruit over late-sown plants. The same remarks apply to salads. A good breadth of Lettuce sown in the autumn is invaluable for spring consumption. I prefer to sow at two dates, the third week in

August and the first week in September. The old Hammersmith Lettuce is one of the best of all the Cabbage type, with Bath Cos to form a succession. Beet may also be had in nice condition early if sown the first week in April. The Turnip-rooted kinds come into use very quickly and are of excellent flavour and good colour. The Egyptian Turnip-rooted and Crimson Ball are the best early varieties I have grown, these coming into use the middle of June. G. WYTHES.

*Syon.*

**Potato disease early in July.**—With hot, dry weather, such as we have been having, one was hardly prepared to see the Potato disease so early as July 13. On that day I was looking over a cottage garden at Rousden, Devon, and to my surprise I noticed a large patch badly diseased. The whole patch was more or less affected. The kind was Beauty of Hebron. To my surprise, three days later I observed it in some Sharpe's Victor in the garden here. I resolved at once to pull up the haulm, and I am now doing this to all the early kinds.—J. C., *Forde Abbey.*

**Early Peas.**—I note "A. D.'s" remarks anent these at p. 565, last volume. Although agreeing with him in the greater portion of that note, I am not at one respecting the height of Chelsea Gem. At p. 565 he speaks of this fine Pea as not exceeding 20 inches. I have grown it for the last three years, and in all cases it has reached more than the height "A. D." names. At the present time I have four rows, each 12 yards long. I began gathering from them on June 22. I measured the haulm and found it to be 30 inches high on an average. They are sown 2 feet from row to row. I placed a few short sticks to them, as I find they fill the pods more quickly in this way. So freely are they podded, that the pods touch the ground and continue podding the whole way up. They were sown in February. Our first sowing was made at the end of January at the foot of a south wall. From these we could have gathered a good dish the last day in May. Some growers object to this Pea, contending it is not prolific enough. I cannot agree with this, seeing I have continued gathering from these early-sown ones twice or three times weekly for three or four weeks together. All points considered, I consider this by far the best early Pea. I am under the impression it would be a profitable Pea for growing for market.—J. CROOK.

—There were some interesting notes in THE GARDEN a few weeks ago on this important crop, and it was evident that the writers did not sympathise with those who believe that market growers could gather Peas as early in the open as gardeners could in sheltered gardens. With us this has been the best year for early Peas we have had for some time, the ground being heavy, the dry and bright weather suited them admirably, the consequence being that we gathered Peas ten days earlier than usual, or May 28. It was also interesting to note the difference between crops raised in pots and planted out and those of the same kind sown out of doors about the same date. The ground being cold and wet after the wet autumn and somewhat severe winter, the planted out crop had the advantage apart from having fuller and stronger rows. Where planted out they were also in bearing quite ten days earlier, which fact is of no mean importance. Veitch's Selected Extra Early proved quite a week earlier than William I., which formed a good succession to it. Chelsea Gem has been much in favour both for its excellent cropping as well as its good flavour, but it is not so early as the two former. Telephone is the first to lead the way among tall Marrows. We were able to gather these in the third week in June, and the same marked difference was observable with these, as with the first early, when comparing them with others sown out of doors. I think one of the greatest mistakes made when Peas are raised in pots for planting out is to allow them to grow too tall before putting them out, for when allowed to run they soon get attenu-



ated if kept under glass, and are also much more liable to injury from cold piercing winds than they are when kept in a sturdy state. Our stock of Early Peas suffered from the severe weather experienced during the early part of March, and the only shelter they received was a few Laurel branches along each side of the rows, and although they had not been planted out many days when the severe weather set in, they seemed to withstand it with impunity, I think mainly owing to their sturdy habit, as they missed the scathing winds which do very much more harm than still frost.—C. WARDEN, *Clarendon Park, Salisbury.*

### NOTES ON TOMATOES.

THE sudden change to cold, wet and dull weather will have a disastrous effect upon Tomatoes growing under glass as regards disease if the grower does not take ordinary precautions to combat the evil. When well grown, Tomatoes are one of the most remunerative of crops, also one of the most easily managed if care is taken to steer clear of a few shoals. Tomatoes are now cultivated in almost every garden with more or less success, and as in the open air they are a precarious crop on account of the disease, the majority are now grown under glass. Something more, however, than mere glass protection is needed, as many have found to their cost. It is quite evident that the disease only appears when conditions are present to invite it, as it is not at all contagious, for it may appear in one structure and be absent in another when these are side by side. I do not think the disease is so rife as formerly, but unless care is taken I am afraid this season may conduce to its spreading if the present very unseasonable weather continues. The one condition favourable for a sudden spread of disease is a cold and stagnant atmosphere, such, for instance, as may be secured in unheated structures. I do not say that Tomatoes may not be grown well in unheated structures, for I have two pits so planted, and the plants are as healthy as I could wish them to be. But a volume of fresh air is continually working amongst them night and day. I am under the impression that the common belief that Tomatoes only need protection from glass has led many people to abandon artificial heat in their cultivation. The want of this, and also not keeping up a buoyant atmosphere are sure forerunners of disease.

It is in the smaller gardens and where Tomatoes are grown in cool houses that disease is most rife. In these cases any hastening on of the crops will prove disastrous. Never mind about them being a little late in ripening up, as they had much better be this than become affected with disease. What is wanted in these cool unheated structures is a free circulation of air, more or less as the case may be night as well as by day. Do not upon any account keep the structures close by day whilst the sun is shining. It is a high, close and vitiated atmosphere which leads up to disease when there is not artificial heat present to counteract it. Many fine crops of Tomatoes have been lost by the grower being anxious to hasten them on. Heat is what is wanted for the ripening up of Tomatoes. The growth naturally during these dull times is very soft and watery, and if forced on by either over-rich soil or by high feeding, it will be more so still. It will be noticed that this growth after a spell of dull weather will soon droop under a hot sun, and be aggravated more or less when the structure is close. It is these sudden bursts of high temperature following on a dull time which are the most conducive to the favourable spread of disease, and which the grower must

guard against. Unless the causes which lead up to disease are guarded against, the specifics which are now being recommended for its cure will be unavailing. They may kill the germ for a time, but the succeeding growth will be liable to the disease just as before.

I have previously had occasion to mention the cracking of the fruits, which is certainly a decided blemish. Some varieties, especially the yellow-fruited kinds, are more susceptible to it than others. Cracking is brought about by damping down and closing early with sun heat. Even for home use the cracking is a blemish, for if not used very quickly, decay sets in on the injured portions and soon spreads to the whole fruit. The flavour of Tomatoes when ripened up under the influence of a buoyant atmosphere is also much better than in a close and cold temperature, and I am of the opinion that this more than the variety has a deal to do with the quality of the fruit.

A. Y. A.

**Kidney Bean Smythe's Hybrid.**—This did not greatly please me when grown in pots; it proved inferior to the old Syon House, in fact. On a warm border it is doing better, and already I have gathered several good dishes of it, commencing July 13. It is of erect growth, more wiry than stout, and a very heavy cropper. The pods are somewhat small and disappointingly thin to look at, but when cooked remarkably tender and delicately flavoured. It is certainly quite distinct from any other variety I have seen, and its productiveness, coupled with the superior quality of the pods when cooked, may be sufficient to make it become popular. Evidently the pods must be kept closely gathered, as they quickly become too old.—W. I.

**Tomatoes diseased.**—Enclosed find a specimen of Tomato disease which has affected most of my plants this and last year. It sets in just after they set their first bunch of fruit. The plants have had good treatment, viz., plenty of air and water has been carefully attended to. I should be pleased if you could give me any advice through your columns as to prevention or cure, also name of disease.—J. G.

\*\*\* Judging from the specimens sent, this is a case of Potato disease (*Peronospora infestans*), and not the more-to-be-dreaded *Cladisporium*. The latter affects the leaves principally; whereas the Potato disease spreads through the stems, leaf-stalks, and system generally in much the same manner as it affects and over-runs Potato haulm. It is certainly more deadly in its effects than the *Cladisporium*, but is far less difficult of prevention. "J. G." states that his plants have plenty of air and are carefully watered, but what about the fire heat? If in addition to ventilating moderately freely he had also kept his hot-water pipes comfortably warm generally, and at times or during dull, cold weather somewhat hotter, the chances, almost amounting to a certainty, are that little disease would have troubled him. Once the disease has taken possession of a plant it is scarcely possible to save it, though much might be done in the way of preventing further spreading by cutting out and destroying those plants badly diseased and the diseased portion of those only slightly affected. If this means a rather severe clearance, it would perhaps be advisable to wholly plant afresh with a view to having good autumn and early winter crops, though much might be done by allowing those plants that are free from disease to spread freely.—W. I.

**Effects of frost upon Potatoes.**—Where such vigorous growers as *Magnum Bonum*, *Reward*, *Abundance*, and *Champion* were about half cut down by the June frosts they have recovered surprisingly well, and there is every prospect of extra heavy crops resulting. With the earlier varieties and those of less vigorous habit of growth the case is very different. These, where badly crippled, have not recovered from the check at all

satisfactorily, and light crops and small tubers only will be produced. As a rule I plant nothing but the strong-growing disease-resisting varieties on low ground, but this season having a better lot than usual of seed tubers of the *Ashleafs*, *Cole's Favourite* and such like, those of late varieties being less plentiful, the rule was departed from. They were planted late, and I was scarcely prepared for the collapse brought about by frost. What we have most to fear in such positions is disease, and which the more delicate varieties growing on low ground are peculiarly liable to. *Ashleafs* well sprouted and planted on much higher ground were only slightly crippled by frosts, and these are yielding better crops than I have seen for some time. Many of the tubers are really too large, but those of medium size are nearly as dry when cooked as old Potatoes. As yet there are no signs of disease, and having drawn all the haulm from the breadths of *Ashleafs*, I feel confident that we shall shortly lift and store a dozen sacks or more of perfectly sound tubers.—W. IGGULDEN.

### FLOWER GARDEN.

#### CALOCHORTI.

THIS most beautiful tribe of Californian bulbs does not attract half the attention which from its intrinsic beauty and free-flowering qualities it fully deserves. Probably this is owing in the first place to *Calochorti* being almost unknown to the flower-loving public, and secondly, to their cultivation generally not being well understood. It must be remembered that the *Calochorti* are natives of the sandy hills and plains of California, and that, therefore, if it is wished to grow them to anything like perfection, it does not do to plant them in the hard, loamy soil which is characteristic of most of the English gardens. We in Holland, where our bulb gardens are almost annually dug some 3 feet or 4 feet deep, and where the soil is composed of pure sand, enriched by liberal additions of cow manure, seem to have hit upon the right way to grow them successfully, and as for the last two weeks my beds of *Calochorti* have presented one waving mass of magnificent flowers, I was induced to send a few remarks on them.

First of all, if it is intended to attempt the culture of *Calochorti*, it is necessary to select a spot in the garden where the sun can reach the whole day; the foot of a wall with a southern aspect would answer for this purpose. As to the soil, if it is of a sandy nature, it only requires to be well worked, and if poor might be enriched by old and well-rotted cow manure. Where the natural state of the soil is stony, retentive of moisture, and clayey, it is absolutely necessary to trench deep and make it open by sand; the more of the latter added the better it will be. The best planting time is about the end of September; the bulbs may be planted about 3 inches deep and as many apart, surrounding each bulb with some sharp sand. Although they are hardly enough to withstand severe cold, it is best to cover them on the approach of winter with some straw or reeds. It is wonderful how sweet and open the soil remains if covered over during the winter in this way. The reeds and straw being hollow, and thus containing much air, do not conduce to sudden changes of temperature, and they also keep the rain from battering the soil. Early in the spring the tender shoots will appear in due time and the bulbs will require little or no attention until the flowering time, which extends from the middle of June to the end of July. If during the blooming period



heavy rains occur, the splendid flowers will suffer greatly and be torn to pieces long ere they have faded, and it would, therefore, be advisable to cover the beds with lights, which besides protecting the blooms will also prove very effective in ripening off the bulbs. In very mild and warm localities the bulbs may remain in the ground for the summer, but if possible they should be taken up after the foliage has died down and be stored until planting time in a dry, airy place. This season I flowered two sorts which were new to me. The one which is called *C. amenus* may be shortly described as a rosy purple *C. pulchellus*; the pretty nodding bells are produced in great profusion. It appears to have a very hardy constitution, and will prove a very valuable addition to this already beautiful genus. The other is a variety of *C. venustus*, and comes nearest to the *oculatus* form, but instead of having eye-like spots, the centre of the flower is marked with a very richly coloured band of a fine brownish red; its flowers are also much larger than those of any other variety of *C. venustus*. This variety will in future bear the name of *C. venustus Vesta*.

Other species most amenable to culture and showy-flowered are *C. albus*, with pure white, nodding, bell-shaped flowers, the inside covered with silky hairs. *C. luteus* bears rather large, upright flowers of a clear yellow, the centre marked with brown hairs. *C. madrensis* is a new species of dwarf habit, with upright clear golden yellow, and is a very valuable bulb. *C. Nuttalli* has very large and showy pure white flowers of a magnificent shape, marked with a purple spot at the base of each petal. *C. splendens* grows very vigorously, frequently attaining a height of 3 feet; the flowers are of a clear lilac and large. *C. pulchellus* is one of the hardiest of the whole family and one of the best known; its flowers are bell-shaped and of a golden yellow colour, covered with hairs within. *C. venustus citrinus* bears large, upright flowers of a splendid shape and of a pure yellow colour with brown blotches and pencilings. *C. venustus oculatus* blooms about a fortnight in advance of the other varieties of *C. venustus*; the flowers are of a creamy white with richly-coloured eye-like spots, and are exceedingly showy. *C. venustus roseus* is one of the best of them all; the flowers, of which each bulb sometimes bears about a dozen, are very large, upright and of a most graceful shape, the inside a very pale rose colour with a rose-coloured blotch at the top of each petal and large eyes in the centre; the back is of a rich carmine-rose. *C. venustus purpurascens* is the last to bloom of the *venustus* tribe; this is a very vigorous plant and extremely free-flowering, the back of the petals a fine purple and the markings inside of a violet-lilac colour. A very showy-flowered sort is *C. Weedi*, but, unfortunately, rather tender; its flowers are of a rich orange-yellow colour and densely covered with silky hairs.

The above are among the best and most showy-flowered sorts now in cultivation, and sure to do well where a little care is taken to select a warm situation and a good open soil.

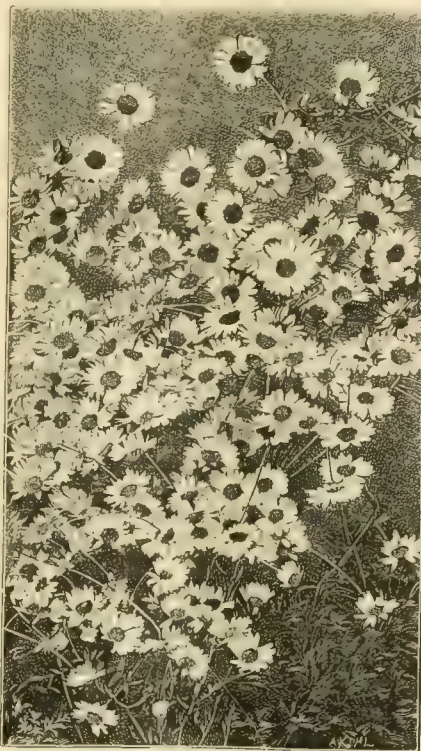
C. G. VAN TUBERGEN, JUNR.

**Pink Napoleon III.**—When recently calling at Messrs. Kelway's nursery at Langport I was much impressed with the value of the mule Pink for borders and beds as I looked on some large masses growing in the most exposed situations. At the time of my visit they were in full bloom, one mass of Napoleon III. being some 5 feet or 6 feet across. Some years ago when living in North Hants I grew these Pinks largely, and they used to bloom

so profusely that it was difficult to obtain cuttings. I overcame this by taking the cuttings from some plants early in spring, allowing them to break into growth and then taking another batch of cuttings. —J. C. F.

### THE HARDY ANTHEMISES.

ALTHOUGH a large and comparatively showy genus, very few of the species find their way into cultivation, and of these few perhaps the most popular is the species in the accompanying cut. Many of the species are free blooming and showy, and will be found very useful where flowers of the Marguerite class are in demand. Only two of the alpine species known to us are to be found in gardens. *A. Aizoon*, with its silvery leaves and white starry flowers, is fairly well known, but *A. Biebersteini*, a grand species from the Caucasus, is rare, and although one of the most beautiful early summer rock plants, it



The yellow-flowered Chamomile (*Anthemis tinctoria*). Engraved for THE GARDEN from a photograph sent by Miss Wolley Dod, Edge Hall, Malpas.

does not seem to be very common. They are both easily managed compared with many of these plants from high altitudes, requiring a warm sunny position and a deep light rich soil. They may be increased by seeds, cuttings, or division—the former as soon as gathered, cuttings in July and August, and division in early spring.

**A. AIZOON.**—A charming dwarf growing rock plant, rarely exceeding 2 inches to 3 inches in height, has a compact or tufted habit, the loose rosettes of long silvery leaves looking well in winter as well as summer. The flowers are produced in abundance during summer, white, and somewhat resembling a large Daisy. It is a native of Northern Greece.

**A. BIEBERSTEINI.**—A rare species, and from specimens growing in the rock garden at Kew, one to be noted and eagerly sought after. It forms dense mats or carpets of short silvery leaves, narrow, and more or less deeply cut. The flower-stems, which are numerous, are about 9 inches

high, each bearing a very large golden yellow Marguerite flower, almost as showy as that of the fine *Arnica montana*. It flowers from April to July, and is a native of the Caucasus.

**A. TINCTORIA** is of an entirely different character. It may be classed as a herbaceous perennial, and when done well is one of the most beautiful objects in the autumn garden. It is so hardy and requires so little attention that large groups in the wood or wild garden would soon increase and make a grand show. Its compact and dense habit would keep the undergrowth from interfering with it in any way. As a border plant or even in beds it has few equals. Its bushy habit, finely cut, Fern-like, dark green foliage, and abundance of bright yellow flowers (as shown in cut) make it a very attractive and beautiful object. It flowers all through the autumn months, and is a native of Europe.

Others are *A. Kitaibeli*, *A. nobilis*, with white flowers, *A. arvensis*, &c. D. K.

### LAYERING CARNATIONS.

MANY of the failures with layers of Carnations made last autumn no doubt resulted from un-ripened growth, and this was owing to a wet and comparatively sunless summer. When the wood is soft and wanting in substance, good rooted layers can scarcely result. To thoroughly mature the wood for layering, a fine harvest-time is needed, and if the time of the in gathering of the wheat crop be sunny and dry, then ripened wood in the Carnation will follow. After all layering is the best and surest method of increase, and entails the least labour.

To assist in bringing the wood to that degree of hardness when it is fit to be layered, the plants should have full exposure when they have done blooming. At all times during the summer the plants should have a free circulation of air among them, and the act of shading the flowers for exhibition does not prevent this. The aim, then, of the propagator should be to secure ripened wood. Let it be remembered there is a happy medium as affecting the condition of the wood, or, as the Carnation grower terms it, the "grass" for layering; it should neither be too soft nor too hard, though I would rather have it somewhat hard than too soft. There is no ripening process better than a full exposure to the sun.

Layering can commence as early as the middle of July, provided the grass be fit. Care should be taken to thoroughly moisten the ball of soil about the roots of the plant to be layered a day or two before the operation is performed. The reason for this is that after the layers are made the plant can be watered only through a fine rose watering-pot, and if the ball of soil be dry the layers will be weakened. If after a plant is layered I have reason to think it is suffering from dryness at the root, I stand the pot in a pail of water deep enough for it to nearly reach the rim of the pot, and so thoroughly saturate the soil. Care being taken that the soil about the roots is thoroughly moist, as soon as the surface is dry, the layers are trimmed ready for layering by removing the lower leaves and shortening the ends of the others; then by means of a pointed stick the old soil is removed to the depth of 2 ins. or 3 inches and its place filled with a good sandy compost, not too stiff; fine loam, leaf-mould, and a good quantity of sand are very suitable, and then the plant is ready for layering. The process of layering consists in piercing through the shoot of a Carnation just above the joint by means of a sharp knife—a penknife with the blade sharpened on both sides is best, and then drawing it out at the back of the shoot by means of a downward cut, thus half severing it from the plant. In doing this a kind of tongue or nib is formed; this is cut back to the joint, and then the layer is gently, but firmly pressed down into the soil and fastened by means of a peg. It is very much a matter of practice. A skilful man can put down the layers of several hundreds of plants in pots during a day of ten hours provided the plants are prepared for him. If the wood is in good condition, a return of at least



ninety per cent. of well-rooted layers may be looked for.

The normal increase of a plant in a good season is five; in bad seasons only three. This is a mean average, but it is well known some plants produce more grass than others. The earlier layers can be laid down, the more likely are they to root quickly. Layers put down at the end of July and early in August may be expected to root in four or five weeks; those put down in September require longer time.

Sometimes the shoots which can be layered are so high up on a plant, that they cannot be brought down to the level of the others without danger of breaking them off. To meet this difficulty, it is a common practice to fill a small pot, from which the bottom has been removed, with soil, so that the layering pegs may pass through it into the soil in the big pot below. These pots should be kept upright, and an oyster shell or piece of broken crock placed upon the surface to prevent evaporation. The work of layering completed, a sprinkling should be given through a fine rose watering-pot, and the pots be sheltered from hot sunshine until the layers begin to root; then they may be fully exposed.

The advantage of having the plants in pots for layering is obvious. The plants are under much better control, the wood is better ripened, layering can be done under cover in bad weather, and the layers root more quickly in the pots than in the open ground. Further, if heavy autumnal rains set in, which tend to hinder the rooting of the layers, the pots can be taken under shelter. It is a practice with raisers of new varieties to thoroughly test their seedlings in the open ground, and then lift the plants and place them in pots for the convenience of layering.

R. D.

#### NOTES FROM ST. HELEN'S, EAST FARLEIGH.

ST. HELEN'S, the residence of Mr. Carrington Ley, is in the village of East Farleigh, about 3 miles from Maidstone. I had often heard of this garden and had been told by several excellent gardeners that its owner was a skilled "herbaceous man," and that I should be sure to find much that would interest me. I have been for many years within forty minutes' ride of it and yet until the other day I never visited it. On entering the gardens I was at once confronted with the fact that I had not come to see a place full of scarlet and yellow and the other vulgar accessories of a bedding-out garden, for here (where I should in such a case see a bed of scarlet Geraniums) was one filled with the beautiful Madeira Orchid, *Orchis foliosa*. The dry season had not probably suited it, for although the plants were vigorous and healthy, the foot-stalks were dwarf. I have found the same in my own small clump. I find that our native *Orchis* is also very much more dwarf than usual. I suppose the same cause has affected both. On the other side of the lawn there was standing up a grand plant of *Verbascum olympicum*, one of the showiest of herbaceous plants; it stood about 6 feet high, and was a complete sheet of yellow. I find that there is a considerable difference in individuals of this species, owing probably to the admixture of other species, or as an example of that variation which we find all through Nature, some being erect and some more branching. Whichever form it assumes it is a most beautiful and striking plant. It suffers much from bad weather; a storm of wind and rain very soon robs it of its glory. Along the border which skirts the lawn running parallel with the high road were many interesting plants, but the date at which I paid my visit was not a favourable one; it is a time which we always look upon as a green time. In my own garden the early spring flowers, bulbs, &c., are over. Delphiniums

are not yet developing themselves; *Spiræas* and other plants are on their way, and here and there on the rockery gems are to be seen, but as a rule it is not the time of colour and beauty. Still, there is one great charm in a collection like that of Mr. Ley that there is always something pretty and interesting to be seen.

Mr. Ley's rock garden is in a state of transition; he has been largely adding to it, and of course the new part has an unfinished character, more especially as the only stone available for it is Kentish rag, a sort of limestone which has until it gets mellowed by age rather a staring appearance. In another year or so it will wear a very different aspect. In the older part of the rockery there were many interesting plants in flower. I think that the chief glory, however, was a fine plant of *Tropæolum polyphyllum*, which had wandered in all directions, showing its garlands of golden flowers in lavish profusion. I have often tried to grow this plant, but have always failed. What I saw here will encourage me to make another attempt. The roots require to be protected from wet during the winter, but the plant will take abundance of moisture during its growing time. I asked Mr. Ley about that other most beautiful member of the same family, *Tropæolum speciosum*, which we all know grows like a weed in Scotland and in the north of England, and in some places in the south, but which also many have found so difficult. Mr. Ley had not succeeded with it. There must be something that it likes or dislikes of which we are at present ignorant. We know it likes shade, and from its luxuriance in Scotland should seem to like damp. Yet when both of these are secured we cannot succeed with it.

Mr. Ley, like most of those who own a rock garden, is desirous of having a "bog," where some of the beautiful bog plants can be grown. He has adopted the plan of having a tank and a peat bed on a lower level, with a perforated brick between the two, so that the water gently trickles from one to the other, while there is an outlet also for the superfluous water; but my daughter, who is much interested in these plants, says this does not fulfil the conditions of a natural bog, one of which we have in our neighbourhood (where she has frequently botanised), for there the water is always on the move. There is a large quantity of *Sphagnum*, and not the solid bed which is of necessity where an artificial bog has to be made. Something of the same kind was adopted by a friend whose rock garden in other respects was admirable, but this failed. Here, however, the beautiful *Pinguicula* seemed to be at home, so we may hope the other plants requiring similar treatment may also succeed.

A good deal of discussion has taken place lately in regard to the proper cultivation of the beautiful North American plant *Heuchera sanguinea*, and various suggestions have been made as to the best method of overcoming its shyness in blooming, which so many cultivators have experienced. Here I saw it in great beauty, vigorous and flowering freely, and Mr. Ley is decidedly in favour of the plan of breaking it up into small pieces in the autumn, although this is opposed by other cultivators. I believe, however, the weight of evidence is in favour of this plan, and certainly success warrants approval. One does not often see *Gentiana bavarica* in the happy condition in which it is here; of course, the flowering season had passed, but it was in a vigorous and healthy condition. *Campanula pulla*, which I have in vain tried to grow in my garden, was here completely a weed, coming up in all parts of the rockery. Why I have failed with it I cannot understand, as it

seems to grow well in so many places; but, like the little boy, "I must try again." There was also another *Campanula* (*Wahlenbergia Royali*) which was new to me; it is prettily marked inside the bell, but has a malodorous smell. With regard to *Campanula pelviformis*, I am a little puzzled. It is here, as described in several catalogues, a dwarf form not unlike in the character of its growth to *turbinata*, but I received a plant of what was said to be it from the late Mr. Enoch Harvey, who was not likely to make a mistake in such matters, and this plant grew to a height of 18 inches or 2 feet. *Ramondia pyrenaica*, both in the ordinary and white forms, was doing remarkably well, but I rather fancy this is one of those plants that after a few years deteriorate like some of the *Primulas*, to which it is allied. I do not know how others have found it, but with me the larger plants get hard and unpleasant looking, and cease to flower as well as formerly. *Trilliums* had flowered well and were evidently at home in a peaty bed.

Another plant which I have not attempted is *Asphodelus luteus*, very handsome and free, and I suppose there is not much difficulty in growing it. *Saxifraga longifolia vera* was also here in fine condition, and is delightful for its beautiful rosette of foliage, but, as we know, when it flowers it unfortunately perishes, and though it seeds very freely, there is some good time to wait before the plants attain any size. *Cypripedium spectabile* was in good condition, as was the more difficult-to-grow *Cypripedium Calceolus*. It requires to be grown tolerably high on the rockery and to be kept from excessive moisture during the winter. The charming little alpine *Silene alpestris* was, like *Campanula pulla*, a perfect weed, coming up in all directions and with its pearly white, star-shaped flowers making itself evident everywhere. *Primulas* were, of course, out of bloom, but there was abundant evidence that they had been successfully done, although with some of the true alpine species Mr. Ley had experienced some difficulty. Mr. Ley had also been successful with *Edraianthus*, which many of us have found a puzzling plant to deal with. The difficulty one experiences in going through such a garden as this is to mark the most prominent plants, for on every side there meet you things which you do not wish to pass over, while at the same time you come to the conclusion that if you are to mark all that are noteworthy, you may as well take down the catalogue of any good grower of herbaceous plants at once. At one time you come upon some dwarf plants, such as the pretty little *Geum* or the yellow alpine *Violet*, and then again on some tall-growing *Mertensia*. Here we see *Poppies*, and there *Dentarias*, and so on, and we give it up as hopeless.

I find that Mr. Ley has some difficulty with that most beautiful tribe *Lilies*, whose likes and dislikes are so various, that it is difficult to know how to meet them, while their disappearance all at once seems to be utterly unaccountable. Perhaps it is some consolation to us to find that so practised a hand is foiled by some obstacle.

I have thus feebly attempted not to describe, but to give a faint idea of this very excellent herbaceous and alpine garden, and can only say that the visit was one of very great pleasure, instruction and satisfaction. DELTA.

**Propagating tufted Pansies.**—The present month is the most important time for the propagation of the above plants. The best cuttings for the purpose are obtainable from such plants as have flowered early and were cut back almost close to



the ground about three weeks ago; such as these will now be bristling with fresh and young shoots, the strongest and best of which will form the right material for the purpose. Where plenty of frames or spare lights exist, the best method will be to strip off the young growths with a heel attached and prick out into the cutting frame an inch or so apart. If the work of detaching the cuttings is carefully done, a very large percentage will be secured with tiny roots already attached to them. Very few losses attend this mode of propagating these plants. Where no frames exist, a good stock may be raised by merely thinning out the weaker shoots and putting a handful of finely sifted soil in the centre of the plants, giving this an occasional watering in dry weather.—E. J.

#### PENTSTEMONS.

It is very disappointing when having raised a quantity of young plants of Pentstemons from seed early in the spring, planted them out and had a fine bloom from them in the autumn, to find the winter, either because so wet or so severely cold, has either destroyed the plants absolutely, or has so maimed them that they are almost useless henceforth. Those who have a greenhouse or a frame may get over the disappointment somewhat if plenty of cuttings have been taken off during September and put into pots, stood on a shelf or in some moderately shaded part of the frame, and there nicely rooted. Such young plants potted up singly in the spring and later planted outdoors make capital substitutes for the old plants which the frosts have destroyed. When, however, the old plants do survive the winter unharmed, then the many strong shoots sent up from the stems of the plants produce such clusters of bloom as to excel materially anything that can be obtained from young seedlings or cutting-made plants. But it is not difficult to have, apart from the cutting-made reserve, a quantity of young plants to stand the winter if a sowing of seed be made within the next few weeks. Pentstemon seed does not germinate very rapidly and plant growth is rather slow, so that if seed be sown at the end of July or early in August, it is not probable that the seedling plants will be, by the end of November, at all too large to keep, as they are in a frame or under a handlight for the winter. The best course would be to dibble them out from the seed-bed or pans into a frame thickly or else under handlights. When once rooted very little protection will suffice to keep them safe through hard weather. In the spring these plants, lifted carefully with small clusters of roots attached and as carefully planted out, will soon develop into strong blooming ones and make a fine display all through the early summer, a spring sowing coming on to make a succession. Practically, Pentstemons should always be treated as biennials, but consideration has to be given to the fact that they are not always so hardy as true biennials should be. The *Antirrhinum* is pretty much in the same boat as is the Pentstemon, for both are somewhat soft-wooded and are apt to die wholesale under the effects of severe weather. Snapdragons are so prolific of seed, that they may be easily raised at almost any time, and although with these, as with Pentstemons, no plants produce such a fine display of bloom as do strong ones that have been safely wintered outdoors, yet dead ones may readily be replaced by seedlings raised by an autumn sowing. As to the raising of Pentstemons from seed, it is best always to obtain a really good stock. There is such a wide distinction now between good and indifferent strains, that only those familiar with the former can understand how great is the advance made in the flowers. Once a good strain is secured, it is easy to retain and even to improve it. Something, perhaps much, has been done in the direction of improvement by cross-breeding, but very much also has come from selection, and it is open to any amateur grower of Pentstemons to select the very best flowers, mark them each year, and save seed from these alone. In that way it will be found easy to greatly improve

any stock. Any new grower of Pentstemons, however, will do wisely to make as good a start as possible with a good strain, as it is sheer waste of time to go over the ground which others have long since traversed, when the results of their labours may be had in seed form at a trifling cost. Very much improvement has also been effected in the habit of growth of the Pentstemon, but yet there is still room for further progress in that direction. A. D.

#### NOTES ON HARDY PLANTS.

**Lilium candidum.**—In reference to the tendency of this Lily to fail after it has made considerable growth, no doubt, as with many other things, remedies may not equally apply in all gardens. With regard to the shallow planting of which I spoke before, I think there can be no doubt as to its being the proper thing in Mr. Weaver's case, where the soil is stiff, and it may further interest readers to know something of the results of the shallow planting which that gentleman adopted, because many of us have seemingly grown the plant well up to the stage when the buds are half developed, when they have gone off. In Mr. Weaver's case one out of six stems has failed; the others are splendidly budded, averaging ten flowers each. He has also mentioned to me a good result with the same Lily, where the bulb had only a slight covering on the raised part of a rockery. All this seems to point to a drier state as being desirable for the bulb. There cannot, of course, be the least cause for fear as regards the action of frost on the bulbs close to the surface, as this causes no injury whatever to bulbs that are established.

**Primula scotica.**—How lovely is this gem at the present, blooming for the second time after the recent rainy weather, and how superior in size are the summer-borne flowers to those of spring. It is so refreshing, too, to see this little beauty keeping company with late-flowering *P. sikkimensis*, *P. reticulata* and *P. japonica*. Its violet-purple colour is of the intensest hue, and the stout little scapes of 3 inches high bravely sustain the flowers through the most windy weather. I wonder this plant is not better looked after, because you have only got to pick off the seed of the spring-borne flowers, rub it out into a little peaty damp soil, and it comes up thickly during late summer, and you have a group of blooming plants for the following spring. Treated this way, as an annual or biennial, it well rewards the little care needed, though I possess plants at least three and four years old. May I suggest a cross between this small species and the larger *sikkimensis*? One can imagine not only curious results from such a cross of the pigmy and the giant, but progeny of considerable merit from the florist's point of view.

**Primula sikkimensis.**—There is doubtless much variety in this species. I have had plants with very thin scapes 3 feet high, but the most glorious specimen I have ever seen was a plant with upwards of thirty stout scapes about 18 inches high, some having as many as thirty flowers open at once in an evenly balanced umbel, and all the scapes carrying bloom at the same time, continuing to do so for more than a month, and to-day in very good form, after the very rainy and windy weather. I particularly mention this plant because it is at least five years old, and some of us have hitherto imagined that good results could only be had with younger plants to be raised annually for succession. The plant, I may say, has not been grown in a wet place, but an ordinary border, screened, however, from midday sunshine, where doubtless it runs a steadier and longer life course.

**Dianthi.**—Nothing will pay better than to overhaul these at present. Not only are the dying tops a disfigurement, but the life of the plants is in serious danger. The grub rapidly eats or bores its way down the thin stems of the barren growths, that is what may be termed the next year's grass, and the fine varieties which have the more fleshy foliage, such as *alpinus*, *glacialis*, &c., seem to be

more attacked than the commoner kinds. If you closely examine by the aid of a lens, you may be able to detect and remove the minute grub. It will often be found lower down in the stem than such appearances as withered foliage may indicate; it will, therefore, be essential to remove the grass at a low point accordingly. When the faulty shoot has been severed, you may easily see by the section whether you have cut above or below where the grub is at work. I do not think that anything is more accountable for our losses in the choicer *Dianthi* than the attacks of the grub in midsummer in this way, and just as certainly it is important that the plants should be carefully looked over at once. A plant that seemed the picture of health a fortnight ago may now be suffering at nearly all its grassy points, turning brown, and have no other chance but of being almost eaten up in a short time if the pest is not removed. The grub seems to make a stop at the parts where the stems are more ripened and contracted, but still it takes the finer growths mercilessly, and would only leave us the old hard parts of the plant, which, needless to say, too readily succumb to even an ordinary winter.

**Omphalodes Luciliae.**—Where soil, climate and other chance conditions are so variable as in this country, and especially in the more thickly populated districts, you cannot well lay down definite rules of culture for the more fickle or delicate alpine. To them, cold pure and simple does not imply much, and is probably the opposite of a trial, but dry biting winds or sloppy wet when the plants are at rest, and without the protection common to alpine when at home, if they do not kill many, certainly help none, not even the strongest. To provide some sort of shelter to the plants *in situ*, shuts off a whole crowd of dangers at once, but the first consideration is to grow the plants vigorously in the preceding summer, as nothing may save through the winter a sickly specimen. The present species can be grown and grown luxuriantly, but the special treatment it requires needs to be studied in relation to the conditions of the garden intended for its home. I find I get on with it by planting in late spring in a mixture of peat and loam and the smaller portion of crocks. This mixture is very porous and holds the needful moisture; in it the roots run freely and quickly, and of course there is a corresponding proportion of growth. The plant hates stagnant moisture as well as drought. Then the succulent leaves are brittle, and if exposed to wind they break at the stalks; therefore, a sheltered corner looking east may be safest. Its propagation is not difficult if you have the right material and deal with it at the right time. Divide old plants in April or May, take with each division a portion of the older stem of a dark colour from which alone the roots issue, keep close for a little while, when the signs of growth should tell you to allow more light and air, and by that time the weather may be genial enough for the young plants to be set in their permanent quarters.

**Onosma tauricum.**—By a sort of sequence, this, another Borage-wort, comes under notice. You may easily propagate this plant by slips when you know how. This is a hackneyed saying, but in the case of this plant it has a peculiar application, because so far as my experience goes certain rules when duly observed and carried out lead to invariable success; whereas, when not, scarcely a slip roots in a whole batch, and such as do are those which happen to be more nearly in the state that may be described as essential. Take the slips in midsummer—about now—long, strong and with a woody base, sever from old plant, slip fashion and by a backward turn; experience will show the importance of this operation, as the shoots are otherwise tough and the bark easily sloughed. The ragged end of the slip may be cut back to the part where the bark has the point of young wood under it (do this so as not to bruise or tear the edge of the bark), but the natural broad base surface should not be touched by the knife. It is needful to so prepare the slips, as they are so soft and stringy, and it is no easy matter to make a clean cut even if knife-made cuttings were desirable. Let anyone observe how quickly the slips so managed all root



in comparison with those otherwise prepared, and, so far as my experience goes, the slips or cuttings green to the base nearly all perish. In a mild winter the young stock may be safe in the open air, but in any case it will be safer to store them near the glass in a cold, well-aired frame. I find nothing better than clean, sharp sand in which to root the slips; it should be run solid or firm by means of a copious watering. On hot days place a light shade on them. This assists in keeping the leaves fresh, and at the same time allows the beneficial warmth to reach the sand.

*Achillea rupestris* proves to be more than ordinarily useful, as it is setting for a second complete set of bloom. Possibly this may have been influenced by the strong specimen having had all its stronger growths removed in March as cuttings; still the buds are showing on younger stems that have formed since that date.

*Picrorrhiza Kurrooa*.—I believe this curious plant, which is, moreover, quite hardy and possesses a very neat habit, is now growing in many more gardens than it used to be a few years ago, and what I chiefly wish to say is that I have grown it five or six years in almost every imaginable way out of doors, and I have not yet seen a single bit of bloom. Has any reader flowered it in the open garden? and if so, under what conditions as to soil, position, locality, &c.? It may say something for our patience to go on longer with a non-flowering plant, but it would not be much use unless someone has hit upon the way to get flowers. I am told the flowers are a fine blue. Who will tell us how to get them? J. WOOD.

Woodville, Kirkstall.

### ANNUAL SUNFLOWERS.

THE annual Sunflowers grown in every cottage garden should be oftener seen in the larger gardens of England, and if planted in the right spot and liberally treated, they would give a display little dreamt of at present. All the larger species and varieties are noble plants, requiring plenty of space, a sheltered position, and a good background. They are all easily raised from home-ripened seed, which may be sown in pots or pans in early March or in the open air in April where they are intended to flower, and simply thinned out to from a foot to a yard apart according to the vigour of the plant. The regulation row of Sunflowers along a choice mixed border often ruins the otherwise charming effect produced by annuals and perennials during early and late autumn. Plant them in groups in the shrubbery borders, in the wild garden or in the woods, and the general effect will be much better in every way.

*H. ANNUUS*.—Although often regarded only as a cottager's flower, the annual Sunflower is one of the noblest autumn plants we have, and one of the most beautiful and effective for large shrubberies, &c. It is not every garden that can show off the annual Sunflower to the best advantage. It requires plenty of space and will not stand crowding. In order to dispense with support, it should be planted in a sheltered place, that among tall shrubs being preferable to any other. Here it assumes a dense branching tree-like habit, and often produces flowers over a foot in diameter. A gross feeder, it requires a strong, rich soil, to which may be added a quantity of old cow manure just before planting. The seeds of *H. annuus* have often stood the peasant in good stead in times of dearth. They have been from early times collected by the North American Indians, and a particular race of the garden Sunflower with much larger and lighter coloured seeds has long been cultivated in Russia for food and oil. There are many varieties in gardens, the most notable being one called *californicus*, a more robust, larger and darker-flowered form than the type. *Macrocarpus*, *lenticularis*, under which name it was figured in the *Botanical Register*, tab. 1225, *ovatus*, &c., are synonyms or slight

varieties of the cultivated annual Sunflower; *sulphureus*, *multiflorus*, *globosus*, *grandiflorus*, *fistulosus*, &c., are mere garden variations. It is a native of plains and alluvial grounds in North America.

*H. ARGOPHYLLUS*, which I take to be little more than a variety of *H. annuus*, is a charming plant for the back of mixed borders, for planting, and in thin shrubberies. The whole plant is white, being covered with soft and silky wool; the leaves large, serrate. The stem is much branched, the flowers large with very broad ray florets. It is a native of Texas and was first collected by Drummond. *H. Dammanni* and *H. D. var. sulphureus*, sent out by Dammann in 1890, are said to be garden hybrids between *H. argophyllus* and *H. annuus*. If so, it only confirms our views on the small difference between the two plants, as the supposed hybrids might well be taken for the above plant, which when long cultivated loses its silkiness and becomes really *H. annuus*.

*H. DEBILIS* I have not seen in cultivation, but its charming variety *H. cucumerifolius*, the miniature Sunflower, is now a very deservedly popular garden annual. It grows from 2 feet to 3 feet high, usually with purple mottling on the stems. The leaves are irregularly serrated, often nearly cordate, thin, and bright apple-green. The stems are much branched, and when allowed plenty of room the plants form perfect, symmetrical specimens. The flowers are golden yellow, each about 3 inches in diameter, nicely set off with the almost black disc. Sandy soil in woods from Texas westwards.

*H. EXILIS*.—A very slender species, rarely exceeding a couple of feet in height, with lance-shaped leaves, sparingly toothed, and bearing yellow flowers each about 2 inches in diameter. Plains in Northern California.

*H. PETIOLARIS*.—A fine species rarely seen in gardens now-a-days, though from its neat habit, and profusion of flowers it should be a welcome addition to the mixed border. It grows about a yard high, loosely branched, the stem as well as the leaves being covered with stiff hairs. The leaves are oval shaped, entire; flowers yellow, each 3 inches to 4 inches in diameter. Dry plains Texas, &c. The variety *canescens* is covered with white pubescence, the leaves broader and the blade longer.

*H. SCABERRIMUS*.—A very distinct plant with large deep yellow flowers, stout branching stems, and broad, oval, coarsely toothed leaves. California, &c. D. K.

### GENTIANAS.

I BELIEVE that this genus of plants, mostly occurring in alpine habitats, misses the gritty *débris* of its mountain home more than any other condition or requirements when brought under cultivation. In some gardens it is well known that most of the species are shy blooming, whilst in other gardens the same species may flower well. The common *acaulis* presents a forcible instance of this, but it also occurs with the smaller-flowered kinds, such as *bavaria*, *verna*, &c. I have been told that better results can be had by the intermixture of a liberal quantity of sharp-pointed stuff in the soil. In experiments, so much stress has been laid on the sharpness or acute edges of the stone, that the chips of slate have been used, and on the authority of Dr. Clark I may say that this sharp-edged, hard material has been the cause of capital results from the cultivator's point of view. The roots working among these sharp edges seem to be irritated beneficially, and no doubt there may be something worth further test on the part of growers of these rare flowers. It seems reasonable that this may be a natural requirement of the Gentians to have them succeed, and, for anything we know, of other plants belonging to other genera that grow in and near the rocks. It may also be worth experiment and careful observation whether it is not of some importance as to what kinds of sharp stones are employed. Here, too, we may reasonably suppose that the secretions of the roots will not only find stone of different chemical properties beneficial or baneful according to their respective

powers of assimilation thereon or therefrom, and it is just possible that one might use sharp-edged stones of certain chemical properties that might nullify or even totally contradict the benefits that might be derived from another sharp-edged stone of what might be termed neutral qualities, and in which case the root-irritation principle would not have had a free or fair chance. Hence we see the importance of employing flint or slate in some cases where it would not do to employ sharp-edged chips of carbonic limestone or other more soluble forms of lime. Doubtless the gardener may plant largely and get a great measure of success with alpine plants without going so literally to the root of the matter as to the requirements of the plants, but it is just as true that the more we learn, the more we find the botanical chemist can help us.

Woodville, Kirkstall.

J. WOOD.

## GARDEN FLORA.

### PLATE 868.

#### THE LILAC-FLOWERED DAPHNE.

(WITH A COLOURED PLATE OF *D. GENKWA*.)

THIS is an attractive little shrub, which may be used for forcing in early spring, or grown against a wall in a partially shaded position in the open air. It was introduced from China by Fortune in 1844, when Dr. Lindley described and figured it in the *Journal of the Royal Horticultural Society*, vol. ii., p. 34, under the name of *D. Fortunei*. Since then it has appeared from time to time in English collections, but from some cause or other it has never become an established favourite, notwithstanding its attractions and hardiness. Recently (1885) it was shown at one of the meetings of the Royal Horticultural Society by Messrs. Paul & Son, and obtained a first-class certificate. It has also been mentioned frequently in *THE GARDEN* as being worthy, along with other *Daphnes*, of a place among garden favourites. The plate herewith was prepared from one of a batch of plants which were nicely flowered at Kew last March, where they were an attraction for several weeks in the greenhouse (No. 4). These plants had been imported a few months before from Japan, where, as well as in China, *D. Genkwa* is a favourite garden plant; it is also of medicinal value, its bark being used for rheumatism, and its flowers, when dried, for intermittent fevers, &c. It is included among poisonous plants by Japanese Botanists.

*D. GENKWA* is a deciduous shrub of from 2 feet to 3 feet in height, with numerous twiggy branches, with are clothed with soft down. The leaves are lanceolate, an inch long, dull green, silky when young, and they fall off in winter. The fragrant violet-coloured flowers are produced thickly on the leafless branches in early spring, and from their form they give the plant the appearance of a small Persian Lilac. The flowers last several weeks, and they open quite freely under the stimulus of a little extra warmth. There appear to be several varieties of *D.*

\* Drawn for *THE GARDEN* in the Royal Gardens, Kew, by Gertrude Hamilton, March 15, 1892. Lithographed and printed by Guillaume Severeys.











Genkwa, some with much larger flowers than others, and some of a darker shade of purple. Fortune's plant, as described by Lindley, had larger flowers than that here figured. Dr. Henry found one or two specimens on the hills in Ichang with white flowers. Although none of the *Daphnes* are remarkable for brilliant flower colour or size, yet a considerable number find general favour. There is not, for instance, a more valuable spring-flowering shrub for the open border than

*DAPHNE MEZEREUM*, which is a wild plant in English woods, though rare, being much more abundant in Continental Europe. Planted in large groups in conspicuous positions on lawns or in the shrubbery, this *Daphne* gives a glow to the garden in February or March, when its branches become wands of blossom. The white variety is almost as good. A coloured plate repre-

*D. INDICA* is a greenhouse plant of exceptional merit when well grown, but a miserable object when badly cared for. I know no fragrance more pleasant than that emitted by the terminal bunches of pinkish flowers of this *Daphne*. It thrives only when grafted on to the roots of the *Mezereum*, for although cuttings of it will strike root, I have never seen them grow into healthy plants. In the south of England it may be grown out of doors, and makes a good plant for a west or east wall. There are varieties of it called *alba*, *rubra*, *variegata*, *Mazeli*, *punctata*, &c. A supposed hybrid between it and *D. collina* is quite hardy, and is a much freer grower than *D. indica*, which, by the way, is not well named, as it is not a native of India, but of China and Japan. Nor ought it to bear the name *indica* for other reasons, its correct botanical appellation being a most appropriate one, viz., *D. odora*

white corolla, which becomes slightly tinged with pink after being open some days, is very double, the sepals reflexing in a pleasing manner and also being brightly coloured. To the lovers of double *Fuchsias* this can be recommended, for it promises to be one of the best of those having a white corolla. These large blooms are admired by many, though wanting altogether in the grace and elegance of those with single flowers.—H. P.

## THE WEEK'S WORK.

### THE KITCHEN GARDEN.

**PREPARING FOR MUSHROOMS.**—The collecting of the material should now be proceeded with where an early supply of Mushrooms is looked for. The preparation of the material requires judgment, and as it will depend principally upon the quality and condition of the manure whether a supply of Mushrooms may be secured or not, it behoves those who may have the work in hand to take every possible precaution. Small quantities of horse-droppings free from short, strawy litter are of little use, for such material either becomes very hot when thrown together in a heap, or the nutriment required for the successful growth of Mushrooms is dried out. The best material for forming into beds is fresh horse-droppings with fully a third of short, strawy material. This, when thrown together in a heap, will heat sufficiently to throw off superfluous moisture, and yet retain sufficient to cause a lasting bed when made up.

**PREPARATION OF THE MATERIAL.**—Where only small quantities of material can be collected at intervals, some means of protection must be afforded, either placing it in an open, airy shed, or covering with sheets of corrugated zinc raised sufficiently to allow of a circulation of air. Beds which are wet when made up become rapidly hot, and when over-dry they are of little use for the growth of Mushrooms. The moisture requires to be evaporated by a process of fermentation, and not dried out by simply laying the material thinly out on a floor of a shed. Where the collecting will range over a week or two, lay the first gathered in a layer to the depth of a foot, which will enable it to retain its vitality until required. When a sufficient quantity has been secured, the whole should be thrown into a heap and turned as often as necessary so as to prevent it from becoming hot in the centre. The material cannot be parted too freely in the process of turning. What is wanted is to retain the ammonia in the material, so that when made up this will be given off gradually to support the growth of the Mushrooms.

**OPEN-AIR BEDS.**—With a sufficiency of material at command, an open-air bed is much to be commended. Not that this need interfere with whatever beds it is contemplated to make up under cover. Open-air beds form a capital adjunct to the usual supply, and might be more adopted than is generally the case in private gardens. This is a good time to make a start, and the work of preparation should be proceeded with forthwith. As a rule more strawy litter is retained than is generally used for beds under cover. Open-air beds are generally ridge-shaped, but they may be made in the form of a cone. This material need not be removed from the stables daily, but at intervals of a week. When enough has been secured the whole should be well shaken out, the longer rejected, and all the shorter thrown together to be prepared for turning and otherwise getting it well in hand. In the neighbourhood of towns where there are livery stables, two or three loads suitable for the purpose could be secured at a cheap rate. For either purpose, whether for under cover or in the open air, it is essential that manure only be had from those stables where the horses are principally fed on dry food.

**UNFRUITFUL VEGETABLE MARROWS.**—Vegetable Marrows are evidently sun-loving subjects, as they have not made much progress during the very dull and wet weather which we have lately experienced. Rarely, however, do the plants re-



*Daphne Blagayana.*

senting both varieties was published in *THE GARDEN* of June 26, 1886, p. 602.

*D. BLAGAYANA*, of which a coloured plate was published in *THE GARDEN* of August 31, 1878, p. 200, from a plant at Kew, is a most delightful little shrub for the rock garden if planted in a partially shaded position where it will not get dried up in hot weather. It was discovered by Count Blagay in 1837 in Carniola, where, according to M. H. Gusmus, it is one of the most beautiful and rare plants, growing along with *Erica carnea*. It is said to be good for forcing. It has compact umbels of yellow and orange flowers  $1\frac{1}{2}$  inches across.

*D. ONEORUM* is a pretty little shrub, less than a foot high, clothed with small evergreen leaves, and bearing numerous heads of fragrant bright pink flowers in spring and autumn. It is common on the mountains of Switzerland, Austria, &c., and is perfectly hardy in England.

—the sweet-scented *Daphne*. *Mazeli* is, according to Max Leichtlin, hardier than the type, growing well with him against a wall if protected with a mat in very cold weather. It has also been named *indica elegantissima*, *variegata*, &c., its leaves being margined with bright yellow. The vars. *alba* and *rubra* are well shown in the plate published in *THE GARDEN* in July, 1885, p. 8.

There is an excellent and exhaustive paper on the whole genus by George Gordon in *THE GARDEN* of June 17, 1876. W. W.

**Fuchsia Duchess of Edinburgh.**—The garden varieties of *Fuchsia* are now almost endless, and a good many are put into commerce as new every year, yet in any selection of the very best the majority would consist of the older kinds. Still there are exceptions, and this novelty—*Duchess of Edinburgh*—bids fair, as far as a limited experience will allow one to speak, of being a good and popular kind. It is of a sturdy habit and very free flowering, while the large



quire much attention after being first planted, except during a dry time. Care must be taken that the fruits are kept closely cut to allow the smaller to progress and the flowers to set, as often non-setting may be solely attributed to exhaustion on account of the fruits being allowed to remain until they become old. In raw manure the plants grow too luxuriantly and the fruits turn yellow. The best course with these plants under the circumstances is to keep the bine thin by cutting out where too crowded, and also by fertilising the flowers as they open, this being sufficient to check the vigour. No stopping of the shoots is needed unless a strong leader is growing ahead. It should be borne in mind that Vegetable Marrows are more appreciated on the dining-table when used in quite a small state.

**GLOBE ARTICHOKE.**—When large heads are desired, and it must be borne in mind that these are the best on account of being more succulent, it will pay well to give plants which are growing in poor soils a good soaking of liquid in which a little salt has been dissolved, half an ounce to a 3-gallon can being ample. To secure extra sized heads, these must be thinned whilst quite in a small state, leaving the centre head to grow to its full size. As the heads are cut the old stems should be removed, this allowing the air to circulate more freely around the successional suckers. It pays well to bestow more attention upon the Globe Artichoke than it receives in many gardens, considering that it is one of the most remunerative of crops and also highly appreciated on the dining-table. Where Chards are appreciated, now is the time to cut over a portion of the plants to about a foot from the soil, so as to allow the suckers to have time to become well developed. These take the place of Cardoons, and are a good substitute.

A. YOUNG.

#### FRUIT HOUSES.

**MELONS.**—Keeping the roots active is a great aid to success, the fruit from plants with a faulty root action seldom being of good quality. Where the ridges are much exposed to either a dry heat or strong sunshine, any roots that may reach the surface quickly perish; whereas every particle of soil ought to be alive with roots. A mulching of either half decayed leaves or short decaying manure would prove most attractive to the roots and save the watering-pot considerably. Flint or other large stones, tiles or boards, the first and last preferable, placed rather closely on a border will save large numbers of roots, and might well be used instead of a mulching, especially when the plants are disposed to grow too rankly to be productive. In not a few cases, or where heavy crops have set recently, a top-dressing of loamy compost to which a sprinkling of bone-meal has been added would be of good service, care being taken not to let the old soil become dry because the new happens to be quite wet enough. Plants carrying heavy crops require to be watered frequently and fed liberally. Peruvian guano acts the most quickly, and, used at the rate of one ounce dissolved in a gallon of soft water, answers well for Melons. If extra fine solid fruit are desired, avoid over-cropping, four to a much-restricted plant being ample. Continue to stop rather closely, and while yet it can be done with the finger and thumb, having to use the knife rather freely, in order to cut out much superfluous growth, being not unfrequently followed by decay at the joints. Take the greatest care of the primary leaves, and if any of them get broken accidentally, or decay owing to being much shaded, cut them off cleanly at the union with the haulm, and thoroughly dry the wound with fresh or caustic lime. Keep the collars high and dry, and on the least signs of canker scrape the wound, and then repeatedly dry with either newly-slaked lime or Portland cement. Unless these precautions are taken in good time, a plant may appear fresh and green in the morning, and quite withered up before night. Black fly is unusually troublesome this season, and this pest is harder to get rid of than any other insect that attacks Melons. Tobacco

powder applied before the fly has become strongly established is a good remedy, but later on nothing short of repeated fumigations with strong tobacco paper will keep down the fly and save the crop.

**RIPENING MELONS.**—It is a mistake to be over-anxious about slinging up the fruit. All the while they are swelling rapidly and are netting it is quite unnecessary to support them with either boards, nets, baskets, or strings, these only serving to prevent even swelling and regular netting. Make the haulm at the joint from which the fruit springs secure to the trellis or to cross stakes by means of extra stout raffia, and just before colouring takes place make a noose of string a little smaller than the thickest part of the fruit; slip this under the latter, and with three strings suspend to the trellis, taking care to take the full weight of the fruit off the stems. Very large fruit sometimes refuse to ripen in a strong heat and moist atmosphere, and others crack badly under similar conditions. During the ripening period, therefore, keep up a brisk heat and dry atmosphere, and ventilate rather more freely than heretofore. This will usually prevent cracking and develop the full flavour of the fruit. If all the Melons are ripening at much the same time, only just enough water should be given to keep the foliage fresh; but if there are successional fruit, do not cease watering, or these will suffer. Hybrid Cashmere, Eastnor Castle, and Longleaf Perfection are most addicted to cracking. But if these are cut directly colouring commences they will ripen admirably on a warm, dry shelf, and keep much longer than would otherwise be the case. Melons with very thick rinds, Hero of Lockinge, for instance, should not be cut for at least a week after they commence colouring, and subsequently should be kept till they have softened considerably before they are sent to the table. Melons without footstalks look unnatural, and if any part prematurely, leave the footstalks on the plant till the fruit is fit for use, when they can be re-attached to the fruit by means of a small wooden peg. Melons keep best in a cool, dry room or cupboard, and should rest on something soft or springy, or they may be injured by their own weight.

**MELONS IN PITS AND FRAMES.**—The weather recently has been much against these, especially where there are no means of turning on fire-heat whenever it is cold and dull. Growth in most instances has been very strong, and where the plants were got out early, good crops were set while yet the bright favourable weather lasted. In all such cases superfluous shoots ought to be kept thinned out a few at a time, and the fruit raised well up among the leaves by means of inverted flower-pots and bits of slate. While swelling, and up to the colouring period, the soil should be kept in a uniformly moist state, heavy waterings, however, being avoided where there is a mass of old heating material underneath. When the crop is ripening, watering may well cease, the plants deriving what little further moisture they need from the manure below the soil. Ventilate freely and treat the ripening fruit much as advised in the case of those house grown. If the plants have been kept in a healthy state, young shoots being allowed to extend thinly, another crop may have already set or be on the point of doing so. Directly, therefore, the first crop is cleared out, cut away some of the old haulm, dry the wounds with quicklime, and give a moderate soaking of well-warmed liquid manure two or three days later. Keep the lights on more closely and syringe overhead freely when closing on clear hot days. A little sulphur mixed with the syringing water will help to keep down red spider. Plants started in May will now be swelling off a lot of fruit, as they have set freely and without much trouble. Thin them out where very numerous, six to eight good sized Melons in each medium-sized light being ample, and raise to the light as before advised. See that the soil never becomes quite dry, and be cautious about keeping a very small dry circle about the collar of each plant, or canker may supervene, when nothing but scraping and the timely application of quicklime or cement will save the plant. Never resort to overhead syringing on dull days, and only lightly

when closing on hot days. During cold nights mat over, taking care to unstrip early in the morning, and to admit a little air before scalding can take place. Woodlice are sometimes very destructive among young fruit, and these must be trapped in small flower-pots half filled with dry Moss and laid on their sides, enclosing a piece of Potato sometimes proving an additional attraction.

PRACTICAL.

#### PLANT HOUSES.

**EARLY BULBS.—ROMAN HYACINTHS.**—The first importations of these most useful and easily grown bulbs are now obtainable, and have been for more than a week. Those who require an early supply should not lose any time in securing their usual number, and if they can afford room for a larger quantity even, they will not, I think, regret it, for there is hardly anything so welcome at the dull season of the year as these Roman Hyacinths. Even if it is not essential to have them in flower so very early, it is all the same most desirable to give the order in good time so as to secure the pick of the bulbs. Exposure in a shop or warehouse, whether as in former the instance upon dry boards, or where much gas is burnt, or in the latter case lying possibly in bulk in the cases as imported, is not at all desirable to the future well-being of the bulbs. The purposes for which they are chiefly intended when in flower should be studied at the time of potting. For instance, if required for cutting in bulk, the bulbs may be grown with little trouble in boxes as frequently used for Celery, with some three or four dozen in a box. If so many are not wanted, yet for the same purpose square seed-pans will be found a capital medium; the most of the room can always be made with either these or the boxes. When required for decoration, as in vases or jardinières, then growing either three or five bulbs in a  $4\frac{1}{2}$ -inch or 6-inch pot is much the best mode of culture; a larger quantity in these or larger pots is only a waste of material. If the conservatory is the chief place for them, then some eight or ten may be potted in larger pots to suit the case, but when this is done a free use, more than usual, of drainage should be made. I prefer a soil not too rich, otherwise there is a tendency towards a too leafy growth and flower-spikes not in accord therewith. A light loamy soil will suit them well; that in which early Melons have been grown may be mentioned. This soil would be good, yet not of too rich a character. Where good soil is costly or troublesome to obtain in quantity, it may thus be used over two or three times, provided each kind of plant is of quite a distinct character. For such as these Hyacinths and other early bulbs which never remain in it for any length of time it never need be first hand soil; if it has been well exposed for a week or two it will be all the better. More sand or road scrapings may be added to it with advantage, and it should be tolerably dry, as anything approaching a pasty nature at the time of potting is quite undesirable. No forcing should ever be attempted until a good quantity of roots has been made; it can then be accomplished with comparative ease; whereas failures will ensue where undue haste has been taken. As soon as potted they may be placed in a cool frame or pit on a moist bottom, and be covered with cocoa fibre refuse, which I think is preferable to ashes, unless the latter are of a thoroughly reliable nature. The ash-heap is so often made a receptacle for noxious compounds or other undesirable things, that caution is necessary in using any such stuff. One good watering to settle the soil is advisable before the bulbs are covered up; then from 3 inches to 4 inches or even less of fibre will be found quite sufficient. I prefer a frame, so that heavy rains may be warded off, whilst they do not ever become so cool as when out of doors entirely, probably under a north wall.

**PAPER WHITE AND EARLY DOUBLE ROMAN NARCISSES.**—These will do well under a similar mode of culture as that just recommended for the Roman Hyacinths, but they may be stood out of doors if room cannot be found in a frame



rather than the Hyacinths. These bulbs will start into growth earlier than the Hyacinths, but they come on slowly; if too much excited there is always a tendency towards a leafy growth. Of the two a poorer soil also may be used with good results. Five bulbs will make a good potful; the trusses not being over large, a less number is hardly sufficient. Of the two forms of Paper-white the preference should most decidedly be given to Early Snowflake, a newer and larger flowered variety. The most reliable of the Daffodils for early forcing is the common double yellow, poeticus ornatus following it closely, but if pot plants are the point aimed at, the latter when forced early is given to producing rather long leaves. These Daffodils should be secured as soon as possible and potted without delay, for if a good potful of roots be not secured beforehand it is useless to think of flowers in profusion or of quality.

OF TULIPS, the early single Van Thols must still be given the first place in the list; these when potted should be placed in quite a cool place, so that they may be allowed full time for root growth, which cannot very well be hurried. These Tulips being of such small size, they should always be potted pretty thickly together to give effect. When they are not forced very early, it is a capital plan to mix them with a few *Scilla sibirica*; they do very well together. For very early work the *Freesias* must also be considered; these are becoming increasingly popular, and rightly so. Even when not wanted extra early I would rather pot and keep quite cool as growth commences. These ought not to be covered, as in the case of Hyacinths, but merely have a surface dressing of fibre level with the rims of the pots to save watering. When covered too thickly the growth usually draws up rather weakly, and that before one is aware of it. *Lilium Harrisii* for the earliest forcing should also be secured and potted up. The bulbs will thus start much more kindly than when the bulbs begin to get soft and inclined to shrivel. With good management it is almost possible to have this Lily the year round, the latest being now in flower with me.

JAMES HUDSON.

### ORCHIDS.

DURING the present changeable weather it is very necessary to see that care is taken to alter the treatment of the plants according to the state of the weather. For instance, as I write to-day it is raining steadily, and so cold that a fire is required in the room. Of course under such conditions as this the fire is needed both in the East India and Cattleya houses. No shading is needed, and here the disadvantage of permanent shading is seen; the plants lose the light, so beneficial to their healthy growth; whereas when shading is made to roll up and down it can be removed at once when it is not needed. The object of using shading material at all is to prevent the plants being injured by the sun, and even in sunshiny weather it is not needed except for about four or six hours, according to the position of the house. When the weather continues cold and dull, little ventilation is needed, and not much water need be sprinkled about to keep up a certain degree of moisture in the atmosphere. The ventilation should be sufficient to maintain a constant circulation of air and a pleasant feeling when one steps into the house from the outer air. When the atmosphere of any Orchid house feels close and stuffy, we do not like it, and feel that it is not a healthy condition of things, and it is safe to conclude that if the atmospheric conditions do not suit us, it will not be quite the thing for the plants. The cool weather suits the New Grenadan Orchids and such as are imported from the Peruvian Andes very well. We can admit air more freely to them in cool than we can in hot weather. The Rev. E. Handley, in an excellent lecture before the Fellows of the Royal Horticultural Society the other day, stated that the front

glass of the cool Orchid house should be without any ventilators, and advised the ventilators to be fixed lower in the brick wall. I quite agree with Mr. Handley that the glass sashes should be fixed in the front if the gardener does not know how to use them. Our cool house has the glass sashes arranged so that they open all at once the entire length of the house, but there are also ventilators lower in the wall, placed so that the current of air comes into contact with the hot-water pipes. These latter are open night and day, even in winter, unless the frost should be very severe; but on calm, cool days and nights the glass ventilators are also opened, which is very beneficial. They are never opened in hot, dry weather, for I believe that the hot air rushing in at the opened ventilators and coming into immediate contact with the plants has an injurious effect upon them. The top ventilators are open a little at night and also all day. We are careful to admit as much air as we can summer and winter, but it is also of great importance that the requisite atmospheric conditions be maintained, and this should be well on the moist side in the summer, which is also the time of growth; but we may even err in overshading and keeping the cool house too moist, causing a weak, sappy growth, which is never healthy and unproductive of flowers.

Attention must also be given to the general condition of the plants all through the house; they require a good deal of water at the roots, and when the pots are pretty well filled with healthy roots, the water is taken up freely; but in some cases the roots are not healthy, and water applied to such plants causes the compost to become sour. This unhealthy condition may arise from various causes—sometimes from no fault of the cultivator, and at other times owing to defective drainage or unsuitable compost. The best way to treat any plants that have gone wrong, or are likely to do so from the above causes, is to turn them out of their pots, remove all the bad material, and repot again into clean, well-drained pots, and as a rule smaller ones are better than those of larger size. After repotting such, they should at this season be placed in the coolest, shadiest part of the house, and not in too free draughts of air. In repotting them, plant tufts of fresh green *Sphagnum Moss* over the surface, and as the Moss grows and spreads over the pieces of fibrous peat, the roots of the plants will push out likewise, and with careful attention as to watering they may again recover their healthy state. Thrips and green-fly may also appear in the cool house during hot weather, but should be promptly destroyed on their first appearance. The *Miltonia vexillaria*, *Masdevallia tovarensis*, *Odontoglossum Harryanum*, and others have been in the cool house since the middle of June; the weather seemed to be cold at nights, and we did not remove them until hot weather set in. They are growing very freely, and will (as many of them as need it) be repotted the ensuing month. The plants form plenty of fibrous roots, and require much more pot-room than such cool Orchids as *Odontoglossum crispum*, *O. Pescatorei*, or even the more vigorous *O. Halli* and *O. hystrix*. The temperature of the cool house is about 55° as a minimum, but it frequently falls as low as 50°. The Cattleya house stands about 5° higher, and the East India house at 65° to 70°, more often the higher figure, but on cold nights we do not at all mind its falling to 65°. The higher temperature is in a small house where the *Dendrobiums* have been placed. The house is shut up early in the afternoon with the sun shining upon it, and when the very light shading is removed the moisture gathers upon the glass, shading it to a certain extent, and although the temperature may rise to 100° Fahr., the plants are never injured. Most of the *Dendrobiums* make their growth in this house, and with them the *Vanda teres* and *V. Hookeri*. *Oncidium ampliatum majus* has now begun to make its growth, and it also grows admirably in this temperature. Plants in this high temperature must be well attended to as regards watering, and the growths upon healthy plants, although rapidly formed, are vigorous and generally free-flowering.

J. DOUGLAS.

## ORCHARD AND FRUIT GARDEN.

### SENSATIONAL FRUIT.

EXTRA large fruit or anything approaching the sensational would appear to be more in favour than ever before. At any rate nothing else will draw a word of praise from many employers, and it is very certain very large samples of fruit will sell more readily in the markets than will anything of a mediocre character. Appearance is everything, quality being quite a secondary consideration. That such a by no means creditable state of affairs will long prevail is open to question. Far more likely is it that, as far as the owners of private gardens are concerned, great size will be condemned, and a return made to the older order of things. At one time flower and fruit shows were principally blamed for the bringing forward of coarse varieties and the bloated state of the better known older sorts, but as an exhibitor I can truthfully assert that competent judges have long fought against size at the expense of quality. If it rested with the growers and judges of the old school, there would be fewer causes for complaint, and the best flavoured varieties would still be paramount. Instead of the preference being given to large and very often coarse fruit, every encouragement would be given to private growers to continue their efforts to produce fine samples of high-class varieties, and that is what I should like to see once more the order of the day. It is not so much flower shows as the fashion for showy dinner-tables that is responsible for the change of ideas. Fruit now-a-days plays a very important part, and rightly so, too, in the decoration of the dining-table, and the larger or more sensational the fruit is the greater the satisfaction apparently derived from it. It is not enough that the fruit is highly coloured, but it must also be large, and gardeners, whether private or growers for market, will do well to meet this demand while it lasts. High prices in the markets are fetched by extra large sound fruit only, size, colour, and soundness—that is to say, a semi-ripened state—being all the buyers insist upon. Little cause for wonder is it, therefore, that very little fruit is eaten at many dinner parties. Even if very large fruit is really fit, and there is plenty grown that is, always provided it is ripe good medium-sized fruit would be far more likely to find favour than any that would be much too big for one person to eat at a time. There is far too much show about it, and I contend that such sensational dishes ought to be regarded more as ornaments—a more acceptable class of fruit being handed round. This custom does already prevail in some establishments, and might with advantage become more general.

It must not be thought that I wish to wholly condemn sensational fruit, but on the contrary have had frequent opportunities of tasting very fine specimens that were of excellent quality. The worst of it is you are not sure of them other than by tasting. Much, very much, depends upon cultivation. For instance, Lord Palmerston Peach may be luscious and richly flavoured, or it may be little better than a Turnip, but turnip as it may be better prices are given for fairly large samples of it than can be had for the best Noblesse seen. Princess of Wales again is frequently very fine and superior in every way, and yet at times it is almost uneatable. Prince of Wales, another large variety, is even more fickle, and may be said to be both sensational and worthless as far as eating qualities are concerned. In Sea Eagle we have a variety that gives very large fruit and which is usually of very good quality. Whether or not



this is the variety that a Bexley grower is sending to market in such fine condition I am unable to say, but should not be greatly surprised if it is. He is said to have gathered plenty this season weighing 22 ozs. each, and that, too, in spite of cropping heavily. If this is true, and it is also a fact that 42s. per dozen wholesale are obtained, then it pays extremely well to grow sensational fruit, while the consumers must pay very dearly for their pleasure. As yet there is nothing very sensational in the way of Nectarines generally available, but Lord Napier can be grown quite large enough for anything, this variety also colouring admirably and being good to eat.

As far as my experience goes, large Apples are not appreciated on the dining table, and it is to be hoped those monster specimens of Peasgood's Nonsuch, Blenheim Pippin, and such like will never be admitted as part of a first-class dessert. What are as yet preferred are medium-sized to small, but highly-coloured fruit of Irish Peach, Beauty of Bath, Worcester Pearmain, Cox's Orange Pippin, Margil, and various other attractive varieties of known excellence. With Pears, however, a strangely different taste prevails, as in very many cases they cannot well be too big. To me there seems something very stupid in the fashion of placing huge uneatable Pears on the table, and I have seen extra large fruit of Belle Angevine or Uvedale's St. Germain valued at 15s. each that have been actually hired out for special occasions. The immense imported fruit of Duchesse d'Angoulême, Chaumontel, Easter Beurré and Glou Moreau may all be as good as they look—though this does not always follow—and yet good home grown and not too large fruit of Marie Louise, Doyenné du Comice, Josephine de Malines, Louise Bonne of Jersey, and such like would be better appreciated by those guests who may have a chance of tasting them. From what I have seen, extra large fruit of Pitmaston Duchess, Doyenné du Comice, Doyenné Boussoch and other large and somewhat easily-injured varieties are more often spoilt than eaten. They are seldom taken at the dining table, simply because they are too large, and after being handled a few times decay quickly sets in.

The largest Plum, Pond's Seedling or Fonthill, as it is termed hereabouts, is also the poorest in flavour of all, but I must in all fairness admit that this variety is seldom, if ever, included in a dessert, nor is it possible to overgrow any of the rest, the very finest fruit of Jefferson's and Coe's Golden Drop I have ever seen being also of superior quality. The same remark applies to Cherries, but not to Figs. Those huge fruit of Castle Kennedy are of the poorest quality, but luckily the variety is so badly addicted to cracking that it is seldom grown. No fault, however, can be found with large well-ripened fruit of Brown Turkey, Negro Largo also being large and good, but for my own part the preference is given to the small White Marseilles, especially if all the varieties to select from were grown in the open air. Large or sensational Strawberries are nearly always preferred now-a-days, and that is the reason why Noble, Auguste Nicaise, James Veitch and Marguerite have in numerous instances quite superseded the better-flavoured Vicomtesse Héricart de Thury, Sir J. Paxton, British Queen and such like. Few need to be told that sensational Gooseberries are of poor quality compared with Red Warrington, Champagne and other small sorts, and the same comparison holds good even in the case of Medlars and Nuts.

There does not seem to be any great demand for extra large Pine-apples, and there would be still fewer required if the quality of such over-

grown fruit was compared with that of those ripened under more natural conditions. Nor are giant Melons much cared for. Those weighing from 5 lbs. to 8 lbs. in weight may be fully equal, perhaps superior, to smaller fruit in point of quality. At present the rage still points in the direction of very showy or large berried Grapes, and not till there is a return to a more healthy frame of mind will the varieties of superior quality have much chance against the coarse Gros Colman. W. I.

**Hardy fruits.**—Whenever the fruit returns for the year are published, it will no doubt be found that we have, on the whole, a capital crop of Apples, and have had an excellent one of Cherries. That the crop of Apples will compensate for the lack of Plums and Pears it is not possible to conceive, but it is very remarkable to find that fruits which bloom so early as Plums and Pears have proved so barren, whilst later bloomers, such as the Cherry and Apple, have done very well. Still the Cherry is in its blooming season more in keeping with the Plum than with the Apple, but its fruitfulness must be attributed to one of two things, either that the pendent character of the blooms largely saved them from harm, or else that the trees were more capable of producing fertile flowers than were either the Plum or the Pear. Whether the Pear bloom was so strong and fertile as might be desired, or whether its generally erect character led to its greater injury from frost it is not easy to say now; perhaps both causes concurred to the present meagreness of the crop. The season serves to show, if evidence were needed, of the very precarious nature of fruit culture and production. Those who have placed their trust in Plums and Pears largely will, this year at least, have little to show for their outlay. Apple trees, though bearing freely, are not overloaded, and we ought, therefore, to have this season a generally very fine sample. The recent heavy rains have now thoroughly moistened the roots of the trees, and did the weather prove ever so warm and dry, henceforth the fruits should not be checked, but rather be of fine size and colour. Oddly enough, and in spite of comparative lack of sunshine, we find Apples putting on, at least on standard trees, an abnormal colour. This is evidently as much due to frequent showers and brisk winds as to any other cause. Still it is certain that plenty of warm sunshine would now greatly help the increase of that colour and the enlarging of the fruits.—A. D.

#### RESTRICTING THE ROOTS OF FIGS.

Nor unfrequently Figs when planted out under glass take on a gross and unfruitful growth, especially during the first few years after planting or until they come into bearing. Very frequently this is through the borders being too deep and rich, and also through the root-run not being sufficiently limited. Where the rooting medium is so arranged as to allow this uncontrolled growth, it necessitates a regular system of root-pruning, which does not always have the desired effect of creating fruitful growth. True enough, where there is head-room to allow of a free extension of growth, the trees come sooner into bearing than they otherwise would do, and many Fig trees which have always been provided with uncontrolled root-run could no doubt be pointed out which carry fine crops annually. These observations do not refer to those large old trees of which there are some about, and which are as fruitful as it is possible for them to be, and which neither require nor do they have any root-pruning to cause them to be so, and yet the roots are uncontrolled. In these cases the soil they are growing in is of the most suitable description and overlying either chalk, gravel or lime.

Fig trees in the majority of cases are growing in narrow and low houses, and the growth in these is often so rank, that very little fruit, if any, is

produced, and this simply through planting the trees out in rich and deep borders with very little if any restriction. To overcome this difficulty, and knowing the results which would accrue from not restricting the rooting space, as the structure in itself is not large, the border in my own case previous to planting was formed into partitions, each tree being confined to a space of 9 feet by 5 feet, the border being 30 inches in depth, the bottom as well as sides being of brickwork. The rooting space being thus restricted, the growth made is not at all gross, and at the same time fruitful. The growth made annually is extremely short-jointed and fruitful; consequently the trees require but little stopping, the annual growth (after the first vigour of planting has passed) rarely exceeding 8 inches or 9 inches.

By being restricted at the roots, of course more attention is needed as to watering. Feeding with liquid manure must take place in the height of the growing season, for although a large rooting medium tends to grossness, yet when confined no other fruit tree will take assistance so freely or be so benefited by it as the Fig. Nor must rich manurial top-dressings be neglected. In any case where the Fig trees are growing much too freely through a too liberal root-run and insufficient surface for training, the above method of restriction could be easily adopted. Y. A. H.

#### THE EARLY PEAR AND APPLE CROP.

I FEAR there will be but a poor crop of early Pears this season, especially in this district. Many of our most useful varieties, such as Williams' Bon Chrétien, Jargonelle, and Doyenné d'Été have not got a single fruit. This failure was no doubt owing to the severe storms and cold when the trees were in bloom. Plums are in a similar condition. Later Pears are a poor crop, only a few trees escaping the severe destruction in the flowering season. Our best bearing variety this season is Louise Bonne of Jersey, an excellent variety, but of no value for keeping. Such sterling varieties as Beurré Diel, Easter Beurré, Marie Louise, Doyenné du Comice, and other late kinds have all failed this season, and will be much missed in the early winter months. Even the useful stewing varieties on walls have no fruit. Pear trees of all kinds owing to their barrenness are making very strong growth, and the heavy rains of the past few days will add to their vigour, so that more care will be necessary in stopping. If stopped too early it will be at loss of fruit for next season, as instead of fruit-buds being formed the reverse will be the case, and a second growth of weak wood of no value will follow. Even cordon trees are as barren as pyramids and others. In the case of cordons I would advise a little more freedom of growth. With regard to early Apples, there is not so much loss; indeed some of the varieties are bearing enormous crops; such kinds as Manks Codlin are loaded with fruit. This is certainly one of the most reliable cooking Apples we have, as it rarely fails to crop. I would recommend it as one of the best for small gardens, as when grown as a bush or pyramid it gives a heavy return, occupying little space. I prefer it to Keswick, and this is generally a sure cropper, also bearing heavy crops this season. Lord Grosvenor is also specially good, and a good companion to the Manks; in this district it bears heavy crops annually, and being a very fine fruit and early it is one of the most profitable garden or orchard sorts. A good early Apple, commonly known as Fair Lady or Early Julien, is cropping well this season. This was a favourite market Apple at one time before such kinds as Lord Grosvenor and other larger fruits were grown in quantity. Apples, on the whole, are a good crop, excepting a few kinds, chiefly choice dessert late sorts. I am pleased to see many of the newer kinds, such as Bismarck, Gascoigne's Scarlet, Lady Sudeley, and Peasgood's Nonsuch, fruiting freely. I never remember to have seen all kinds of fruit take on so much colour; even pale green or yellow fruits are this season highly coloured or red on the exposed side. Lane's Prince Albert, which fruited freely last year, is also this



season bearing well. The older, but well-known King of the Pippins is also bearing freely. On our light land this is one of the best croppers in adverse seasons.

G. WYTHES.

*Nyon House.*

**The fruit trade in Trinidad.**—Sir William Robinson, in forwarding to Lord Knutsford the Blue-book of the colony of Trinidad for 1890, states in an accompanying report that the fruit industry has at length commenced to show some

governor's opinion, is not difficult to account for. The shipments were of a spasmodic character, and the processes of packing and picking, which demand the greatest care, were but little understood. The first operations, too, were commenced at a rather unfavourable period of the year, in which Trinidad fruit had to compete with that from other well-known fruit-growing countries, where the requirements of the market were thoroughly understood, and it was not surprising, therefore, that the pioneers of the new industry were somewhat dis-

can compete favourably with Sicilian Lemons. Bananas spoil very quickly, and it has been found that small quantities cannot receive the special care and attention which they require. Large areas are, however, being planted up with Bananas, but the excessive rainfall of 1890 somewhat retarded operations. Dried Bananas have been placed on the Canadian and American markets with the most encouraging results.

## STOVE AND GREENHOUSE.

### MONSTERA DELICIOSA.

A NOBLER plant than *Monstera deliciosa*, or *Torneia fragrans* as some call it, we could not name, either for the stove, greenhouse, or the sub-tropical garden in summer. Apart from its stately aspect, it bears large succulent fruits possessing a luscious Pine-apple flavour. In some gardens it is, like the Banana, grown specially for its fruits, and is considered a choice addition to the dessert. Though the gigantic stature of this noble Aroid, such as it assumes in its native habitat (the forests of Mexico), can only be seen in spacious hothouses, as for example in those at Kew, which are devoted exclusively to tropical Aroids, still it may be grown to perfection in small houses provided there are sufficient heat and moisture. It is never, however, seen to advantage unless it is so placed that the roots have free access to water in a similar manner to that suggested by the annexed engraving, which represents a fully developed specimen bearing fruits. It delights in places where it can cling to a moist wall, or twine its pliant branches round the stem of a tree for support, and where also its thong-like roots can dip and ramify in a water tank, which is usually placed in all houses devoted to tropical plants.

When grown in these hot, moist stoves it develops rapidly, and its singular perforated foliage, together with the quaint forms which it often assumes, strikes the uninitiated with wonder, and when studded with its cone-like fruits it certainly presents a highly ornamental appearance. A high temperature and dense shade are, however, by no means necessary for its welfare; it enjoys a light, somewhat airy position, and when so placed it assumes a more shrubby, compact, short-jointed habit. It should always find a place in sub-tropical arrangements, as it does well in sheltered nooks or similar situations throughout the summer. Although the *Monstera* will thrive in a low temperature, it will not develop its true character as a fruit-bearing plant unless a brisk growing heat be maintained during the spring and early summer months. The elements of success in order to obtain fruit are heat, light, and moisture, and, provided these conditions be one and all supplied, success will be ensured. Any form of training may be adopted which will bring the plant well up towards the glass. It may be made to cover a portion or the whole of the back wall trellis, or, what is preferable, it may be trained round forked tree stumps, a system which suits it admirably. It may be grown in a tub, but preference should be given to planting it out in a good body of fibrous peat and loam in equal proportions, and which should rest upon a good drainage of brick rubble. Thus placed, unlimited supplies of water may be given in hot weather, and the fruit will be fine in quality and abundant. The engraving on p. 102 represents the *Monstera* growing against a house at Funchal, Madeira.

**White Agapanthus.**—The different white-flowered Agapanthus are by no means of equal



*Monstera deliciosa.*

encouraging results. The Central Agricultural Board, a most useful and influential association, has energetically worked with the governor for this object, and has been the means of stimulating enterprise and spreading valuable information throughout the length and breadth of the island by its discussions and publications. It was in the spring of 1889 that small shipments of fruit, chiefly Oranges and Bananas, were first made to the American markets by the newly subsidised line of steamers. These shipments were necessarily of an experimental character and produced very varying results, some fruits fetching fair prices and others being sold at a loss. This, however, in the

heartened at the results obtained. The Central Agricultural Board and its agents, however, urged the people to persevere, and the industry may now be considered to be firmly established. The principal exports consisted of Oranges, Limes and Bananas. Two large Orange plantations were started during the year and numerous smaller ones. A notice written by the governor calling attention to the advantages of this industry was extensively circulated throughout the colony in English, Spanish, French and Hindustani. Several abandoned Lime plantations have been reclaimed, and the exports of this product will no doubt increase rapidly, as it has been discovered that they



merit, as some forms are in every way greatly superior to others. The best produces large massive heads like those of the blue-flowered type, except that they are of the purest white, and consequently it is well adapted for growing as a companion plant to the normal form. Besides, there is one whose heads of bloom are smaller and the flower thinner in texture, while the foliage also dies off earlier than is the case with the best variety. No doubt, from seedlings having been raised in quantity from the white-flowered form, examples are often met with in which the blossoms instead of being of a pure white tint are suffused with blue, which greatly detracts from their value for ornamental purposes. The varietal names of *albus* and *candidus* are bestowed upon these white-flowered forms of *Agapanthus*, the best being usually known as *candidus*, but little reliance can be placed on the names, as they are often used indiscriminately. Given a good white and a good blue *Agapanthus*, they will be sufficient for most gardens; still there are some other well-marked forms which may be especially mentioned (*Mooreanus* or *minor*) with small heads of deep blue flowers. They are, however, borne on comparatively tall stems. There is a variegated form of this in which the leaves are freely marked with white. An unusually tall, bold-growing form of *A. umbellatus* has had the varietal name of *maximus* applied to it. The double-flowered variety *flore-pleno* is quite distinct from any of the others, but it seldom opens in a satisfactory manner, though occasionally exceptions are to be met with, and they have before now been mentioned in the pages of THE GARDEN.—H. P.

**Mackaya bella.**—This pretty flowering shrub, the subject of a note on p. 58, does not attain the popularity one would expect, owing, I think, to the fact that many people fail to flower it in a satisfactory manner. This no doubt results from its being well supplied with water all the year round, a course of treatment that yields good healthy specimens, on which, however, the flowers are, as a rule, very few in number. To flower it well, the plants should be encouraged to grow freely during the spring and early part of the summer, then, as the season advances, the supply of water should be slightly lessened, in order to induce the plant to ripen its wood thoroughly, as upon this the display of bloom to a great extent depends. An intermediate house is the best place for this *Mackaya* when making its growth, but when about to lessen the supply of water, it should be shifted to the coolest end of the structure or to the greenhouse, where it will stand till the following spring, when if again introduced into the intermediate house and given an increased supply of water, the plants will quickly start into growth and flower well. In resting them it should be borne in mind that the supply of water must only be lessened, for sufficient should be given to keep the soil slightly moist throughout the winter, but not enough to encourage the plants to grow. In common with most *Acanthads*, it is readily propagated by cuttings put in at any time during the growing season, and which, if kept close, will root in a fortnight or three weeks. Though the plant in question has been known for some years under the generic name of *Mackaya*, the latest name is that of *Aystasia bella*.—H. P.

**Cannas in the greenhouse.**—The various large-flowered *Cannas* are now making rapid headway, and are to be met with to a greater or less extent in most gardens. For the embellishment of the greenhouse or conservatory they are just the thing, as their bold stately appearance is very different from that of most plants which are employed for the purpose, while their blooms are in all cases very showy, and what is also of importance is that a succession of bloom is kept up for a lengthened period. They are of easy culture, for liberal treatment is all that is needed to succeed perfectly with them. When confined altogether to the temperature of an ordinary greenhouse, they will as a rule commence to flower about midsummer or somewhat earlier, and continue till autumn sets in; while, with a little additional heat, the season of blooming can be considerably

lengthened, as they may be readily forced into bloom earlier than would be the case if confined altogether to the greenhouse, and an increased temperature in the autumn will serve to prolong their flowering season till in some cases nearly Christmas. The best time to obtain these *Cannas* is in the winter months, as, being then dormant, the rhizomes can be sent in a small compass and without any risk of injury. In the case of a beginner making a selection, it is as well to bear in mind that with these *Cannas*, as with most popular flowers, the newest and the best are by no means synonymous terms, for some of the older kinds—that is, among this group of dwarf flowering *Cannas*—are still worthy of a place in any selection. They are certainly far more effective as pot plants or planted out than they are when used in a cut state.—T.

**Rivina humilis.**—This plant is usually employed in a warm house during the autumn and winter months, but it is equally effective at this period of the year in the greenhouse, where its bright coloured berries will last for a considerable time. A good deal of the beauty of this *Rivina* is at times lost by its being too stiffly trained or tied, as it is seen to much better advantage if just secured to a stick or two, as then the loose growing shoots dispose themselves in an informal and pleasing manner. In arranging them, the plants should by no means be dotted indiscriminately here and there, but be disposed either in a group by themselves or interspersed with some light-flowered subjects, as by this means the richly coloured berries of the *Rivina* become more pronounced. Although there are several varieties, a good form of *humilis* is equal to any, if not actually the best of them all.—H. P.

## TREES AND SHRUBS.

### TREE GROWTH ON THE KENTISH COAST.

THAT certain trees and shrubs are peculiarly suitable for planting along the coast and within the influence of the sea is a fact that is well known to everyone who interests himself in the matter, and who notes down from time to time the species that do best along various parts of our shores.

Speaking generally, it will be found on comparing these lists that there are certain trees and shrubs which succeed almost everywhere along the coast line even in the most exposed and wind-tortured districts, while others larger in number can only succeed satisfactorily where partial shelter, such as in bays and recesses that are sheltered from the first brunt of the storm, is afforded.

The composition of the soil has not so much to do with this thriving or surviving as I at one time thought, for numerous notes taken at various parts of England, Scotland, and Ireland point out pretty conclusively that exposure is a far more potent factor than is the formation of the rock or composition of the soil. During the past week when staying on the coast of Kent I had good opportunities of paying attention to this rather favoured theme of mine—seaside planting—and of comparing notes there taken with such as I had pencilled down at various times for several years back, and at many diverse stations in most parts of the kingdom. These are full of interest, and will give, if of no other good, the planter on the sea coast a list of such trees and shrubs that he may expect to favourably struggle with the rather adverse conditions attending a maritime district. The driving of the salt spray by heavy and long-continued winds against the leaves of trees and shrubs is an evil that takes even the best constitution to stand unflinchingly, and it may be noticed that the accumulated coatings of salt are deadly to certain leaves, while others, and they are few in number, would seem to be but little affected after having passed through the rather trying ordeal.

Whether it has been noticed by others I know not, that light or silvery-leaved shrubs and trees would seem to succeed best by the sea-side, and as

prominent examples of this I might make mention of *Shepherdia argentea*, the Sea Buckthorn (*Hippophae rhamnoides*), the white Poplar (*Populus alba*) and others.

Even the Tamarisk leaves are light coloured, particularly on the under sides, while the form of the Evergreen Oak, that succeeds best along the coast, is certainly not that with the darkest leaves, and this latter I have repeatedly taken note of during the present season. Of course, it may be that the fact of growing by the seaside makes the usually green leaves of the Evergreen Oak lighter in tint, but even this does not lessen the weight of my proposition.

Taking everything into consideration, there is no tree or shrub that can compare with the common Elder (*Sambucus nigra*) for withstanding an ozone-laden atmosphere, and also with its capabilities of growing in sand. Isolated specimens of it may be seen far out on the dreary stretches of ever-shifting sand, and looking as healthy and robust as we find them in their favoured locality—a damp, shady wood. There is not much beauty, perhaps most people will say, about the Elder, though I hold a different opinion; but beauty alone, it should be kept in mind, is not what we are at present in quest of; rather a tree or shrub that can stand the first brunt of the sea storm, and by so doing afford shelter to less favoured kinds. Wherever a seaside garden is to be formed, lift a few young plants of the Elder from some waste or common and plant them—in pure sand if you like—on the outer margin of the sea screen, and in a short space of time a capital shelter for other choice things will be formed.

The merits of the Tamarisk for maritime districts is well known and need not be dwelt upon at any length; suffice it to say that it well deserves the exalted rank it holds amongst seaside plants. Then it, too, will grow in sand and bears rough handling by wind in a very satisfactory way. But about the Snowberry (*Symphoricarpos racemosus*) half enough good has not yet been written, for it is unquestionably a valuable adjunct to any list of shrubs for seaside planting. It grows stout and tufty, and if anyone is caught in a storm whilst on the shore, let him get to leeward of a Snowberry bush. The three shrubs just mentioned may be regarded as the backbone of such as are adapted for withstanding the first brunt of the sea storm, after which can follow such well-tried subjects as the Sea Buckthorn (*Hippophae*), the *Shepherdia*, *Laurustinus*, &c. Undoubtedly the Sea Buckthorn is a capital shore plant, it growing well at high water mark, and where but small shelter from the worst winds is afforded. The *Shepherdia argentea*, too, cannot be left till later on the list, for it is a capital maritime subject, and being highly ornamental adds to its value. For hedges by the sea-coast the *Laurustinus* cannot be excelled, it growing vigorously and being, as far as beauty of leaf and flower is concerned, one of our most valued shrubs. Unfortunately, it is not very hardy, but even should it be cut over by severe frost and down to ground-level, the roots still retain sufficient vitality to spring out afresh the following season. Along the coast by St. Margaret's Bay, Deal, and Ramsgate, and where as I know the storms are oftentimes fierce and by no means fleeting, the common Privet (*Ligustrum vulgare*), the *Euonymus radiicans*, both plain leaved and variegated, the Flowering Currant (*Ribes sanguineum*), the Mahonia, several kinds of Lilac, and the common old English Fuchsia (*F. globosa*) and occasionally *F. Riccartoni* are planted largely and all seem thriving, thus showing that the inhabitants of these places have, by a system of adding to such kinds as do well, been unintentionally aiding the "survival of the fittest."

On Lord Granville's property and around the Granville Arms Hotel, which stands perhaps 500 feet above sea level and within a stone's throw of the beach, the Austrian Pine (*Pinus austriaca*) is flourishing and looking healthy and happy where only a few inches of good yellow loam overlies the chalk rock; but this is, perhaps, not very surprising to those who are aware that the slopes of Austria that are frequented by this Pine are wholly



or almost so composed of limestone rock. Nothing surprised me more, however, than to see the St. John's Wort (*Hypericum calycinum*) thriving on the banks of the steep terraces in front of the Granville Arms Hotel, and where not one breath of sea air is kept back, the whole being fully exposed at all times to the saline influence of the ozone-laden atmosphere. There the flowers are as large and fine as any I have seen in the most favoured inland spots, and where the plant was supposed to thrive with unusual freedom and luxuriance. In front of the hotel it covers large tracts of ground on pure chalk, or, at least, with but a minimum of soil in addition, and creeps about and flowers surprisingly. Another herbaceous *Hypericum* (*H. androsaemum*) flowers well by the sea-coast, and forms good, bushy specimen plants.

At Ramsgate and Margate, and indeed all along the shore, the Juniper (*Juniperus communis*) thrives amazingly, and at many points one may see it growing on the very edge of the cliff at several hundred feet above high water, and where in many instances it spreads about and covers several square yards of ground surface. Seedlings spring up every here and there on the almost perpendicular face of the cliffs, and from far beneath on the shore the keen eye can detect the bluish green of the clumps and masses. Accompanying it will frequently be found beds (no word could express it better) of the common Privet, not of the height one usually sees it, but hardly rising a foot above the soil, thriving well and of the greenest hue imaginable. The plants spread about and root freely, thus forming broad masses of the most lively tinted foliage. Evergreen Oak (*Quercus ilex*), the Bay tree (*Laurus nobilis*), black Poplar (*Populus nigra*), the Yew (*Taxus baccata*), and the Walnut (*Juglans nigra*) are also worthy of a place in the seaside garden, for they all form fairly good specimens by the water-side. Hollies, too, should not be forgotten, as I noticed a hedge of these on a very exposed and windy site along the coast. Hodgins' Holly (*Ilex Hodginsi*) is a pleasing bush on any lawn, and it, too, I see, thrives vigorously in several Kentish maritime bays. The Tea tree (*Lycium europæum*) can well hold its own when fully exposed to the winds blowing in from the ocean, and I noticed it forming giant bushes in wind-swept places not far inland. Several of the Willows, such as the white and crack Willows (*Salix alba* and *S. fragilis*) grow very well on the cliff heights at several places between Dover and Deal, and they can be confidently recommended as suitable trees for the sea coast. The old *Fuchsia globosa* makes a neat bush, and although it may be cut over in winter, the roots are rarely so far destroyed that they will not send out fresh shoots the following spring. This *Fuchsia* note applies in some, though not all instances to *F. Riccartoni* and the *Hydrangea hortensis*. Black-thorns, Gorse, and the Guelder Rose (*Viburnum opulus*) are all well suited for planting by the sea-side, and being of free growth and tolerably hardy, should be included in the list of such shrubs as are used in the forming of shrubberies and screens. These include the most of such trees and shrubs as I have noticed flourishing along the coast of Kent, but no doubt the list is capable of being augmented.

A. D. W.

**Halimodendron argenteum.**—In a selection of seaside shrubs this must have a place, for it stands the salt spray as well as the Tamarisk, and like that is a very ornamental shrub, while what is more they both succeed perfectly in inland districts. The *Halimodendron* indeed will flourish in dry sandy or gravelly soils better than most shrubs, a character common to most of the Leguminosæ, owing to their deep descending roots which render them to a certain extent independent of surface moisture. The *Halimodendron* in question forms a freely branched bush, 5 feet or 6 feet high, whose slender shoots are clothed with small pinnate leaves covered with silky hairs, thus giving to the foliage a very pronounced silvery tint, especially if it be in a rather dry sunny position, as where moist and shaded the leaves are greener. Where con-

trasted with some dark-foliaged subjects the silvery character is even more noticeable. The Pea-shaped blossoms, which are of a rosy-purple colour, are borne during the months of June and July, and as they extend for a considerable distance along the slender shoots, a very pleasing effect is produced. It is sometimes grafted as a standard on the *Laburnum*, and as the branches are naturally arching it forms a bold and attractive specimen, very different from the stilty mop-like character assumed by plants of a strictly pendulous nature when grafted standard high. This *Halimodendron*, which is also known as the Siberian Salt Tree, is, as might be supposed from the inhospitable region of which it is a native, perfectly hardy in this country. It is an old, but at the same time very uncommon shrub.—H. P.

**Eucalyptus citriodorus.**—The different species of *Eucalyptus*, or Gum Trees, emit a pleasing aromatic odour, especially when bruised or disturbed in any way; but in the case of *E. citriodorus* it is more pronounced than in any of the others, and besides that is very different from most of them, as the fragrance of this species is much in the way of the Lemon-scented Verbena (*Aloysia citriodora*), and, like that plant, is very powerful if the leaves are just passed through the hand. They are, when the plant is young, thickly covered with hairs, and it is then that the perfume is strongest, for as the plant gains in stature, the leaves change somewhat in shape and become much less hairy, while the fragrance is then not so pronounced. Seeds of it are usually offered by most of our principal seedsmen, and if sown in the spring they germinate quickly and soon form effective plants. This *Eucalyptus* is certainly more delicate in constitution than many of the others, and the leaves often suffer greatly from damp during the winter months, while in the neighbourhood of London the fogs experienced at that time of the year will often kill the plants outright.—H. P.

#### PRUNING SHRUBS.

THERE is hardly a season of the year when shrubs may not be pruned, provided the pruning be of a moderate kind. Really if the pruning be done as often as needed it will be moderate in extent, and that is the sort of pruning which best suits shrubs of most descriptions. When negligence is shown, and shrubs become so overgrown as to be harmful to the surroundings, only drastic pruning will suffice to put things right, and that only at a great sacrifice, as the severe cutting needful produces for a time such nakedness and deformity, as to render the remedy almost worse than the disease. If, however, this hard cutting be done in the spring, new growth soon follows, and in time the deformity is replaced by fresh shoots and leafage. Still the method is not good gardening any more than is the clipping of shrubs with shears good practice. No such method of keeping shrubs in bounds should be tolerated anywhere, and that it is so tolerated now evidences great laziness or else slovenliness. A general cutting produces much litter and trampling of the soil if the shrubs be fronted by borders or in beds; all such work, if it be imperative, should be done during the winter. Most of such severe pruning may be avoided if with a sharp knife at hand branches or shoots here and there be cut away so soon as they seem to be out of place. It is not an exaggeration to say of such branches when thus cut, "they never will be missed;" and after all therein lies very much of the art of pruning shrubs, that what is cut away should not exhibit loss, but rather gain. One of the best features of summer pruning of shrubs is that when in leaf, and of course the remark applies to deciduous shrubs chiefly, their proper contour is better understood and defined in the pruning than when the leaves have fallen. Such robust growing shrubs as *Rhododendrons* are often better pruned if they need it as soon as the summer growths have been made than in the winter, because it is then more easy to see what of the branches may be spared. It is true that the fine hybrids seldom become too large, because, as a rule, they are not

coarse growers, except in favoured situations, and the best remedy for unusually strong growth is found in occasional transplanting, giving to each plant more room. The *Ponticum* forms, however, will very often grow abnormally coarse, and these are better kept in check by occasional pruning than by allowing them to become so large and gross, that the only remedy then is complete beheading. Occasional pruning may become to anyone fond of light work exceedingly pleasing enjoyment. When done by the gardener he will be careful not only to perform the work neatly, but also to place all his prunings where his men may gather them up quickly, and leave behind no evidence of the work or trace of untidiness. Very many fine shrubs have been killed long before the full term of their natural lives has expired by bad pruning. No shrub or tree can very well withstand constant clipping. The Yew is, perhaps, of all the most patient of such treatment, but even in such case the excessively hard lines and stiff formality produced are abhorrent. Coarse free growth very often, by necessitating excessively hard pruning, not unfrequently also leads to disease and decay.

A. D.

#### ORCHIDS.

##### HABENARIA MILITARIS.

I HAVE received some dried flowers of this plant from France through a M. Dallièrre, and he says a friend in Cochin China has sent him some roots. What shall he do with them, and what is the name? The latter question I answer first, and give it at the head of this article. I was very pleased to see a fine lot of it doing well under the care of Mr. White in Sir Trevor Lawrence's garden. The plant first came to the late Professor Reichenbach through M. Godefroy-Lebeuf, of Paris, and the professor called it *Habenaria pusilla*. Some time afterwards the plant in a living state was brought to Paris by M. Regnier, and the flowers when it bloomed were so much larger than those of M. Godefroy-Lebeuf's plant, that the name of *pusilla* was no longer applicable, and it was named *H. militaris*. It has a striking resemblance to our Butterfly Orchis (*H. chlorantha*), which I used to find in the neighbourhood of Boxhill. The colour of this Cochin China species is totally different to that of the British plant, being brilliant scarlet. The plant appears to lie dormant some four or five months in the year, and this occurs in our winter season, so that its resting in a quiet state can be safely managed; and I would therefore advise "M. D." to at once set the tubers growing. They will cast their leaves in the autumn and can be started afresh in the spring. The best method of culture is to use good loam, a little peat, a little Sphagnum Moss, and some sharp sand, mixing the whole well together. The pots used should not be large. Use a small pot at first, afterwards shifting into a larger size when the plants have filled the small ones with roots. The pots require to be well drained and the soil should be pressed down tolerably firm, and not raised above the rim; rather leave a sufficient space, in order to give a good supply of water. During the growing season it likes a liberal supply of water to its roots and also moderate overhead syringing, which should cease immediately the flowers begin to unfold. During this time the plants should be kept near the glass; a heat similar to that of the *Cattleya* house should be maintained with a nice, moist atmosphere. In this they may be kept growing up to the end of September, and in the case of the tubers now mentioned, a month later or even longer will be found necessary. When the leaves begin to turn yellow less water should be given, and



after a short time, as the plants show signs of going to rest, they may be removed to the warm end of the Odontoglossum house and receive but very little water. A little water will, however, be necessary, as there is a great difference between having tubers in a pot and having them in the open ground, where even, although not a drop of rain falls, there is a certain amount of moisture, which tends to keep them moist and plump. Our native British species receive a greater amount of moisture in the winter months when at rest than they get through the summer. Habenarias, Disas and other genera of terrestrial Orchids have not hitherto been favourites with the British Orchid growers, but why, I am at a loss to explain. This system of ignoring plants because they do not conform to the usual rules of the Orchid houses is a great mistake.

WM. HUGH GOWER.

### ORCHID CULTURE.

I SHOULD be grateful if one of your correspondents would give a little rudimentary information on the culture of Orchids, especially as to potting. Should all Orchids be potted every year, for example? and if so, when? Should it always be immediately after flowering? Then as to fastening the plants on to blocks: must the roots be covered with Sphagnum, or should it only be placed between the roots and the block? In your Orchid notes this mode of cultivation is often recommended, but I have observed that where Orchids are grown for sale it is seldom used. Does it injure the plants to allow seedling Ferns or Selaginella, &c., to grow over their roots? I have a plant of *Brassia caudata* which is overrun with *Oxalis* that it seems impossible to eradicate. I should be glad to know what temperature the *Brassia* requires, and whether it needs much water; also how to treat *Oncidium macranthum* and *Cattleya citrina* after flowering. I have a large pan of *Cœlogyne cristata* which is still pushing up flower-spikes. It got checked in the winter by being in too low a temperature, but it looks healthy now. Should it be repotted?—G. M. G.

Some Orchids require repotting annually; others need not be repotted for years. A good cultivator of *Cattleyas* used to assert that once in seven years was often enough to repot established plants, and another good cultivator of *Cattleyas* and *Lælias* informed me that he never cared to repot them as long as they continued to do well. Although both of the above Orchid growers had ample experience in this particular branch, I would not advise anyone to follow their advice too closely. I can claim fairly good success in dealing with *Cattleyas* and *Lælias*, and as a general rule I place imported pieces in very small pots for the size of the plants; they take more kindly to the new condition of things in this way, and the pots become packed quite full of roots. I generally repot such into new soil in twelve months, and the best time to do this is when they start into growth. I repot such as *C. Trianae*, *C. Mossiae*, *C. Mendeli*, and others of this type when the flowering period is over. *C. Warneri* goes into a decided period of rest soon after flowering, and has to be kept very dry at the roots. In fact it had better not have more water than it really needs to keep the plants from shrivelling. I have found that February is a good time to repot *C. Warneri*, as it starts to grow at that time, but there is not much root action until later. Repotting does not necessarily take place soon after flowering, but frequently it may be done with advantage at that time. *Cattleyas* and *Lælias* when established may be repotted at intervals of from two to four years, according to the condition of the plants, but much depends upon the manner in which the work is done whether the plants will succeed or not. The flower-pots in which the plants are growing have frequently to be chipped to pieces with a hammer so that the roots may be removed from them without being

much injured. Some Orchids should be repotted annually, others every second year; but a little experience with the plants in growth will be the best teacher. *Calanthes*, *Thunias*, *Pleiones*, &c., should be repotted every year; the last-named as soon as they pass out of flower in December, but the others require two months' rest or more after flowering. *Odontoglossums*, *Miltonia vexillaria*, *M. Roezli*, *Masdevallias*, and other Orchids of this character are repotted every second year.

In the case of plants upon blocks, it is better to have some Sphagnum Moss or very fibrous peat, or perhaps a mixture of both, fastened to the blocks, and the plants are attached to this. Sometimes they do better with nothing but the bare blocks to cling to, as in the case of *Epidendrum nemorale*. Plants grown on blocks require much attention as regards watering, but when this is carefully attended to, many Orchids will grow well and flower more freely than they

for-pot-room. The same soil as is generally used for *Cattleyas* suits them best—good fibrous peat and Sphagnum Moss.

This is not the time to repot *Cœlogyne cristata*. It would be better to wait until the plants start to grow in the spring. Repot them in good fibrous peat, a little fibrous loam, and Sphagnum Moss, with ample drainage.

*Cattleya citrina* succeeds best in the *Cattleya* house, although some persons have considered it to be a cool house plant. It should be grown in teak baskets, and never be allowed to get too dry even during the resting period. *Oncidium macranthum* is really a cool house Orchid, and a truly handsome species it is. After flowering it should still be kept moist. Treatment similar to that required for *Odontoglossum crispum* will suit it. The low temperature of the cool house in winter seems to suit it very well.—J. DOUGLAS.

**Cattleya Mendeli.**—A superb flower of this plant comes from Mr. J. Brown, gardener to Mr. White, of Arddarroch, Gareloch Head. I have seen much larger flowers, but this is a neat, compact form, the sepals and petals being white faintly tinged with flesh, the whole front portion of the lip deep rich magenta-crimson, the colour extending round the side lobes. The throat is streaked with white, having a dash of orange at the sides. It is a very beautiful variety.—W.

**Oncidium anthrocrene (J. T. E.).**—This is the species sent. It is a very rare one and a native of New Grenada. The spike is much branched and bears many flowers. In those now before me the sepals and petals have a ground colour of yellowish green thickly marked with bands of dark brown. The lip is white in front, the side lobes yellow, and it has a large blotch of chocolate in front of the crest. The cool end of the *Cattleya* house would, I should think, be the best position for it, shading it during the hottest part of the day and keeping the atmosphere moist.—W.

**Lissochilus Krebsi purpureus (H. C.).**—This is the plant sent by you, and I might have added this genus when speaking of *Habenaria*. It is a rare and beautiful species from South Africa; consequently it thrives in a cool house, and I cannot think why so few growers patronise these terrestrial plants. This plant does not bury its bulb under ground as the *Habenaria* does, but it produces conical

pseudo-bulbs some 2 inches or 3 inches in height, which bear numerous thin plicate leaves of a deep green. The spike is erect, upwards of 3 feet in height, bearing many flowers. The sepals are deep purple in front and the petals are clear yellow. It does well in turfy loam and good drainage.—W.

### SHORT NOTES.—ORCHIDS.

**Lælia Schilleriana.**—From Mr. White comes a beautiful flower of what I call this variety. Mr. White calls it *L. elegans*, but it is not the typical *elegans*, as it is a more massive flower. The sepals and petals are white tinged with flesh colour, the lip deep rich purple, the throat white.

**Odontoglossum crispum.**—Mr. White, of Arddarroch, sends a beautiful and distinct variety of the above from a spike of twelve flowers. The whole flower is pure white, the sepals each having a group of



*Monstera deliciosa* at Funchal, Madeira. From a photograph sent by Mrs. A. H. Bridson, Rockville, Dartmouth. (See p. 99.)

will in flower-pots. When *Cattleya gigas* was first introduced, I had some plants fixed to teak blocks without any peat or Sphagnum, and they grew well and flowered freely annually for some years. The plants having in time grown to a considerable size, they were taken off and planted in pots in the usual *Cattleya* potting stuff, but they never flowered so well as they did on the blocks. The best cultivators never allow Ferns, Selaginellas or other plants to grow amongst the roots of the Orchids, but such things establish themselves there, and many persons allow them to grow. I have never noticed that they did any harm, and in some instances the Orchids might do better with such plants growing amongst the roots. The *Brassias* succeed either in the East India house or the *Cattleya* house, and should be freely supplied with water when making their growth, but during the season of rest they should only have sufficient to prevent the pseudo-bulbs shrivelling. They are vigorous growing plants and must not be pinched



spots and blotches of chestnut a little below the centre. The petals have an oblong short central streak of the same colour; the lip is white spotted with chestnut in front of the yellow crest. It is a very beautiful variety.—G.

**Cattleya Warszewiczii** (W. Bennett).—Yours are good forms of the type, one slightly better than the other, but neither is the variety *Sanderiana* or *imperialis*. They are very good flowers of the species named above, which commonly goes by the name given it by Linden, *C. gigas*.—W. H. G.

**Spiranthes aestivalis**.—This species comes from Guernsey for a name. It is a very pretty little plant with white flowers. I see no difference in this plant and *S. autumnalis* saving the size. The tubers of *S. aestivalis* are more cylindrical than those of *S. autumnalis*.—W.

**Cattleya gigas**.—J. Waddell sends a curious and beautiful form of this species having three lips, exactly like *Dendrobium Cooksoni*. In this instance the three lips stand erect, the orange-yellow eye-like spots at the sides of the lobes forming a continuous band. I have never seen such a perfect flower, and shall be anxious to know if it comes the same next season.—W. H. G.

## SOCIETIES AND EXHIBITIONS.

### ROYAL HORTICULTURAL SOCIETY.

JULY 26.

THIS meeting was unquestionably the best attended of any throughout the present season at the Drill Hall, St. James' Street, Westminster. It was also evident that more than usual interest was taken by the Fellows and visitors in the various productions that were exhibited. The display of Carnations and Picotees was both extensive and varied in character, whilst the quality of the flowers was remarkably good. Border kinds of Carnations were better represented than usual; this is gratifying, inasmuch as it is a step in the right direction, well worthy of all the encouragement that can be given. The subject of the lecture during the afternoon was no doubt the cause of so many *Sarracenias*, *Nepenthes*, *Dionaeas*, and other insectivorous plants being shown. Many of these were specially good, and a deal of interest was taken in them by those present. The show of fruit was the best yet seen this season; most noteworthy were the splendid collections of Cherries, Peaches, and Nectarines from Sawbridgeworth (Messrs. Rivers), and the finely grown and varied assortment of Gooseberries from Messrs. Veitch and Sons. More table space was occupied on this occasion than probably ever before at the Drill Hall.

#### Orchid Committee.

The exhibits before this body were not so numerous as usual, but those shown were in many instances the centres of a deal of interest.

First-class certificates were awarded to:—

**CATTELEYA SCHILLERIANA LOWIANA**.—A small dwarf-growing variety, very distinct and interesting, but not so handsome as many kinds now in commerce. The flowers at a glance are not at all unlike those of *Zygopetalum Mackayi*; the sepals and petals are of a greenish shade with bronzy spots, the lip veined, and of a lighter colour than that of the *Zygopetalum* alluded to. From Messrs. Hugh Low & Co.

**CATTELEYA REX**, of which two plants from separate growers were shown, the one a better variety than the other; the flowers are of medium size, in form resembling those of *C. Mendeli*; the sepal's and petals are of a pale buff shade, whilst the lip partakes much of a highly coloured form of *C. Mossiae*, but veined somewhat after that of *C. Dowiana*. Shown by Mr. W. S. Ellis, Hazelbourne, Box Hill, Dorking, and by Mr. H. M. Pollett, Farnside, Bickley.

Awards of merit were made in favour of:—

**CYPRIPEDIUM YOUNGIANUM** (Veitchi × *laevigatum* superbum).—This is a truly noteworthy cross, and one of the finest hybrids shown for a long time; the petals are broad, nearly 5 inches in

length, and drooping, the dorsal sepal having the good points of *C. Veitchi* and also the pouch, the colour throughout being paler than in the aforementioned parent. Two and three flowers were either open or nearly so on each of the three spikes. From Mr. Norman Cookson, Wylam-on-Tyne.

**CYPRIPEDIUM BRYAN** (*laevigatum* × *Argus*).—This hybrid is remarkable for the large dark spots upon the petals with the dark lines upon the dorsal sepal, as seen in *C. laevigatum*; it is a decidedly distinct cross and of sturdy habit, quite unlike any other hybrid yet shown. Also from Mr. N. Cookson.

Botanical certificates were awarded to—

**SOBRALIA LOWI**.—A beautiful dwarf species with much of the colour and style of *S. macrantha*, but much smaller flowers. From Messrs. H. Low and Co.

**CÆLOGYNE PELTASTES**.—A pale greenish yellow species of no particular beauty, and with rather small flowers. From Mr. Le Doux, Langton House, East Molesey.

A cultural commendation was awarded to *Platyclinis filiformis*, otherwise *Dendrochilum filiforme*, under which name it is much better known, and by which it is and will be still grown in our gardens. The plant in question was quite a specimen, with some fifty or more of its graceful spikes and minute flowers, being an excellent example of cultivation. From Mr. Wigan's collection at East Sheen. The vote of thanks made in favour of *Saccolabium Blumei majus* shown by Mr. Norman, of Hatfield Gardens, hardly met the case; the half-dozen splendid spikes which he staged, although cut, clearly demonstrated that the culture had been of the highest order; finer spikes or in better condition are rarely ever seen.

Messrs. Paul and Son staged several seedling plants in flower of *Disa grandiflora* bearing evidence of first-class culture, whilst the variations, although slight, were equal to the parent plant at its best. It may interest growers to know that this firm is raising a good stock in this way. Mr. Ingram, Elstead House, Godalming, staged several seedling *Cypripediums* of much promise. *C. Hecla* appears to be quite intermediate between its parents (*C. Veitchi* × *Swanianum*). *C. Bijou* has dark lustrous brown flowers. This is a cross between *C. Lawrenceanum* and *cananthum superbum*, the latter itself a hybrid; and *C. The Gem*, another seedling with even darker coloured flowers of an intensely glossy or varnished appearance. Messrs. H. Low and Co. had *Cattleya Leopoldi*, a fine old kind; *Mitonia Moreliana superba*, the deep-coloured variety; *Cattleya Schofieldiana*, an excellent form; and *Cypripedium de Witt Smith* (Lowi × spectabile), having much of the character of the former parent with more colour. From Mr. Wigan also came an Orchid now rarely seen; indeed, one that has always been much too scarce, viz., *Vanda Batemanniana* with ten of its singularly rich-coloured flowers and several more buds. He also showed *Dendrobium Leeanum* much after *D. superbiens*, but taller in growth. From Mr. Alcock, Northchurch, Berkhamsted, came a well-grown example of *Mormodes citrinum*, whilst Mr. Ellis had a cut example of the old *Cattleya granulosa*. In *Lælia elegans* The Duchess Mr. Wigan showed a choice and richly-coloured variety. Mr. Cookson showed another *Cypripedium*, *C. Tautzianum* (*barbatum* × *niveum*), in which the influence of the latter parent was clearly discernible. Mr. Lucas, Warnham Court, showed *Eria vestita*, an Indian Orchid, more curious than beautiful. From Messrs. Sander and Co. came a small collection of choice kinds, amongst which were the following: *Cattleya Gaskelliana alba*, a very pure variety; *C. Schofieldiana bella*, having dark spots upon the sepals and petals; *Odontoglossum Roezianum album*, of very pure colour, and several *Cypripediums*, the best of which were *C. javanico-superbiens* with pale greenish coloured flowers, the dorsal sepals clearly striped with a darker shade; *C. Dayanum superbum*, with extra fine flowers; *C. Harrisianum superbiens*, with fine, bold, dark-coloured flowers, and *C. callosum var. pulcherrimum*, a strikingly beautiful variety, with pale green petals and a fine large dorsal sepal, ground colour

a pure white and dark vinous purple lines. From Mr. Winn, The Uplands, Solihull, Birmingham, came a hybrid *Cypripedium*, *C. Edith Winn*, having distinct traces of *C. Stonei*, one of its parents.

#### Floral Committee.

First-class certificates were awarded to—

**ASTER (HETEROCLETA) DIPLOSTEPHOIDES**, a very distinct and handsome variety and a valuable acquisition; the flowers are of extra size some 3 inches or more across, borne upon stout footstalks, the colour a pale lavender-blue, with a dark nearly black disc, which is very conspicuous. From Mr. W. Marshall's collection.

**NEMESIA STRUMOSA SUTTONI**, labelled provisionally during the first part of the meeting *Nemesia* sp., but afterwards changed to that now given. A deal of interest was centred in this half-hardy annual of African origin, it being of quite a novel character. The flowers are produced in spikes, which promise to be very continuous in flowering; the foliage is somewhat small, rather long and narrow, the height of the plants averaging from a foot to 15 inches, those exhibited being in pots. The colours differ much from various shades of yellow to orange and orange-scarlet, others nearly a pure white. This quite distinct and desirable novelty promises to be a valuable acquisition either for pots or the open border, probably requiring a somewhat dry position. The plants shown had been grown in the open after having been raised under glass in March and then hardened off. From Messrs. Sutton and Sons, Reading.

Awards of merit were voted to—

**CROCOSMIA AUREA IMPERIALIS**.—A much improved form of this popular flower with broader petals and finer shape, more star-like in outline, and of a slightly deeper colour. Also from Mr. Marshall.

**BEGONIA (tuberosa) METEOR**.—A seedling in which the growth is quite after *B. Pearcei*, extremely dwarf and compact, the foliage being of a darker shade, the flowers of medium size, and of a deep orange colour—a valuable bedding variety. From Messrs. Sutton and Sons.

**BEGONIA PRINCESS MAY** (double tuberosa).—With flowers of good size, very full, and beautifully imbricated, the colour a pale primrose, habit excellent. From Mr. T. Ware.

**BEGONIA BARONNEST. DIDIER**.—Another double-flowered variety with light yellow flowers, extra large and full, very vigorous and free. From Mr. T. Ware as a plant, and from Messrs. Cannell and Sons in a cut state.

**SWEET PEA LADY BEACONSFIELD**.—A very novel coloured variety, the standards having a shade of pale bronzy yellow, the falls a pale yellow; quite distinct from any others shown. From Mr. Eckford, Wem, Salop.

**GLOXINIA HER MAJESTY**.—The finest white variety yet exhibited, the colour a pure waxy white and of excellent substance; the flowers of extra size and borne upon stout footstalks; the habit all that could be desired. From Messrs. Sutton and Sons.

Messrs. James Veitch and Sons had a choice collection of insectivorous plants, comprising several choice hybrids and species of *Nepenthes* as follows: *N. Mastersiana*, of which two forms were shown, one much darker than the other, but both equally beautiful, with that profusion of pitchers that characterises this splendid hybrid; *N. Curtisi superba*, with fine-sized pitchers of an extra dark colour, quite distinct; *N. Burkei* and *N. Burkei excellens*, both fine forms, notably the latter, which is one of the finest in cultivation, the rim of the pitchers being broad and finely marked; *N. Amesiana*, partaking much of the character of *N. Hookeriana*, but larger in growth, a very fine, free variety; *N. Wrigleyana*, with long, blotched pitchers; and *N. intermedia*. *Sarracenias* were represented by finely grown examples of *S. Courti*, very dwarf and highly coloured; *S. Chelsoni*, *S. Stevensi*, *S. Wrigleyana*, and *S. porphyrophylla*. Seedlings in the earlier stages of both *Nepenthes* and *Sarracenias* were also sent. *Cephalotus foliolaris*, with a profusion of its singular pitchers,



*Dionæa muscipula* and *Drosera capensis* were also well shown. With the foregoing were included a gorgeous boxful of cut blooms of their hybrid Javanese *Rhododendrons* with flowers and trusses of remarkable size and variety in colouring, and several boxes of Carnations and Picotees, of which a separate note will be found (silver-gilt Flora medal).

Messrs. Pitcher and Manda sent an extensive group of exceedingly well-cultivated *Sarracenias* and other insectivorous plants. These embraced *S. Chelsoni*, *S. Flambeau* (very fine), *S. vittata maculata*, *S. Wilsoni* (extra dark), *S. Mitchelliana*, *S. Courti*, *S. Swanniana*, *S. formosa*, *S. Mandaana*, *S. rubra* and a large quantity of *S. Drummondii* in excellent growth. *Droseras* consisted of *D. dichytoma*, *D. rotundifolia* and *D. capensis*; *Cephalotus foliolaris*, *Dionæa muscipula* and *Darlingtonia californica* also being well shown, making in all an excellent group, which created a deal of interest (silver-gilt Flora medal). Messrs. Paul and Son exhibited a large collection of cut Roses of the best known and most approved kinds, containing many finer blooms than earlier in the season. Herbaceous cut flowers were also represented here in excellent variety, including *Cephalaria alpina*, *Hemerocallis Thunbergi*, *Alstroemeria aurea*, *Lilium dalmanicum*, *Eryngium amethystinum*, *Erigeron speciosus superbus*, *Echinops ruthenicus*, *Montbretia Pottsi*, *Campanula carpatica*, *Liatis spicata*, *Scabiosa caucasica* and early herbaceous *Phloxes* *Eclairer* and *Le Soleil* (silver-gilt Flora medal).

Messrs. Laing and Sons sent a very fine group of the newer and best varieties of *Caladiums*, embracing all the colours as now seen in these splendid foliage plants; a few of the finest were *Candidum*, one of the finest whites; *Albo luteum*, a pale greenish yellow; *Marie Freeman*, with red veins on a light ground; *Comte de Germiny*, of the same colour, but extra dwarf, a fine decorative plant; *Reine de Danmark*, *B. S. Williams*, one of the richest coloured varieties yet seen, with bright dark-red foliage, relieved by white, and *Mercedes d'Argent*, white with rosy veins (silver-gilt Banksian medal).

Messrs. Pitcher and Manda exhibited a small collection of Orchids and herbaceous plants (cut examples), the latter consisting of *Achillea The Pearl*, *Liatis spicata*, *Lilium canadense*, and other good things (silver Banksian medal). Messrs. Cannell and Sons showed some splendid flowers of their double tuberous *Begonias*; larger blooms have not probably been seen than many of these—in fact they were more like large *Hollyhock* flowers than *Begonias*. Of the named kinds the following were very fine: *Baronne de St. Didier*, pale yellow; *Duchess of Fife*, bluish; *Sir J. D. Hooker*, crimson; *Mrs. Lewis Castle*, salmon-pink; and *Beauty of Belgrove*, pale pink. These blooms were well arranged upon a bed of Maiden-hair and other Fern fronds (bronze Banksian medal). From Messrs. Sutton and Sons came several plants in variety of their well-known superior strain of *Gloxinias*, characterised by dwarf habit, vigorous constitution, and freedom of flowering, with excellent variety. Of the named kinds besides *Her Majesty* were *Duke of York*, a very showy flower with a broad white margin and an inner ground of bright crimson, with veins in the throat. *Invincible Purple* was a fine large flower, one of the best in its way; the strain known under the name of the "new netted" *Gloxinias* was also well shown; these are distinct, the groundwork being broken up irregularly into various colours; the substitution of "marbled" for netted would perhaps be more appropriate. Mr. T. Ware staged several tuberous *Begonias*, both single and double; of the former, *Bexley White* is a fine bold flower of great size; *Pavonia*, a light pink; *Pride of Bexley*, orange, extra; and *Longfellow*, a red, were amongst the best; of the doubles; *Viscount Cranbrook*, a deep rose with white centre is a fine flower; *Serica*, dark salmon; *Mrs. F. Fell*, salmon, free, and *Duchess of Teck*, yellow, are all of great excellence. Mr. Laxton had an acquisition in *Sweet Pea Princess May*, a pale lavender-blue, very distinct in its shade of colour. Mr. Eckford had a splendid assortment of his strain of *Sweet Peas* in several

varieties; the most striking as shown were *Orange Prince*, orange-pink; *Firefly*, a bright colour; *Dorothy Tennant*, a rosy mauve; *Countess of Radnor*, mauve and pale lilac; *Peach Blossom*, a soft shade of colour; *Mrs. Eckford*, a shade of primrose, one of the best; *Lady of the Lake* and *Lady Penzance*, both fine kinds. Messrs. Veitch and Sons showed several plants in fine flower of *Lilium auratum rubro-vittatum*, one of the very finest forms of this favourite Lily with a well-defined dark red stripe down each petal, the ground colour a pure white; this is a grand variety. Mr. Wythes sent from *Syon House* several cut examples of *Clethra arborea*, introduced from Madeira more than 100 years back, yet not now sufficiently known; it is a splendid plant for a tall greenhouse, where it can have freedom of growth. Messrs. Laing and Sons showed a basket of *Zephyranthes Atamasco rosea*, a pale rose-coloured form of this fine plant, also several examples of their strain of *Pentstemons* in first-rate variety, and Carnations (decorative kinds) in bunches. A large plant of *Dasylium glaucum*, with a flower-spike some 12 or more feet in height, was sent by Mr. W. A. Smith, of Neasdon; beyond its curiosity its flowers are not conspicuous. Messrs. B. Williams and Son contributed a small collection of *Nepenthes* and *Sarracenias*; of the former, *N. Mastersiana*, *N. intermedia* and *N. Dormiana* were in good order, so also were the several *Sarracenias*, as *S. Atkinsoniana*, *S. illustrata*, *S. Courti*, *S. Chelsoni* (extra fine), *S. Stevensi* and *S. Swanniana*. *Dionæa muscipula*, *Cephalotus foliolaris* and *Pinguicula caudata* were also well represented in this group.

#### Fruit Committee.

There was staged before the committee the best lot of fruit that has been sent this year. The exhibits filled a large space, and no less than four medals were awarded for collections of choice fruit.

A first-class certificate was awarded to—

NECTARINE EARLY RIVERS, a grand variety and one that will surpass Lord Napier. It is earlier, equally as large, and of splendid flavour. From Messrs. Rivers, Sawbridgeworth.

Awards of merit were given to—

TOMATO ROYAL SOVEREIGN, of which six fruits, weighing 10½ lbs., were shown. The fruit is nearly smooth, of good flavour and very solid, the colour being dull red. From Mr. Gilbert, Burghley Gardens.

MELON EMERALD GEM.—This is a scarlet-fleshed variety of good quality with musk flavour. It is of medium size. From Mr. Sage, Ham House.

Messrs. Veitch, Chelsea, sent splendid collections of Gooseberries, Cherries, and Currants. There were eighty dishes of Gooseberries, the best reds being *Clayton*, *Industry*, *Companion*, *Conquering Hero*, *Dan's Mistake* (very fine), *Forester*, and *Rough Red*. The best yellows were *Leader*, *Mount Pleasant*, *Pretty Boy* and *Tiger*; whilst in the greens, *Telegraph*, *Stockwell*, *Overall* and *Surprise* were best. The best whites were *Queen of Trumps*, *King of Trumps*, *Queen of the West*, and *Aline*. The best dessert varieties comprised *Pitmaston Green*, *Gage*, *Red Champagne*, *Early Green*, *Hairy Early Red*, *Bright Venus*, *Early Sulphur*, *Iron-monger* and *Warrington*, the two last being the best for preserving. Superlative *Raspberry*, *White* and *Red Currants*, with five varieties of *Cherries* grown on pyramids were also shown (silver medal). Messrs. Rivers, of Sawbridgeworth, had a superb collection of fruit, twenty varieties of *Cherries* being staged notable for size and colour. The best varieties were *Early Rivers*, *Frogmore*, *Monstreuse*, *Bigarreau Napoleon*, *Black Heart*, *May Duke*, *Black Hawk*, *Olivet*, *Bedford Prolific*, and *Emperor Francis*. *Early Transparent Plum*, a fine early variety of good flavour, and a small variety named the *Flint Plum*, but lacking flavour, were also shown. Seedling *Peaches* were shown in quantity, some beautiful specimens being staged; the best of the named varieties were *Hal's Early*, finely coloured *Rivers' Albatross*, *Early Rivers' Peach*, and *Stump the World*. There were also several *Nectarines* besides the one certificated. Most of the above had

been grown in a cool orchard house. Mr. Divers, Ketton Hall, staged some extra large *Peaches*, six dishes being shown, three fruits filling a dish. The varieties were *Sea Eagle*, *Princess of Wales*, *Barrington*, and *Nectarine*. Some of the fruit were very pale in colour (Banksian medal).

From the Royal Gardens, Windsor, Mr. Thomas sent a dozen *Melons*, besides seedlings, also *Waterloo*, *Early Rivers*, and *Walburton Peaches*. The *Waterloo Peach* was from a wall outside. Mr. Groves, gardener to General Williams, Temple House, Marlow, sent a good-looking *Tomato*, a seedling from *Main-crop*. *Tomatoes* also came from Mr. Payne, the varieties being the *Peach* and *Carter's Perfection*. Seedling *Melons* and two dishes of *Grosse Mignonne Peaches* of good colour were sent by Mr. Miller, The Gardens, Ruxley Lodge. Mr. Wythes, *Syon House*; Mr. J. Fitt, *Panshanger*, *Herts*; and Mr. Burrell, *Westley Hall*, *Bury St. Edmunds*, also sent seedling *Melons*. *Black Currants*, named Mr. W. E. Gladstone, shown on branches and also picked fruits, were sent by Mr. J. Hammond, St. Ann's Nursery, Carlisle; the variety showed scarcely any difference from *Lee's Prolific*. Messrs. Carter, High Holborn, sent their *Pea Daisy* grown as a field crop, the pods being large and well filled. *Peas* were also staged by Mr. Eckford, Wem, Salop.

There was a large company to hear the lecture by Mr. Manda on insect-eating plants, and as a number of these were exhibited, it was specially interesting. The hon. sec. read the lecture, Mr. Manda being unable to make his voice heard. In his paper he stated he had seen many of these so-called insect-eating plants in their native habitats. Many were found in North America, and he gave a list of the genera in that country. Others came from different parts of Australia, but of late years there had been many hybrids sent out, so that we now have a large choice. In their notes Darwin and Hooker threw a lot of light on the structure of these plants. He did not think there was any advantage when the plants obtained their food by the destruction of insects, as from careful observation he thought much better results were obtained by good cultivation. It would be found well grown plants lived longer and gave less trouble, as if these only obtained nourishment from the destruction of insects, they did not thrive like those with plenty of roots. The *Dionæa muscipula*, or *Venus's Fly-trap*, he exhibited to the audience as one of the best known of the insect-eating plants, and though thought to exist on insects, did much best when fed at the roots. *Drosera rotundifolia* was similar in construction, and required equal care at the roots if expected to thrive. There are some beautiful varieties in this genus; *D. capensis*, the Cape species, was a large kind and of singular formation. Another plant worthy of attention was the Portuguese *Fly-catcher*, common on the coast of Spain, with thick, fleshy leaves. *Nepenthes* have been found growing in dry situations, but though they exist under such conditions they grow more readily in swampy soils, and in our climate they do not exist long without atmospheric moisture and plenty of heat in the growing season. There are some grand varieties, *N. Rajah* bearing pitchers over a foot long of a dull purple colour, *Nepenthes sanguinea* with deep red pitchers, and *N. Mastersiana*, a grand hybrid, with large pitchers freely produced. Why *Nepenthes* should be included among insectivorous plants he was unable to say, as he found the insects did not benefit the pitchers, and though they attracted them they certainly did not feed the plant. These plants liked brown fibrous peat well shaken out, with chopped *Sphagnum*, some pieces of charcoal to keep the compost sweet, and a temperature of 65° in winter with little water. At this season plenty of water and a higher temperature, 70° to 80°, should be given. *Sarracenias* are a numerous family and have been freely hybridised. Many of these are natives of North America, and require cool cultivation with a moist close temperature. *Darlingtonias* belong to the same order, and require the same treatment as *Sarracenias*. *Sarracenia rubra* bears sweet-scented flowers and is a



distinct variety. Many make a mistake in giving these plants stove heat; they should be rested from November to March, when they should be given a little more warmth, top-dressed or repotted. As the young growth is very tender the plants require care in handling. Red spider and thrips are most destructive if not kept down. More air and less shade as the pitchers get larger should be given. The best soil is two parts peat, chopped Sphagnum, lumps of charcoal, and sharp sand. With ordinary care the plants are easily grown.

Mr. Morris said Mr. Manda did not attempt to convince the public that insects alone kept the plants in condition, and he thought the public would not be disappointed by the lecturer or by the fine collection of plants sent. These were not Mr. Manda's best examples, as unfortunately he experimented last winter with tobacco smoke to kill insects and lost some large plants. The leaves of these plants when in a young state will not stand tobacco smoke. In some parts *Nepenthes* are so common, that the natives use them to tie round their Bamboo fences, the long stalks being very tough.

Professor Henslow had no experience in culture, but gave some interesting details as to structure and the food of the plants. He stated that plants fed at the roots did better than when they absorbed their food from insects. Professor Williamson spoke on the same subject.

#### NATIONAL CARNATION AND PICOTEE SOCIETY.

##### SOUTHERN SECTION.

THE show held on this occasion was considered to be one of the best and largest held for years past. True, some of the flowers had a rough appearance, which must be attributed to the prevailing cold weather, and a want of purity in the white ground of some of the blooms was perceptible and from the same cause, but they were of good size and brilliantly coloured generally, and made a brave display. The competition was keen throughout, and some of the stands came very close to each other, giving the judges some trouble in placing them. Not a few of the visitors were heard complaining of the method of showing blooms with the white paper collars beneath them.

There were five stands of twenty-four Carnations in not less than twelve varieties, and here Mr. J. Douglas, gardener to Mrs. Whitbourn, Great Gearies, Ilford, was placed first with large blooms of even size, dull in colour in several instances, and not without evidence of roughness and want of purity in the ground. He had *Homer* c.b., *Thalia* r.f., *Charles Henwood* p.f., *Eurydice* s.b., fine in petal, full and richly coloured; *Phoebe* c.b., *Robert Lord* s.b., *Rob Roy* s.f., *Sarah Payne* p.p.b., a flower which has been grown for over half a century and still holds its own in the class to which it belongs; *Mrs. C. Grahame* s.f., very fine; *Lady M. Currier* f., *Robert Houlgrave* s.b., *Virgil* c.b., *Alisemond* s.f., *William Skirving* p.p.b., *J. Crossland* s.b., and seedlings; 2nd, Mr. Charles Turner, Royal Nursery, Slough, with rather smaller, but bright and attractive flowers of good quality; 3rd, Mr. M. Rowan, Manor Street, Clapham; 4th, Mr. F. Hooper, Widcombe Nursery, Bath. The class for twelve dissimilar Carnations brought five stands also, and here Mr. M. Rowan was placed 1st with a fine collection of blooms, pure and bright, and all the more praiseworthy from being grown so near to the city of London as Clapham; 2nd, Mr. Charles Phillips, Hamilton Road, Reading; 3rd, Mr. H. W. Headland, Leyton. There were eight stands of six blooms, the 1st prize going to Mr. J. J. Keen, The Avenue, Southampton, with excellent blooms; 2nd, Mr. Joseph Lakin, Temple Cowley, Oxford; 3rd, Mr. Cattley, Bath; 4th, Mr. F. Nutt, Southampton.

In the classes for single blooms the awards went as follows: *Scarlet* bizzars: 1st, Mr. M. Rowan with *Robert Houlgrave*; 2nd, Mr. C. Turner with *Dr. Hogg*; 3rd, Mr. Douglas with seedling; 4th, Mr. J. Keen with seedling; and 5th, Mr. Headland

with seedling. *Crimson* bizzars: 1st, Mr. F. Hooper with *Mrs. Cattley*; 2nd, Mr. R. Sydenham with *J. S. Hedderley*; 3rd and 4th, Mr. C. Blick with *Phoebe*; 5th, Mr. H. W. Headland with a seedling. *Pink* and *purple* bizzars: 1st, Mr. J. J. Keen with *Sarah Payne*; 2nd, Mr. F. Nutt with *William Skirving*, and 3rd, Mr. Keen with the same; 4th, Mr. J. Douglas with *Sarah Payne*; 5th, Mr. Nutt with *W. Skirving*. *Purple* flakes: 1st, Mr. Keen with *George Melville*; 2nd, Mr. C. Phillips with *James Douglas*; 3rd, Mr. Rowan with *George Melville*, and 4th, Mr. F. Nutt with the same; 5th, Mr. J. Douglas with *Mrs. Douglas*. *Scarlet* flakes: 1st, Mr. J. Douglas with *Matador*; 2nd, Mr. R. Sydenham with *Henry Cannel*; 3rd and 4th, Mr. Rowan with *Sportsman*; 5th, Mr. J. Douglas with *Alisemond*. *Rose* flakes: 1st, Mr. J. Lakin with *Sybil*; 2nd, Mr. C. Turner with *Lady Mary Currie*; 3rd, Mr. F. Hooper with *Mrs. George Cooling*; 4th, no name, with *Thalia*; 5th, Mr. C. Blick with the same.

The premier Carnation selected from the whole show was s.b. *Dr. Hogg*, shown by Mr. C. Turner in very fine character and richly coloured.

There were also five collections of twenty-four *Picotées*, and here, as in the case of Carnations, the judges evidently preferred the largest flowers. Mr. J. Douglas was 1st; 2nd, Mr. C. Turner with smaller flowers, but refined in character. There were seven stands of twelve *Picotées*, Mr. C. Phillips being placed first; 2nd, Mr. H. W. Headland; 3rd, Mr. M. Rowan; 4th, Mr. G. Chaundy, Oxford. There were eight stands of six blooms, and Mr. Keen was placed 1st; 2nd, Mr. J. Lakin; 3rd, Mr. J. Rebbeck, Southampton; 4th, Mr. Cattley. In the class for twelve yellow ground *Picotées*, Mr. J. Douglas was placed 1st; 2nd, Mr. C. Turner, with a stand of flowers many thought the best; 3rd, Mr. C. Phillips; 4th, Mr. Cattley. There were ten competitors with six blooms, which conclusively proved what great favourites they are. Mr. F. Hooper was placed first; 2nd, Mr. F. Nutt; 3rd, Mr. F. Kew; 4th, Mr. J. Keen.

**PICOTÉES, SINGLE BLOOMS.**—Heavy red edge: 1st and 2nd, Mr. J. Douglas, with an unnamed seedling. Light red edge: 1st, Mr. C. Turner, with *T. William*; 2nd, Mr. H. W. Headland with *Souvenir of H. Headland*. Heavy purple edge: 1st, Mr. J. Douglas, with *Muriel*; 2nd, Mr. J. J. Keen, with *Amy Robsart*. Light purple edge: 1st, Mr. H. W. Headland, with *Pride of Leyton*; 2nd, Mr. J. Lakin, with *Miss Lakin*. Heavy rose edge: 1st, Mr. Keen, with *Mrs. Sharpe*; 2nd, Mr. Nutt, with the same; 3rd, Mr. Keen with *Mrs. Sharpe*. Light rose edge: 1st and 4th, Mr. J. Douglas; 2nd, Mr. H. W. Headland; 3rd and 5th, Mr. Keen, all with *Leddington's Favourite*. Yellow grounds: 1st, Mr. C. Turner, with *Countess of Jersey*; 2nd, Mr. Henwood; 3rd, seedling, the name of the exhibitor not being given; 4th, Mr. Nutt, with *Almira*, and 5th, with *Agnes Chambers*. The premier *Picotée* was a beautiful bloom of *Favourite*, light rose edge in one of Mr. Douglas's stands.

The miscellaneous blooms, selfs and fancies, were, as usual, bold and striking. The best twenty-four blooms in not less than twelve varieties came from Mr. C. Turner, who had *Germania*, yellow; *Lady M. Currie*, pink self; *Mrs. Clements*, yellow; *Romulus*, y.g.; *Rose Unique*, rose self, very fine; *Victory*, *Marnie Marner*, a very fine rich delicate rose self; *Niphetos*, white; *Iona*; *Ruby*, ruby-pink, very fine; *Mrs. Fred*, white; *Lord Rendlesham*, *Mrs. Reynolds Hole*, King of *Scarlets*, *Romulus*, *Arum*, buff self; *The Governor*, *Rose Wynne*, maroon self, and *Gwendoline*; 2nd, Mr. J. Douglas; 3rd, Mr. C. Blick with some very good blooms, prominent being *Endoxia*, a deep pink self; *Germania*, very fine; *Mrs. George*, rosy pink self, very fine; and *Florizel*, maroon; 4th, Mr. M. Rowan. With twelve blooms, Mr. J. J. Keen was first with very fine blooms; 2nd, Mr. F. Nutt; 3rd, Mr. C. Blick; 4th, Mr. C. Phillips. There were thirteen competing stands.

With twelve plants in pots, Mr. C. Turner was first and Mr. J. Douglas second; but the plants, by being placed on a high table, were quite above the line of sight. Two or three other collections were shown.

The Martin Smith special prizes for improved forms of border Carnations were also competed for on this occasion. In two of the classes the number of bunches required had very properly been reduced. The best bunch of not less than 12 trusses of a self-coloured Carnation was *Oriflamme*, bright pale scarlet, free and early, from Mr. J. Douglas. Mr. Loday, Willingham, Cambs, was second with an unnamed white seedling, and Mr. Jones, Kensington, third with *Pink Perfection*, a bright rosy-pink self. With six bunches of self-coloured border Carnations Mr. Hooper, Bath, was first with *Queen of Purples*, a purple self; *Lady Constance*, pale pink; *Gaiety*, pale scarlet; *Gluck*, shaded crimson; *Lady Cavendish*, deep purple, and a seedling white; Mr. J. Douglas was second with unnamed flowers; and Mr. A. Herrington, Shrubland Park, Ipswich, third with some French varieties, all strong growers, with fine flowers and erect habit. With nine varieties Mr. F. Hooper was again first, this class requiring any type of Carnation; second, Mr. J. Douglas, with unnamed varieties. It would be impossible for anyone to say that any of the varieties shown in this class were improvements upon the fine border varieties already in cultivation.

Several seedlings were exhibited, and prizes and certificates of merit were awarded to the following: *Homer* c.b. from Mr. J. Douglas, a large full flower, bright in colour and fine petals; *Atrato* p.f. (Douglas) remarkable for its deep tint of bright purple; *Ganymede* (Douglas), h. red e. *Picotée*; *Melpomene*, medium rose e. *Picotée*, very pure and good; *Desdemona* (Douglas), light pinkish-rose edge *Picotée*, distinct and pretty; *Eurydice* (Douglas), a well coloured yellow ground; *Zeno* (Douglas), a medium red-edged *Picotée*; and *Lady Wantage*, a large white self of fine quality, from Mr. William Badcock, Reading. The silver medal offered by the proprietors of the *Gardener's Magazine* was awarded to Mr. M. Rowan for excellence of culture.

In the way of miscellaneous contributions, Mr. Henry Brownhill, Sale, had a very fine pure white *Pink*. Messrs. Veitch and Sons, King's Road, Chelsea, a large representative collection of all types of Carnations, neatly set up with their foliage, and shown naturally as cut from plants in the open. Mr. F. Gifford, Florist, Tottenham, had several fine new self Carnations, such as *Cantab*, scarlet, rich in colour and highly fragrant; *Oxonian*, deep crimson-maroon; *Maggie Laurie*, soft pink; *Montague*, bright red, &c. From Mr. C. Blick, The Warren Gardens, Hayes, came a large collection of seedling *Clove* and other Carnations, and certificates were awarded to the following: *Marnie Murray*, pale pinkish-rose, very fine petals; *Miss Constance* s.f.; *Aline Newman*, pale scarlet self; *The Pasha*, in the way of *Mrs. Reynolds Hole*, but brighter, and decidedly improved in every way; and *Mrs. Harris* r.f. Mr. Blick also staged a very fine group of plants in pots (silver *Banksian* medal). Messrs. J. Laing and Sons, Forest Hill, had a collection of Carnations in bunches; Mr. H. G. Smyth, Drury Lane, Jane Smith, a deep scarlet self; and Mr. W. Burton, gardener to Mr. C. Jones, Tonbridge, a white self Carnation named *Beauty of Tonbridge* of a very promising character.

**New or rare flowers for drawing.**—Readers will kindly remember that we shall be greatly obliged for any specimens of new or rare plants, or information concerning them.

**An old-fashioned Pink.**—In response to G. Jekyll's plea in last week's GARDEN for old-fashioned varieties of garden Pinks, I herewith submit six blooms of a variety that I grow here, in the hope of it being, at least, one variety inquired after by your correspondent. I have cut the stems full length, also shoots, so that you may be able to form some idea of the habit of the plant. I regret very much that it has the objectionable fault of being a "pod-burster." If your correspondent would like to have pipings of this variety, I shall be most happy to supply them.—ROBERT ELLIOTT, *The Gardens, Harbottle Castle, Rothbury, Northumberland.*



## WOODS AND FORESTS.

### SELLING HOME-GROWN TIMBER.

WHICH is the best way to dispose of forest produce so as to obtain its full market value is a question which at a time like the present, when not only forest, but agricultural depression tells heavily on landowners, may be worthy of careful consideration, especially in connection with the management of woods. There are so many ways of disposing of home-grown timber—standing, felled, by auction or by private treaty—that the person in charge of woods and plantations must often be at a loss to know how best he should proceed in the matter, and so that the greatest money value may be obtained for his produce. To anyone at all interested in the disposal of home-grown timber it will be at once apparent that local circumstances must not only affect the value of timber, but likewise control to a very large extent the method of disposing of forest produce, while the situation of an estate, whether it is purely ornamental or based on the paying and profitable system, are all factors of the greatest moment, and touching closely on the question now at stake.

In the midland and southern counties disposing of timber standing is by far the commonest method of procedure, while in the northern part of the kingdom felling before selling is the course usually pursued. With regard to selling timber as it stands, there are advantages and disadvantages, for in the first place it frees the woodman of the trouble and expense of felling and dragging and lotting, while at the same time should the reserve price put by the forester on the wood or plantation not be reached, and the cutting of it down is not a necessity in so far as the welfare of the trees is concerned, he can allow it to remain until some future time when the demand may be greater.

Within the park or policy grounds, or indeed wherever a plantation may be seen from the mansion, the wholesale removing of it or even thinning out by other than the estate workmen is for various reasons not to be recommended; but here again circumstances alter cases, and where money is the main object and the owner contented, such a course of procedure can be tolerated. By far too often is it the case, however, that when the trees in a wood or plantation are sold standing, the work of felling and dragging is carried out in the quickest and most expeditious way, and quite regardless of the value of the trees left standing, those that are being removed doing serious damage both when falling down and when being dragged by the horses to the clearing roads. It often is the case that by removing the top or perhaps a large side branch from a tree that is to be felled its neighbour escapes unharmed, but with the timber sold standing the work of felling is done by contract, and so the quickest method, irrespective of damage to the standard crop, which is quite out of the question, is that always pursued. It may be said, why not stipulate against the damage to the standing trees? but this works badly and is a cause of almost constant supervision, while the fact that now-a-days the seller is glad to get a customer makes him often pass over what should be severely censured.

In selling standing timber a great amount of care in valuing is necessary, and a great diversity of circumstances must necessarily be taken into account, and it very often happens with the best valuers that a considerable discrepancy is found to exist between their figures and the actual measurements of the trees after they have been felled and stripped. One may and often does value a tree at a high figure, be-

cause it has every appearance of being sound or without ring-shake, but when it has been cut down and its stem fully exposed it may probably not be worth one-fourth of the amount it was valued at when standing. Again, it frequently happens that an ill-formed, scrofulous-looking tree is placed at a discount for deficiencies, while when it comes to be cut down it may turn out perfectly sound.

Taking everything into account in disposing of standing timber, the purchaser will in making his offer leave a big margin for risk, and so the owner suffers without being able to have redress. No doubt the inducement to sell timber standing is great, especially as it is generally believed that by so doing all expenses in connection with felling and lotting are avoided, but this is a short-sighted way of looking at the matter, for these must be paid for out of the timber in one way or another, and there are few buyers who do not deduct from the amount of their offer the heaviest cost that may be expected in connection with cutting up and delivering.

In my opinion regarding selling standing timber *versus* what has been felled, in the former case the contents are estimated and much evil is frequently done in felling, while in the second the contents are recorded exactly and there need, with proper supervision, be but little injury done to the permanent crop either in felling or lotting. Of course the case would stand somewhat different where an isolated and out-of-the-way plantation was to be entirely cut down.

There is another evil that I had not before mentioned in connection with selling standing timber, and that is that only the well-to-do merchant or middleman who prefers buying in large lots comes forward, thus to an injurious degree preventing both the small tradesman and manufacturer from procuring what they require. Where annual sales of fallen timber, and lotted to the requirements of the various industries of the particular neighbourhood, are held, the local wheelwright, clogger, and many other of the smaller industries are supplied, and the prices obtained in such a way are far more satisfactory to everyone.

The way that I have found to work most satisfactorily in disposing of home-grown timber is to have an annual sale, at which all the timber felled during the year is offered in suitable lots, each kind and quality of timber being kept separately. Thus Oak of good quality and say over 18 inches in diameter is lotted together, Ash in the same way, and so on with Elm, Beech, Birch and whatever other kinds are to be disposed of, no small nor inferior logs being mixed up with the better class, and which, if done, would assuredly lower the value of the individual lots in the estimation of the buyers. Poles of varying lengths may be lotted together, so as their diameter does not materially differ, but even with these it is best to classify both length and bulk as nearly as possible. It will not be necessary to have all the timber from the various plantations lotted together, but let each wood have its own yield lotted without its boundary, or on the clearing roads, unless it may be that two plantations are nearly side by side, when for convenience sake the produce of the two may be lotted together. The public auction being advertised, it is a point of the greatest importance that local manufacturers be made aware of the sale by sending to each a copy of the sale with the lots numbered, the quality of wood clearly stated, the number of trees in each, and the wood in which they lie, all of which information must be considered as a necessity.

Where the distribution of this information is left solely in the auctioneer's hands, only a very limited number of merchants, and those the larger and better known, are made acquainted with the sale, small wood dealers and local manufacturers being left to find out the information as best they can. By arranging matters in this way each person has the chance of bidding for the particular lot or lots he may have chosen, and, moreover, it will be found by so doing that competition will be keener and the common method of two or three large timber dealers having it all their own way will to a great extent be avoided.

The conditions of such a sale—when payment is to be made, and the length of time that the timber may remain on the ground—are clearly stipulated in the auction bills, and need not be touched upon here. Local demand should not be neglected at any time, and single trees or loads of timber should be disposed of at any time as required by these small consumers, a plan I have found to work very well. The disposing by private treaty of large lots of timber either standing or felled has its advantages and disadvantages. It enables the wood to be sold quickly and without the expenses that usually attend an auction, but the prices offered are usually far below the value that has been placed upon the wood. With home-grown wood the best way of disposing is to sell to everyone that is in need throughout the year, and whatever is left should be lotted, catalogued and disposed of by public auction, and this, if possible, every twelve months. A. D. W.

**The English Elm.**—I read the interesting remarks of "A. D. W." on the Elm in THE GARDEN for July 16 (p. 62), and I can bear him out in what he says with regard to the varying price of the timber in different places, and that sometimes in a limited area. From what I can gather from the writer's observations, he attributes the difference in price chiefly to climatic conditions. This I agree may be so in part, but I believe the soil has something to do with it. Elm timber produced on rich alluvial land is only of second-rate quality for many purposes, or, in other words, trees that have developed to a large size in the shortest space of time are, commercially speaking, of less value than those which have taken half a century or more to reach the same proportions; the latter, to use a woodman's phrase, will be all heart, while the texture of the fast-grown specimen will be comparatively soft, and when seasoned the wood would be lighter. Of course, for ordinary purposes, one kind may be as valuable as the other, but for special work, as in the manufacture of agricultural implements, the slowly-grown timber is of special value. Knowing all the conditions under which the best Elm timber is produced, I am sure it is the composition of the soil and the relatively slow rate of growth that increase its value. At all events there is a great difference in the price obtained for timber grown on the hill-side and that produced on a lower level on the same estate.—J. C. CLARKE.

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No. 1061 SATURDAY, August 6, 1892. Vol. XLII

"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—Shakespeare.

## ORCHIDS.

## SOBRALIAS.

I AM in receipt of three consignments of Orchid blooms from widely different places, and each of them contains a flower of this genus. I am very pleased to see this, because it is a pretty sure sign of the return to popularity of these plants and a revival of their culture. In my younger days the one or two kinds which then existed in this country were largely grown, and they were much used for exhibition. As our knowledge of Orchids extended the cry that Sobralia flowers were so very short lived increased, until the plants were bit by bit discarded, and Sobralias were no more seen on our exhibition tables. Sobralias are all terrestrial plants, having slender reed-like stems, which carry a profusion of their strongly ribbed leaves of a rich deep green, and form elegant specimens even when not in bloom. When laden with their gorgeous flowers they are quite unsurpassed by any other plants. All are found in tropical America, and like a good heat to grow in. I have found the plants thrive best when subjected to the hottest temperature I could give them, which was the East Indian house. During the winter they may be rested in the much cooler Cattleya house and kept drier. At no season should they become dusty, as this will affect the leaves, causing many to drop, thus destroying much of the beauty of the plant. Sobralias grow very freely, and when they become unwieldy they may be taken out of their pots and divided. The pots should be well drained, and the soil should consist of fibrous peat and loam made sandy. The following are a few of the kinds best known in cultivation:—

**S. FRAGRANS.**—This is a pretty small-growing species bearing sweet-scented flowers, and which until quite recently was desirable on account of its being a white-flowered kind. It grows about a foot in height, the stems bearing one or two leaves, which are strongly nerved and deep green, the flowers, which are borne singly or in pairs, are each some 2 inches long, creamy-white, flushed with green; the lip, beautifully fringed in front, is stained in the middle with deep yellow. It is a native of Ocaña, in Colombia.

**S. LEUCOXANTHA.**—Flowers of this species come to hand from Newcastle. These are beautifully white, the lip being crisp at the edges where it is also white, the centre golden-yellow, and streaked with orange; this flower measures about 5 inches across the petals. The flower is somewhat thick and fleshy, but it does not last a long time. As, however, a succession of blooms is kept up, the plant remains in beauty for a long time. This rare and beautiful plant comes from Costa Rica.

**S. MACRANTHA SPLENDENS.**—The flower sent from Leeds of this variety was, I have no doubt, magnificent when dispatched, but it had come to grief ere it reached me. I am told that it measured nearly 8 inches across. There are several forms of this plant. One, a white-flowered form called *S. Keenastiana*, I was not fortunate enough to catch in bloom the other day when visiting the collection of Mr. Seeger in Dulwich. There are also some large pale forms, but the one sent is without doubt the finest form of what I have known as Woolley's variety. The plant grows about 18 inches high. It comes from Guatemala.

**S. XANTHOLEUCA.**—A plant of this species I was blooming finely at The Dell last season. It

grows about 3 feet or 4 feet high, and upon the top of its reed-like stems the enormous rich yellow flowers are produced; the lip also is prettily frilled at the edge, the throat being stained with a deeper yellow. We are in the dark as to what part of America it comes from.

**S. SANDERE.**—I am in receipt of a flower of this plant from Mr. Measures, of The Woodlands, Streatham. This was introduced by Messrs. Sander, of St. Albans, and it has much the appearance of the previously named kind. The sepals and petals, however, are very much paler, but the lip is marked in a similar manner.

I hope to see the fine plant of *S. Cattleya* which is in the collection of Messrs. Veitch and Sons soon flower. This is a very tall-growing species. **W. H. GOWER.**

**Vanda Roxburghi.**—N. McLean sends me a very pretty form of the true plant, which was called *V. tessellata* and *V. tesselloides* in the old days. It is a beautiful species, flowering in quite a small state, and producing upright spikes which bear from five to ten or more flowers. These have a ground colour of yellowish green, tessellated with soft brown, and in the flower before me the lip is soft blue. During the winter a temperature of 60° suits it well.—W.

**Lælia grandis tenebrosa** (*David Johnstone*).—This is an exceptionally fine coloured variety of the plant, but the sepals and petals are somewhat narrow. The lip, however, is good and very richly coloured. Yours is not the finest form, but it is certainly the richest in colour. I do not think the plant has yet settled down to its proper season of blooming; in fact it has not yet become established. Its native home is somewhere in the neighbourhood of Bahia, and that is a tolerably warm part of Brazil, so I do not think you will gain anything by keeping it in a lower temperature than that of the Cattleya house.—G.

**Cattleya Schofieldiana.**—C. Fischer sends a lot of Orchid flowers, saying, "I send these, and shall be glad of your opinion of them in THE GARDEN." This amongst them is very fine both in size and colour. It measures some 6 inches across; the petals are broader and more spatulate than the sepals, all with a tawny-yellow ground, slightly tinged with green, spotted and streaked in a profuse manner with purplish crimson; the lip is very long and clawed, the front lobe rich deep magenta-purple, the claw covered with granulations of the same colour; the lateral lobes cut down quite to the claw, creamy white, forming a hood over the column. It is a superb flower. One form of *Cattleya Gaskelliana* is of a decidedly bad shape, and the other, although of a better shape, is sadly deficient in colour. *Cattleya bicolor*, however, is very beautiful. There always is, however, a slight drawback to this species, owing to the column being quite exposed through wanting side lobes to the lip. The sepals and petals in the flower before me are of a rich bronzy olive-brown with a few purple spots, the lip rich crimson shaded with purple, having a distinct marginal band of pure white. This variety is exceptionally good. It is a plant that should be taken care of. I do not advise keeping this plant too warm in winter. A temperature of 48° or 50° is ample, but it likes heat in the summer when growing.—**W. H. G.**

**Lælia Wolstenholmiæ** (*G. R.*).—This is the name of the flower you send. You say by its growth you thought it to be *Lælia elegans*. It is a very beautiful form of the plant which was named in honour of the sister of the late Mr. John Day, of Tottenham. I cannot associate it with *L. elegans*, which has a lip in which the middle lobe is squarely cut off from the side lobes. In this plant the side lobes are continuous with the front lobe, the colour being in the flower before me soft rosy purple with darker veins and a deep purple blotch near the throat. The sepals and petals are white, beautifully feathered at the margin with rosy purple. It is a rare and elegant flower, and you

will find it requires careful nursing. This variety should be kept warm, and at no season must it be allowed to suffer from want of water, although at all times it must be given with care.—**W. H. G.**

## CÆLOGYNE CRISTATA.

THERE are frequent references to this plant in THE GARDEN, and my principal excuse for referring to it on this occasion is to draw the attention of growers to the unusual habit a part of our stock has in flowering twice or more in one year. Last year this habit was noticed not for the first time, but there were rather more racemes than in former years, and an impression ran in my mind at the time that the pseudo-bulbs which did not flower early in the new year did so later on, viz., during July and August. But from close observation this season I find that many pseudo-bulbs which flowered last February are again flowering. I enclose a few racemes of flower. The plant in question is a very large one and was bought about five years ago, it then being in a very weakly state, the tub in which it was then and still is growing in being crowded with old pseudo-bulbs. Immediately on receiving it I turned it out of the tub and put the drainage to rights, raising it much higher in the middle of the tub. Some of the pseudo-bulbs were then thinned out and other pots made up with them, but no wholesale removal of the old pseudo-bulbs was carried out at first. After thus dealing with it the plant made more satisfactory growth, but did not flower the following season. This I did not like to see, and as good growth was made the following summer, I determined to see what the partial withholding of water and the placing in an airy vinery where Grapes were hanging would do to induce the specimen to flower more freely, and am pleased to say it had the desired effect; and before the cold weather of November set in the plant was again removed to the stove, and early the following year I was rewarded with a good number of flower-spikes and a few the following summer. I have of late years removed all the old pseudo-bulbs that are two years old, and any hollows between those retained have been filled up with rough pieces of peat, into which the new growths root freely, and for two years past I have followed the more general or usual treatment, that is, keeping the plant well supplied with water at all seasons, and during the growing season supplies of liquid manure are afforded once a week. The result of this generous treatment is that the pseudo-bulbs are unusually large, and last February this specimen rewarded me with a splendid lot of bloom, there being from 75 to 100 racemes, each carrying seven fully developed flowers. Some of the racemes measured 18 inches from the heel of the raceme to the last bloom. The plant stood in the house for six weeks raised upon a 12-inch pot to keep the flowers off the bottom of the stand. I only mention this to show that the plant bloomed most profusely last February, and there can be little doubt that almost every young pseudo-bulb flowered. It can still be distinctly seen where the racemes were cut, and some are pushing new growths from just below where they were severed, while others are forming racemes of flowers, and in other cases the young growths are pushing spikes from the centres of ordinary growths, which until the racemes appear are taken to be thriving young pseudo-bulbs that should send up their racemes from the heel of the pseudo-bulbs during the autumn and winter, so as to come in during the following January and February next year. The young stock taken from the old plant shows the same habit of summer flowering. There are now nearly two dozen racemes of flower showing on this plant at the present time.

Clarendon Park, Salisbury.

C. WARDEN.

**Oncidium Croesus.**—G. Homers sends a very fine flower of this plant, which was figured in THE GARDEN, Vol. XXXV., p. 706. It differs from *O. longipes* in being of a blackish purple at the base and in the lip being bright golden yellow. It al-



ways has been an exceedingly rare plant in cultivation, and I believe it is so naturally. It thrives best in a shallow pan with but very little soil about its roots, and likes abundance of sun, air and light, with a fair share of water during the growing season. It will grow in the cool house in the summer months, but during the winter the Cattleya house is the most suitable for it.—W.

**Lælia monophylla.**—Two or three baskets of this charming little Orchid are flowering now in the Kew collection, one plant bearing about half a dozen fully expanded flowers being especially pretty. The flowers are of a bright orange-scarlet, and from 1½ inches to 2 inches in diameter, the scapes each bearing a single flower. The plant itself is of small and slender dimensions, the stem being 3 inches to 6 inches high, not thicker than a straw, and producing (as the specific name implies) a solitary leaf, which is about 3 inches long, narrow and pointed. The species was originally described by Grisebach as a *Trigonidium*, and it was not until 1881, when Mr. Morris found it in Jamaica, and sent living plants to Kew, that it was seen in cultivation and its true position in the order determined. It is found in an apparently restricted area in the St. Andrew's Mountains, of Jamaica, at about 4500 feet elevation.

#### ANGULOAS.

EVEN if they flowered at any other time of the year, the Anguloas would, by reason of their handsome growth and large flowers, be considered valuable Orchids; but as they bloom when most other Orchids are making their growth, they are all the more valuable. Of the Orchids flowering now, there are few more showy and none more interesting. Their easy cultivation, too, is a great recommendation, and makes them specially suited to those establishments where no special convenience exists for the cultivation of Orchids. For the amateur there is no genus perhaps more suitable.

The species best known in gardens is *A. Clowesi*, which is also the strongest growing. Pseudo-bulbs 8 inches in height by 3 inches in diameter are not unfrequently seen, and as each carries three or four broad leaves measuring 2 feet long and stout in texture, a well-grown plant is in itself an ornament. The flowers, however, are proportionately large and conspicuous, being in the form of a Tulip, and of a beautiful bright golden-yellow and strongly fragrant. As a rule a single flower is borne on a strong, erect spike about 1 foot high, but double-flowered scapes are occasionally seen on strong plants. The scapes are clustered round the base of the current year's growth, from three to six occurring to each one. There are from four to six species in cultivation and a few hybrids, all of them bearing a close resemblance to each other in style of growth and flower structure. In colour, however, they are mostly quite distinct. Next to *A. Clowesi* in popularity comes *A. Ruckeri*, whose flowers are of a tawny yellow, profusely blotched with dull crimson. In the variety *sanguinea* (at present by no means common) the flowers are of a deep blood-red colour. *A. uniflora*, a very handsome and desirable species, has white flowers; *A. virginalis*, which is rarer, has them also white, but spotted with dark brown. *A. dubia* was thought by Reichenbach to be a natural hybrid between *A. Clowesi* and *A. uniflora*. It was introduced by Messrs. Williams, of Holloway. The sepals and petals are yellow and the lip is white, but all are more or less spotted on the inside with purple.

The most satisfactory results with Anguloas are obtained by growing them in pots, or, in the case of large plants, in broad pans, using as a compost two parts of fibrous peat to one of loam fibre, with which may be mixed dried cow manure, chopped Sphagnum, and a little coarse silver sand. Being free-rooting plants they like abundance of water during active growth, and an occasional supply of weak manure water will be found beneficial. After the pseudo-bulbs have attained their full size the plants should be rested by withholding moisture to a great extent, but not, of course, allowing

them to shrink from dryness. When new growth appears the plants should be overhauled, and, if necessary, repotted, being careful in any case to remove all sour or exhausted soil, replacing with new, at the same time seeing that the drainage is perfect. A greenhouse temperature will suffice to grow them in, but they are all the better if, in the early part of the season's growth, they are encouraged by the extra warmth of an intermediate house.

Most of the species are natives of Colombia, but the genus is also represented in Peru, all being found at considerable altitudes on the Andes. *A. Clowesi* was introduced in 1842, and *A. Ruckeri* three years after. W. J. B.

#### NOTES OF THE WEEK.

**Campanula pelviformis.**—"Delta" did not see this here. He may perhaps have noticed the hybrid *C. G. F. Wilson*, or one of the pale forms of *C. carpatica* or *turbinata*. I lost my plant of *C. pelviformis* two or three years ago; it came to me from Mr. Wolley Dod, grew about as high as *C. carpatica*, and had flowers like a flat saucer.—J. C. L.

**Nectarine Early Rivers.**—I have sent you some of the Early Rivers' Nectarine grown in an Orchard house, unheated, and a fruit of the Lord Napier growing alongside. There is some difference in the time of ripening.—T. FRANCIS RIVERS.

**Strawberry Oxonian.**—I send to-day Oxonian, which is our latest variety of Strawberry, and my belief the best before the public. It is a trifle acid, but agreeable and refreshing.—R. GILBERT.

\*\* We go some way with Mr. Gilbert's opinion, but so far as we can judge the acid is too much, and the fruit not nearly so good as the Waterloo and Latest of All he sent us last week.—ED.

**Ramondia pyrenaica.**—I think "Delta" is wrong in thinking that plants of this wear out in time; what does wear out is the soil in which they grow, but if they are carefully transplanted into new soil at seasonable times, my experience is that they will last for an indefinite number of years. I still have in good health here my first plant which was sent me more than ten years ago from Mr. Hammond's well-known garden at St. Albans, near Canterbury.—J. C. L.

**Tropæolum polyphyllum.**—I have never found that this plant requires any sort of protection during winter either from wet or cold, though no doubt it likes the dryness of a rockery with plenty of stones. Possibly, though I am not aware of it, it may be troublesome to establish; here it is a weed, but I have never yet succeeded in giving it away, for it is as hard to tell where the long stringy roots come from as to guess where they are going to. In fact, one cannot find the tubers without pulling the rockery to pieces.—J. C. L.

**Artificial bogs.**—I see that your correspondent "Delta," in some notes on my garden in last week's issue (p. 92), alludes to an experiment I have been making in the way of an artificial bog. It may, perhaps, be as well, therefore, to state for the benefit of any of your readers who, dwelling in arid wastes, may be hankering after similar dodges that my own attempt has so far proved an absolute failure. Whether I can ultimately make it work by some further modification of the soil or drainage remains to be proved, but at present if *Pinguiculas*, *Sarracenias*, and choice late summer *Gentians* are to be grown in this garden, it is at any rate impossible in this way. The only thing that appears to be capable of standing the absolute stagnation is the Grass of Parnassus (*P. palustris*).—J. C. L.

**Meconopsis Wallichii at York.**—Amongst other interesting subjects now to be seen in flower on the rock garden at York is this singular and majestic Poppy. If we compare it with the alpine Poppy it is a veritable giant. The stem is fully 5 feet high, perfectly erect, and has considerably more than fifty blossoms and buds. The flowers are about 2½ inches across, broadly saucer

shaped, pendent, and of a lovely shade of blue. The blossoms always commence to open first at the summit of the stem, then gradually from day to day expand until the lowest and last bud is reached. It is unfortunate and disappointing, too, that after all this beauty and interest the plant should die entirely away when the flowering is over. It is, therefore, all the more needful that the seed should be carefully watched, collected and sown. Peat and loam suit it well with a little shade in a moist position.—R. P.

**Clethra arborea.**—At the Royal Horticultural Society's meeting on July 26, Mr. Wythes sent from Syon House some cut branches of this beautiful, old-fashioned greenhouse plant, whose wealth of blossom showed how valuable the species is when it obtains the treatment it requires. It is a native of the island of Madeira, where it grows to such a size that its wood is said to be used as timber. One drawback in its cultivation in our greenhouses is that it is only to be seen at its best when it has attained a large size. In a small state it does not, as a rule, flower freely, although I have seen standards 5 feet to 6 feet high do so. A great deal depends, however, on the amount of sunshine the plants obtain. After a hot summer I have seen a plant only 3 feet high flower at every shoot. It should, if possible, be stood out of doors after flowering. The flowers are white and campanulate, being produced in panicles about 8 inches long at the ends of the shoots. Their colour and shape have led to the species being called the Lily of the Valley Tree.—B.

**Carnations in the Regent's Park.**—We were pleased to see a rich border of Carnations in the Regent's Park the other day, and the effect of the mixed colours and charming foliage was delightful among the other flowers of the park, which, as usual, is very well done and interesting. Nesfield's little narrow borders in front of the Privet hedge, &c., do not give the flower gardener a fair chance and might well be omitted altogether. Where the gardener has a fair chance he certainly makes the most of it here, although I think his hardy effects in spring are prettier and more effective than any he gets at this time of the year, because we have not yet got into the way of putting summer plants in any but stiff ways. There is no particular reason why they should always be in rings and lines, only to do this we should require a bold and clever departure. The mixed border west of the gardens is not so good, because it is rather too mixed and indefinite, and the grouping not solid enough and the quality of the things not always of the first order.

**Platyclinis filiformis.**—Although the *Platyclinis* are, so far as colour goes, amongst the less showy of Orchids, the deficiency in this respect is more than compensated for by the extreme elegance with which the racemes are displayed. A well-grown and finely-flowered plant sent from Mr. F. Wigan's collection at East Sheen was exhibited at the Drill Hall, Westminster, on July 26. It carried between fifty and sixty spikes of bloom, and showed to perfection the beauty of this Orchid when at its best. The racemes are about 8 inches in length and hang down perfectly straight, being borne on long slender scapes. The flowers are closely packed and are of a pleasing shade of greenish yellow. The general aspect of the *Platyclinis* when in bloom is quite different from what is common to most of our cultivated Orchids, and this, combined with their grace and beauty, should make one or two species at any rate a part of every collection. *P. Cobbiana*, with pale sulphur and orange-coloured flowers; *P. glumacea*, with pale green flowers; and *P. uncatia*, in which they are also pale green, are, with the species under notice, the ones best worth cultivating of the half-score or so which constitute the genus. All of them are of easy culture and may be grown in the intermediate house.

**Growing Sweet Peas.**—Mr. Schofield, who sent us the large, beautiful—and in colour wonderfully varied—Sweet Peas, sends us an interesting note about his way of growing them. He says:



"I always sow my Sweet Peas as nearly as possible the last week in February, the state of the ground making the difference. Some advocate autumn sowing, but that would not answer here, as the slugs would clear off every plant. I am very particular about the soil, and always have a trench dug out about a foot deep, into which I put about 4 inches to 6 inches in depth of rotten manure; then 2 inches or 3 inches of ordinary soil, on which I sow the Peas, then cover over with sifted soil, which leaves the row of Peas on a lower level than the surrounding ground, and is of great assistance in retaining the water in dry weather, though even then the Peas require little attention, as the roots are in the manure and keep moister there. When living in Clapham ten years ago I grew equally good ones. The very newest varieties I get from Mr. Henry Eckford, of Wem, Salop, the great raiser. I affixed the names to all those I sent to THE GARDEN last week, and marked Eckford on those I got from him. As I never allow mine to seed I have abundance of flowers until October; the day I sent yours it took seven hours to clear the rows, and they had been cleared two days previously. We send away sometimes four small hampers a day, besides having them all over the house and giving to anyone who calls, and they grow to a height of 10 feet."

**Iris Kämpferi.**—In your issue of July 23 your correspondent, Mr. R. A. Jenkins, of Highgate, recommends growing the *Iris Kämpferi* on a sunny south border, and keeping them warm and dry in winter. My first experience with these flowers grown on the above principle was unsatisfactory, and somewhere or other (perhaps in your paper) I saw that the Japanese grew them as sub aquatics, so I moved them last spring twelvemonth into the slushy margin of a shallow, muddy horsepond, with their roots in the water. They prospered wonderfully and some of them flowered. They spent the winter waterbound and at times ice-bound, and I felt nervous about them, but they all started in the spring, and I have now sheaves of them bearing noble flowers, some of them 9 inches or 10 inches across, and far surpassing in size and beauty anything I have seen even in print, which is saying a great deal, and is a hazardous statement, but nevertheless a true one. This *Iris* evidently likes to grow like our common yellow one and the Bulrush, and I should think that, provided it ripens its seed well, it might become just as common in our ponds or streams. They are very beautiful and increase wonderfully fast when their roots are under water, in full enjoyment of muddy liberty and independent of *Aquarius* above or the gentleman below with, or without, his watering-pot.—J. WHITWORTH SHAW.

**Cynoches chlorochilon.**—Judging by the greater frequency with which this *Orchid* has latterly been exhibited, it appears probable that it is increasing in popularity. We have noticed it at several of the Drill Hall meetings of the Royal Horticultural Society, and at the one held on July 26 a finely developed specimen was shown. The flowers, which were evidently female, differed from those generally seen (*i.e.*, the males) in the column being short and comparatively little curved. In diameter the flowers are about 6 inches, the sepals and petals being broad, and of a deep yellow tinged with green. The lip is yellowish white, smooth and shining like ivory, with a round patch of bronzy green on the centre. The column on the plant shown was about an inch in length, and, therefore, scarcely half as long as in the male form. This species is one of the easiest to cultivate in the group of *Orchids* to which *Cynoches*, *Mormodes*, and *Catasetum* belong. It may be grown either in pots or baskets, using a light compost of peat fibre and *Sphagnum*. From the time the plants commence growth up to the flowering season a light position in the stove should be afforded them, and as they root abundantly, copious waterings are needed when once they get well away. Immediately after repotting, however, there is considerable danger of giving them too much. After the leaves have fallen, a light and

airy position in the intermediate house is the best to secure the perfect ripening of the pseudo-bulbs, without which they neither keep in good health nor flower so well.

**Fuchsia procumbens** (*T. Maxwell*).—This is the name of your specimen. It was first found in New Zealand nearly sixty years ago. The plant grows very freely, and may be used with great effect as a trailing plant upon indoor rock-work or as a basket plant, in which position the flowers are erect, never pendulous; they are small, but very striking in colour, having a deep yellow tube, dark purple lobes, and light blue stamens. The fruit is also very ornamental.

## FLOWER GARDEN.

### THE PINK—BLACK AND WHITE.

YOUR correspondent of July 23 asks, "What has become of the black and white Pink?" and it may be a gentle surprise to learn that it is "the florist"—the very man unhappily charged with "spoiling the flower"—who alone has produced and preserved, and perhaps alone possesses now, the type of Pink Miss Jekyll inquires about.

In the shows of our florist societies the laced Pink has not utterly supplanted the black and white. The schedule of the National Pink Society contains a class in which the black and white is required as much as the dark and light laced pink; and another class is devoted to "collections of miscellaneous Pinks," laced, black and white, selfs, border and all other Pinks.

I fail to see why florists should be found fault with for attending strictly to the chief object in their special work, which is the interesting pursuit of leading a chosen flower, highly gifted with variability, into the richest developments possible to it. In their special flowers they look more to the charms of quality than to the attractions of mere quantity.

To the florist, his garden is for his flowers rather than his flowers for his garden. In the former case, a man's plants are his familiar friends and pets; in the latter, a mere part of his equipage and circumstance, and if they could be "put in" as prettily and effectively in some cheap imitation of form and colouring, they would satisfy him perhaps even better than the living plants. He only wants "mass," and different colours for more or less distant effect—plump force, if I may thus roughly express it.

For my own part, I do not see that we are at all bound to produce and exhibit, in our classical florist shows, common types and mere border flowers. But let that pass. The man of quantity and decorative purpose is kindly indulged at the shows of the National Auricular, the National Pink, and the National Carnation and Picotee Societies, whereat there are classes extra for fancies, species, or miscellaneous groups. This is a liberal concession when it is remembered that for the florist it is a false direction to neglect some "point" for the sake of "ascertaining what are the qualities most to be desired in a garden plant." My garden is the servant of the plant, not the plant the servant of the garden.

To hear from your correspondent that the lacing of the Pink is a "point in a false direction" is a shocking piece of news, and that the laced Pink is "practically useless anywhere but on a show table" is further intelligence of the same horrible character. I have always grown the laced Pink in beds

with anything but failure or ineffective results. I do not deny that at 50 or 100 yards distance a bed of Pinks, in masses of self colours, would be more effective. The laced Pink would be out of focus at such distances, and I want to look at my flowers rather nearer than that; I must study them petal by petal, as gems rather than as scene painting. Laced Pinks are usually grown in beds only; if for exhibition the flowers are generally from young plants that were pipings of the previous summer, producing one leading flower-stem. For heavier display two-year-old plants with five or six stems will be more effective.

There is no difficulty in propagating laced Pinks if it is done in good time, otherwise failure is not the fault of the laced Pink. When the plants flower in July, take the side shoots off with three clearly visible joints on each, counting from the top of the young shoot. This secures the part that will most readily root. Cut the shoot squarely off close below the third joint, and remove the lowest two pairs of leaves. If these are left on they may decay and affect the wounded stem. The tips of the leaves may, or may not, be slightly cut over. I leave them alone for the sake of the stimulus they afford to root action. They will strike in any soil the plants grow in; wet it thoroughly before, and not after, the pipings are inserted. They will root in the open ground if protected for a while with hand-lights, to keep them from bright sun and drying wind, till by their growth they show that they are rooted. When they have evidently struck, they should be removed and planted, say 6 inches apart, if the bed is not ready for them. But laced Pinks ought to be bedded out in their blooming quarters by early October. This is the golden rule for obtaining perfect lacing. If disturbed in spring, many laced Pinks, particularly in the lighter colours, are very apt to miss their lacing, and then I do not wonder that Miss Jekyll should esteem them but lightly.

In all but the very commonest of Pinks, plants beyond two years of age are liable to get straggling or leggy, and I will not suppose that Miss Jekyll will only accept such Pinks as will require literally no attention at all. I do not know such Pinks. The reason why "we never see these laced Pinks in the gardens of amateurs" is simply because amateurs do not know these laced Pinks. We ought not to need much racking of our brains as to why the amateur makes no demand for them when he has neither seen nor heard of them. It is only human nature.

The black and white Pink is a beautiful flower, although it lacks that superb quality of enrichment—the lacing. Its central blotch is known to florists as "the moon" of the flower, and if Miss Jekyll wishes to discard the lacing, and yet cry for the "moon," I could tell her of one way in which she might succeed with even laced Pinks. But it is a lazy man's method, and I would not recommend it. Merely keep the young Pinks (the lighter ones preferably) unsettled till about April, when they may be roughly disturbed. Never mind about breaking a few roots. A good, bitter, dry east wind is admirable for this over-late operation. Only a few inner petals of the flowers probably will show any of the disagreeable lacing—mere clouds around the "moon." It will be all the result of weakness and wrong treatment, and I only state the fact for what it is worth: nothing to the true lover of the laced Pink. The hon. treasurer and secretary of the National Pink Society, my friend Mr. James W. Bentley, Stakehill, Castleton, Manchester, would, I am sure, afford Miss Jekyll any information she



might wish for, and tell her also where to find the black and white Pink. F. D. HORNER.

*Longfields, Burton-in-Lonsdale.*

**A pure white Snapdragon.**—THE GARDEN has often urged the production of decisive colours in the Antirrhinum. There is grown in great quantity at Swanmore a pure white variety that deserves a place in every flower garden. It is known as Swanmore White because raised in the place, and being increased in quantity from cuttings may be found by hundreds most effectively employed. I had not thought that a Snapdragon could produce such beautiful effects until I saw this one. Blooming profusely from May till July, the seed spikes are then cut off and new flowers come from side shoots, lasting all the rest of the season. About half a dozen very clear self colours, including a yellow, would be ample for Snapdragons, and give variety enough for any flower garden.—A. D.

**Hardy plants at Swanmore.**—Although there is no lack of good hardy flowering and foliage plants about the gardens here, yet the great feature in this section is found in a most attractive border some 7 feet wide, which runs along the south and east walls of the kitchen garden and on the outside. Considering that these walls are well furnished with stone and other fruits, all in fine condition and carrying good crops, it does seem very like a violation of the received canons of culture to have upon such a border such gross feeders as hardy plants. One thing, however, we know is that the fruits and the hardy plants need very diverse food, but all alike need ample moisture. However, a space some 4 feet in width separates the wall trees from the hardy plants, and this is carefully preserved for the roots of the trees. The border is also cleared of its contents, trenched, and manured about every three years, and many of the strong growing plants need dividing badly enough by that time. Some things, notably very large clumps about a yard over of *Montbretia Pottsi*, are replaced whole, and superbly do they repay that consideration. *M. crocosmiflora* also does well. Various coloured herbaceous *Phloxes*, *Bocconia cordata*, very large clumps *Delphiniums*, *Anemone japonica*, *Gypsophila paniculata*, perennial *Sunflowers*, *Lychnis chalcidonica*, *Echinops ruthenicus*, *Franseria appendiculata*, &c., are amongst the tallest, whilst of dwarf and specially attractive are the single yellow *Bupththalmum salicifolium*, the bright mauve *Stenactis speciosa*, *Geranium arvense*, *Lychnis Flos-Jovis*, *Achillea taurica* fl.-pl., *Actaea spicata*, *Potentillas*, &c. These and myriads of other things impossible to mention make up a collection as varied as beautiful. Whilst various forms of flower gardening find a place here, there is no lack of consideration shown for that beautiful section of plants commonly termed hardy.—A. D.

**Freessias.**—Almost everyone is fond of sweet-scented flowers, and among these few are more choice and desirable than the Freessias. Immense numbers of the tubers are annually imported, and may now be had in a dormant state from any nurseryman. The way to treat them is to prepare some light rich sandy soil, such as leaf mould and loam or peat, the latter in about equal proportions. Nearly fill the pots with the mixture, and then place the Freesia tubers regularly over, equidistant apart, after which soil should be laid over them and pressed down so as to bury them an inch or so deep, then give a gentle watering and stand the pots in any pit or frame or under hand-lights, and cover up with a mat or keep close and dark till they start. As soon as they show, light must be admitted and air given that the growth may be sturdy and strong; but very little water will be needed till the leafage becomes somewhat advanced, as very few roots will have formed. As soon, however, as these are active, the soil must be kept moist, and frequent sprinklings overhead will be found beneficial to the plants, which towards the dead of winter or early spring will send up their flowers. These appear on small branching stems, from

the top of which they emanate in a spikelet form, the blossoms being about an inch and a half long and tubular, with widely-distended mouth, and the fragrance exquisite. The choicest varieties are *F. refracta alba*, a pure white, and *F. refracta Leichtlini*, of a yellowish hue in the throat. The treatment requisite after the flowering period is over is to give sufficient water to maintain the leaves fresh for as long a time as possible, and let them ripen and die away naturally instead of hurrying them on to maturity. After the tops are gone the pots should be stored away till about midsummer, and the tubers then shaken out from the soil to be repotted afresh, the management after to be the same as before.—S. D.

**Anomatheca cruenta.**—This is a wonderfully pretty little bright-coloured bulbous plant, that will flower beautifully in a sunny border, or it may be grown in pots and pans for the decoration of the greenhouse at this season. The bulbs, which are oblong in shape, are no larger than a small Pea, while the entire plant, foliage, flower-spike, and all, is only about 6 inches high. The bright carmine-crimson coloured blossoms that just over-top the foliage are very pretty, and, what is more, they are borne throughout the greater part of the summer. This little plant is a native of South Africa, but has been known in this country for more than sixty years. A notable feature in connection with it is that, unlike most bulbous plants, if seeds are sown early in the spring and grown on in a gentle heat, the plants obtained in this way will flower the first season. After blooming they must be allowed to go gradually to rest, and be kept dry during the winter. In turning them out of the soil care must be taken not to overlook the tiny bulbs, as this is easily done. A good compost for the plant in question is loam lightened by an admixture of leaf mould and sand, this last being especially necessary. Whether to be grown in pots or pans, the bulbs should be placed about an inch apart and half an inch below the surface of the soil.—H. P.

#### GARDEN MARIGOLDS.

I HAVE just gathered a handful of semi-double forms of the common garden Marigold (*Calendula officinalis*) and am much struck with their beauty. Presumably a native of the borders of the Mediterranean, the common or pot Marigold is a favourite domestic plant, both as a herb in cooking and for forming a distilled water or vinegar. The name *Calendula* is evidently founded upon the circumstance that the plant may be in flower upon the calends of every month. The improved double forms of the common Marigold are well known. Prince of Orange, Meteor, Souvenir de Trianon, and others are well known. The flowers are large, full and very handsome, but almost too massive for decoration when in a cut state. In the border they are very imposing, but if allowed to seed too freely, soon exhaust themselves. The semi-double varieties have two and three rows of petals, not more; they are of medium size, elegant and lasting. The fact that it is a common flower growing freely in most gardens leads some to regard it as almost unworthy of notice, which is, I think, a great mistake. From my patch of semi-double types, which represent the progeny of selected seedlings, I could, I think, cut a dozen or more of distinct varieties. Some are almost white, others pale sulphur, and they go on deepening in tint until deep glowing orange is reached. Some have a dark disc in the centre, which affords an admirable contrast, most of them a yellow disc. The palest flowers are deeper in tint in the centre. Sulphur has a pale gold disc, and as the tint of the petals deepens, so does that of the disc. Many of the pale yellow and pale golden varieties are distinctly tipped with orange; some have it upon the sides of the petals as well. A bunch of them mingled with a little appropriate foliage and placed in a vase makes a very pretty table ornament. I am certain that anyone interested in this flower could do wonders in the way of improving it. The proof of what I believe to be its hidden diversities capable of being brought out is seen in the fact that one

single head of seeds which follows the flower will produce much variety.

A promising variety, one worthy of being made a seed parent, should be isolated as far as possible, and be permitted to mature only two or three seed-pods. The seeds should be sown in early spring and the plants put out into a prepared bed. Only the most desirable should be allowed to remain, and these be again seeded, and so the work of selection proceeded with.

Common as the garden Marigold is with us, it had a remarkable value in mediæval times, when, with others, it was dedicated by monks and nuns to the Virgin, and had the prefix Mary appended to its name. Called gold simply in the old English "Herbal," one can quite understand the change of name and dedication to the Virgin. R. D.

**Picrorrhiza Kurrooa.**—Mr. Wood asks if anyone has flowered this. I got it from him either at the beginning of last year or in the previous autumn, and it flowered in the summer. The flowers are insignificant, pale white, clustered at the top of the shoots. It is planted at the foot of a rockery in rich moist soil facing south, but shaded well from the sun. This year, so far as all events, it has failed to flower.—F. M. BURTON, *Highfield, Gainsborough.*

**Stopping Sweet Peas.**—In our kitchen garden we have a centre walk. Wishing to shut off the vegetable quarters, we sow a row of Sweet Peas every year 7 feet from the walk. The border we use for growing material for filling the flower basket. Wishing to keep these Peas as long in bloom as possible, I stop a portion of the plants all along the rows just as they are coming into bloom. By so doing, the blooming period is much prolonged and flowering continues till frost destroys them.—J. C. F.

**Marigolds.**—It was somewhat of a surprise to find so early in the season as Bank holiday last a very fine lot of blooms of both African and striped French Marigolds at the Earl's Court show. These came from those excellent growers, Messrs. Dobbie and Co., of Rothesay, although I rather expect the flowers were from their southern seed-grounds at Beaulieu, in the New Forest. Assuming such to be the case, undoubtedly a warm tribute must be paid to the excellence of quality found in the striped flowers, because it is a fact that their markings are always clearer and more defined in the cool north than in the warm south, so that a strain that shows such good forms in South Hants now must be very constant. In respect of African, Messrs. Dobbie are aiming by their process of selection to obtain really fine rounded form as well as size and doubleness. Naturally, if a flower shows a tendency to certain rotund form and fullness, that element in its character should be developed, and that is what Messrs. Dobbie have done with their flowers. I never yet could understand why the flowers of the orange variety should be larger than those of the lemon variety, but such is the case. On the other hand, I found at Bedford that intermediate-hued flowers came very near to the orange in size, and encouraged their development. The Messrs. Dobbie and Sons, however, have strong notions as to purity in colour, and rigidly pull or rogue all flowers that are not good orange or pure lemon. They have about an acre of each of these forms growing at Beaulieu, and must present a grand body of colour later on. The best of strains will give some single flowers, but then good strains never give bad flowers in doubles, whilst those who only grow imported strains rarely get a well-formed double flower. These giant Marigolds specially merit wide culture, not only as exhibition flowers, but also because of their exceeding effectiveness in the garden during the autumn.—A. D.

**Spiræa japonica growing on Grass.**—I never remember to have seen this growing in the Grass till recently, when I was calling at Sir H. Peck's fine place at Rousden, in Devonshire. Here it was making a good display planted on the outside of some shrub borders. It was planted irregularly between low-growing shrubs, and at the



time of my visit (July 13) it was a mass of bloom. This would be a good way of disposing of old forced clumps.—J. C. F.

### THE HOUTTYNIAS.

A SMALL genus containing only three species of very remarkable plants. They are nearly allied to *Saururus Loureiri* and *S. cernua*, and are the only hardy representatives of the natural order *Piperaceæ*. They are beautiful and graceful as well as curious plants, and are well suited for the bog garden, where in a rich peaty soil they present quite a tropical appearance. They are all perfectly hardy in the south

It flowers June to August. The accompanying figure gives a good illustration of a robust specimen.

*H. CORDATA*, figured in the *Botanical Magazine*, 54, tab. 2731, is a perennial, with a stout creeping root throwing out a few fibres. It is quite distinct in habit from the above, the stems growing 1 foot to 2 feet high, erect, and rarely branched, the leaves alternate, cordate at base, pointed, with entire margins. The spathe or bracts resembles a corolla, and consists of four large pure white spreading leaves from the base of the spadix or cone of flowers. Thunberg first found this curious plant in Japan, where it appears to be known as *Doku Dami*, or *Sjunjak*, growing in great abundance in ditches by the wayside. It is also found in Nepal and Cochin China, where *Loureiro* found

as this has done a good deal to popularise the finest Lilies, and grand examples of a few species may also at times be met with in cottage gardens, where they have been allowed to remain undisturbed for years. Though many kinds are somewhat costly, it is by no means necessary to plant such as these in order to have a good display, for several of the very best are also among the very cheapest. The Lily season even out of doors extends over a lengthened period, from *L. pyrenaicum* and *L. umbellatum* (which usually commence to bloom during the month of May) to the latest flowers of *L. speciosum* and the secondary blooms of some varieties of *L. longiflorum*, both of which are so late as to be often cut by early frosts. Though a few excessively hot days quickly caused some of the blooms to fade, the present season has up to now been a very favourable one for Lily blooms, for there have been at all events in most places very few of those heavy rains which in conjunction with the hot sunshine soon disfigure the flowers. Of the upright or cup-shaped Lilies the major portion is included in two groups, viz., *L. umbellatum*, or *davuricum*, as it is often called in its various forms, and *L. elegans* or *Thunbergianum*, of which there are many varieties. While there is no very wide range of colour in the case of *L. umbellatum*, on the other hand, *L. elegans* varies considerably, not only in the blooms, but also in height, as well as in the time of flowering. Our supplies of *L. umbellatum* are usually drawn from Holland, and so are some of the varieties of *L. elegans*, while in addition several forms of this last are sent here from Japan during the winter months. Among these are generally to be found some very superior varieties, usually, however, in a more or less mixed state. Ten years ago a very fine variety made its appearance, and was at that time awarded a certificate by the Royal Horticultural Society under the name of *L. elegans robustum*, which well expresses one of its prominent features, as it is larger and bolder than any of the others. At the same time the large rich orange-coloured flowers are so copiously spotted with brown, that the name of *guttatum*, which was at that period given it by some cultivators, must also be regarded as a very expressive one. Since its advent but few examples have made their appearance, at least as far as I am aware, till the present season, when numerous instances have come under my observation. The deeply coloured forms of *L. elegans*, such as *Van Houttei* (of which a coloured plate was given in *THE GARDEN*, Nov. 8, 1890), are also very showy, and to these may be added *fulgens*, deep red; *pictum*, yellow, splashed more or less with crimson; *biligulatum* or *lateritium*, reddish-brown, that lasts in perfection a shorter time than any of the others; and two tiny forms, *alutaceum* and *Prince of Orange*, which grow but a few inches high. Some pans of these two were shown by Mr. Ware at the International Horticultural Exhibition on July 5, and judging by conversation overheard at different times, the fact that there were Lilies so lowly in stature seemed to surprise many. The blooms of *alutaceum* are a yellowish buff, and those of the other are a good deal in the same way, but with more of an orange hue. One valuable feature possessed by these cup-shaped Lilies is that they may be thoroughly depended upon to flower well the first season after planting, for many, especially some of the *Martagon* group, will give but little return in the shape of flowers at first. Thus, for the elegantly reflexed, brilliant red blooms of *L. pomponium*, it is usually necessary to wait a season or two, and pretty much the same will apply in the case of *L. Martagon* and its varieties *album* and *dalmaticum*, *L. chalcædonicum* and *L. Szovitzianum* or *colchicum*. Occasionally, however, a good spike or two will be pushed up by newly-planted bulbs, but such as these can only be regarded as exceptions to the general rule. The different *Martagon* Lilies are characterised by for the most part small blooms, that reflex in a very pleasing manner, so that being borne, as they are, on long slender stems, they appear admirably adapted for cutting to furnish large vases or for similar purposes. They would when employed in this way certainly become popular



*Houttynia californica*. Engraved for *THE GARDEN* from a drawing sent by Mr. C. A. Orcutt, California.

at any rate, and may be increased readily by division.

*H. CALIFORNICA*.—This very remarkable plant is also known in gardens under the name of *Anemopsis californica*; it is now, however, placed under *Houttynia*, and along with other two species forms the entire genus. It was first found by Nuttall at San Diego, Upper California, and later by Douglas, who sent specimens home. It is a true perennial, the leaves nearly all rising from a fasciculated rootstock. They are always on long stalks, the blade elliptical, nearly cordate at the base, blunt, and the edges entire. The flower-stem is very hairy, erect, longer than the leaves, and bearing numerous small inconspicuous flowers on an oval cone. This is surrounded by six large spreading bracts, the inner three spotted with red, the others white. These bracts are very persistent, and remain fixed long after they have turned brown. It is a useful plant for the bog garden and very easily managed. Increased by division.

it only growing in gardens. A useful companion to the above, flowering July and August.

*H. CHINENSIS*, which was first named *Gymnotheca chinensis* by Decaisne, is a native of China, and appears to be a very ornamental plant. I have not seen it in cultivation, though apparently well worth it. D.

### NOTES ON LILIES.

THE different hardy Lilies continue to increase in popularity every year, for they may now be met with planted in many places where a few years ago scarcely a single representative was to be found. Kew has shown us some fine examples of Lily culture, and some very happy combinations where they are associated with other plants, especially in the case of *Lilium auratum*, *longiflorum*, *tigrinum*, *speciosum*, *elegans*, *pardalinum*, *superbum*, *umbellatum*, and the new and charming *L. Henryi*. It is certain that practical teaching such



but for the heavy, disagreeable smell of most of them, for when confined indoors it becomes almost unbearable. Among the finest of the Martagon group the Japanese *L. Hansoni* must have a place, as its prettily reflexed bright orange-coloured blossoms, dotted more or less with purplish brown, are very distinct from any of the others, not only in colour, but also in the thick wax-like texture of the petals. Last year I related in *THE GARDEN* that the flowers of this Lily were quickly scalded where exposed to the full rays of the sun; in fact, far more quickly than the blooms of any other kind under similar conditions. This season they have again suffered in the same way, but where slightly shaded if only for a few hours in the middle of the day they retained their beauty and kept fresh for a considerable time.

That group of Lilies whose bulbs are of a rhizomatous character are not only very distinct, but most beautiful. The two first mentioned of these will run up to a height of 8 feet or more, and when in a mass rising up from a groundwork of shrubs they are seen to very great advantage, aided to which the protection afforded by the shrubs often serves them in good stead during early spring. The old orange Lily (*L. croceum*) still stands out as one of the very finest of the entire genus, for the rich deep orange colour of its blossoms is very different from that of any of the forms of *L. umbellatum*, which is its nearest relative, though they are quite different from each other. The orange Lily, for instance, does not open till the forms of *L. umbellatum* are past or nearly so, while the blooms of this last are thinner in texture than those of *L. croceum*, and do not last in beauty. It may be planted in various ways, for I have seen a very pretty effect by associating it with blue Delphiniums, and a few days since it formed a prominent feature in Regent's Park. There, some grand masses of this Lily stood out from a background of dark-coloured shrubs, and when seen they were quite a mass of rich coloured blossoms. That this grand Lily is among the cheapest of all, and will succeed in ordinary garden soil, are two great points in its favour. The stately growing *L. testaceum*, with its distinct nankeen-coloured flowers, is another thoroughly good garden Lily, as indeed are its two supposed parents, the white or Madonna Lily (*L. candidum*) and *L. chalcedonicum*, with its Turk's-cap-like blooms of a sealing-wax red colour. This last is not yet in bloom, though some of the buds are nearly ready to open. Two allied species—*L. Browni* and *L. odorum*, concerning which there has been a good deal of controversy at various times—are now in flower together, so that the points of difference between them at all events in that stage can be readily seen. *L. Browni*, which grows a yard or so in height, has the stem somewhat sparingly furnished with rather narrow leaves of a deep green tint, while the large bell-shaped flower is ivory-white within and heavily tinged with chocolate on the exterior. The stem, too, especially near the base, is purple. In *L. odorum* the leaves are much broader, thin in texture, and of a dull pale green, while the exterior of the bloom is much less heavily tinged with chocolate. I consider *L. Browni* far superior to the other, as in addition to the features enumerated above the bulbs are far less liable to decay than those of *L. odorum*, which in this respect must be regarded as one of the more delicate Lilies. My specimens were purchased under the name of *L. japonicum Colchesteri*, which is frequently applied to this species. *Lilium longiflorum* is now rapidly approaching the flowering stage when planted out in the open, though under glass it has been blooming since the early part of the year. We get bulbs of this Lily or of its varieties now from various quarters of the globe, for though there are not many English grown, yet large importations reach this country from Holland, Japan, Bermuda, and lastly from South Africa. For outdoor planting, however, I should be inclined to prefer the Japanese bulbs to those from the two last-mentioned places. Another Lily whose earliest blooms are just commencing to open is *L. auratum*, but in the case of this species its flower-

ing season extends over a longer period than most Lilies, for different individuals do not all expand their blossoms within a few days of each other, as many do. The later kinds, such as the different forms of the Tiger Lily (of which splendens is by far the best), with *L. speciosum* and its numerous varieties, promise well for a display of bloom. Several examples of Lilies were exhibited at the show held in the grounds of the Horticultural Exhibition on July 5, among which the following were noted: *L. elegans* in variety, *L. umbellatum*, *L. croceum*, the stately *L. giganteum*, *L. pomponium*, *L. maritimum*, *L. Grayi*, *L. Hansoni*, *L. Martagon*, with its white and black varieties album and dalmaticum, *L. pardalinum*, *L. Washingtonianum*, which by the way must, generally speaking, be regarded as a poor Lily, and *L. Lowi*, another of those Indian Lilies that Messrs. Low have brought under our notice within the last few years. It was about a couple of feet high, while the bell-shaped flower would be 3 inches or so in length and the same across the mouth. The colour is white, slightly tinged with green on the exterior, while the inside of the bloom is spotted with purple, which is, however, limited to the three inner segments. The leaves are narrow, about 4 inches long, and of a glaucous green hue. Though distinct, it is by no means a striking Lily. Of forced Lilies, *L. longiflorum* and the white and pink varieties of *L. speciosum* were very noticeable at the same show.

H. P.

**Border Pinks.**—If Miss Jekyll would look in upon some of the growers of flowers or plants of a hardy nature for market or street sale, she would probably find what she wanted in the shape of a good hardy Pink, white-flowered and with a dark ring or blotch at the base of the petals. There is plenty of hardy border Pinks about the country, rough of petal perhaps, but very richly perfumed; the plants very hardy, and producing fine clumps. It is well in connection with Pinks always to have two or three years' succession stocks in hand. Thus plants from the previous year's pipings often expend their strength more in the production of growth or shoots than of flowering stems. But then the second year each of these shoots carries flowers, and a fine head of bloom on each plant results. There is also plenty of bloom in future years. Still, so easily may all sorts of Pinks be thus increased, that it is not worth while to retain plants that have flowered three times, as they then begin to get ragged or more liable to injury from snow and heavy rains. Because of this tendency on the part of these hardy Pinks to make such short growth the first year, it is not unwise to leave them in the nursery bed, transplanting with good clumps of roots into the borders or beds the following autumn. It has sometimes been said of Pinks, because of the reason mentioned, that they were disappointingly shy bloomers, but the following year's result has shown the error of hasty judgment. There is yet ample time for the putting in of Pink cuttings, especially in small frames or under hand-lights, and a stock of hundreds of plants may soon be obtained. Some persons simply pinch off the shoots and stick them in at once; others, perhaps wiser, make them as cuttings should be. Set in sandy soil, covered with glass, and shaded in hot sunshine, they soon make root, and the trouble involved has been trifling.—A. D.

—Miss Jekyll asks what has become of the old black and white Pink. This is not the first time the same question has been asked. The answer has always been the same: gone out of cultivation in consequence of there being no demand. It is well known that when Pink shows ceased one variety after another was lost, amongst others being the much-inquired-for black and white Miss Jessop. Three years ago Pink exhibitions were again held, with the result that there was a want of a "black and white." This want has been supplied by Mr. W. Taylor, of Middleton, one of the old race of florists who have done so much to keep alive the love of Auriculas, Carnations and

Pinks. A batch of seedlings was raised, amongst them being Mr. S. Barlow, purple laced; Alderman Thorp, red laced; and Miss Pomroy, black and white. At the same time other florists were not idle. Mr. Thurston raised and distributed G. Hodgkinson, Mr. J. Thurston and G. Dorrington; Messrs. Paul sent out last year Bertha; and this autumn Mr. Brown, of Birmingham, will distribute two new grand varieties, Amy and Ethel. These do not exhaust the list of first class varieties, better than any that were so much prized thirty or forty years ago. Miss Jekyll shall not be in want of a new black and white long, for as soon as the pipings are struck I will forward to her.—W. PRESCOTT.

#### VERBASCUM VERNALE AND V. CHAIXI.

TREATING of Mulleins in *THE GARDEN* of July 9 (p. 26), "A. H." introduces *Verbascum vernale*. This is a name commonly, but doubtfully applied to a very fine perennial Mullein now in flower and 9 feet high in my garden. It was, I believe, introduced to England by Mr. W. Robinson about twenty years ago, who found it growing in the Jardin des Plantes at Paris under the name of *V. Chaixi*. For some years it passed by this name in English gardens, but it is certainly not the *V. Chaixi* of Villars, a species wild in the south of France, and fully described in Grenier and Godron's "Flore de France," vol. ii., p. 553. It is far too large a plant for that, which is no taller than *V. nigrum*. *V. vernale* of Wierzbicki, which E. Boissier in his "Flora Orientalis" makes a variety of *V. nigrum*, certainly comes nearer the description, as it is said to differ from *V. nigrum* by its panicled stem, but I feel little doubt that the plant in question, which Mr. Robinson introduced, is a hybrid. E. Boissier suggests *V. nigrum* and *V. sinuatum* as the parents of the plant, which he describes by the name of *V. hypoleucum* ("Flora Orientalis," vol. iv., p. 329). If it was a true species it would sometimes produce fertile seed, but I have never found fertile seed upon it. Conversely I have by experience come to the conclusion that hybrid Mulleins—and they are endless in variety—never produce fertile seed. Another thing I have noticed about them is that in duration they take after the shorter-lived parent, a perennial crossed with a biennial producing only biennial forms. Some of these biennial forms—for instance, between *V. phœniceum* and *V. Blattaria*—would be well worth perpetuating if it could be done. I have a good many perennial forms between *V. phœniceum* and *V. nigrum*, of which some are known under the collective name of *V. cupreum*, though they are various. These are difficult to divide, so they remain where they originate. "A. H." speaks of *V. nigrum* var. album as if it was a novelty, but I know that Ware used to sell it as much as twenty years ago under the name of *V. Chaixi album*. As it does not come true from seed and is troublesome to increase, it does not find favour with nurserymen. My stock was all obtained from a plant I found by the roadside near Burnham Beeches nearly twenty years ago, growing amongst abundant plants of the yellow type. In Nyman's "Conspectus," p. 531, it appears that the name *V. vernale* has been changed to *V. Wierzbicki*, but it is at best a plant of doubtful history, though the subject of this note is a grand garden plant. C. WOLLEY DOD.

Edge Hall.

**Pelargonium Alice Crousse.**—This, which belongs to the double-flowered Ivy-leaved section, is a great favourite of mine and one that blooms most profusely either planted out or confined in pots. It is a free-growing variety, and being less stiff than some of the newer members of the Ivy-leaved class, does well when treated as a trailer, or it may just as readily be grown into specimen form, as detailed in *THE GARDEN*, p. 47. The colour of the flower is a kind of magenta-purple, difficult indeed to describe, but very striking when seen. Even in wet weather the blooms keep their colour well. This desirable variety is by no means



a novelty, for it was sent out, I believe, in 1885, and is now kept in stock by most of our nurserymen, and sold at a cheap rate. Where there is a collection without this particular variety, a note should be made of it, for though great numbers have been sent out since this was raised, it still remains, as far as my experience goes, the best of that colour. Souvenir de Charles Turner, so favourably spoken of in the above-mentioned article, is this season very fine in many places.—T.

## CHRYSANTHEMUMS.

### NEW CONTINENTAL EARLY-FLOWERING CHRYSANTHEMUMS OF 1892.

LAST year, when placing on record the names and descriptions of an important addition to the list of early-flowering Chrysanthemums, I gave a sketch of the principal events in the history of this now rapidly increasing section, so far as they had not been dealt with by other writers. There is, therefore, but little to say concerning their past development, and those interested in this class of flower will perhaps have more than sufficient to do in watching the achievements of the raisers in the future. Considering the favourable reception the 1891 varieties met with and the probable greater advance they will make now that they have been in the hands of English cultivators for another year, it will not be a matter for surprise to find that a still further increase is to be made in the present year. Again we find that M. Délaux is the leading distributor of the new varieties, although what he sends out in 1892 only number about half as many as those comprising his former set, and this may be regarded as a distinct benefit to all concerned, for one would have thought that the 125 varieties he sent out in the spring of last year would have been enough to satisfy the most ardent admirer of early varieties for several years to come.

It is not agreeable to be compelled to draw attention to confusing nomenclature any oftener than has already been done, but what can be expected when such instances occur as Mme. Eugène Clicquot, Mme. Paul Chandon de Briailles, Mme. Raoul Chandon de Briailles, Mme. René Chandon de Briailles, and Mme. Théophile Røderer, all of which names were used in the previous collection without the title of Madame being prefixed? In the two collections of earlier from M. Délaux we have now the name of Chandon de Briailles used eight times, and, what is still more curious, several other names eminent in connection with champagne like Clicquot, Moët, and Pommery, though why champagne and early-flowering Chrysanthemums should be associated together it is difficult to understand.

As was the case last year, nearly all the new flowers belong to the Japanese large-flowering race, and are stated to be of a very dwarf growth, which will render them especially valuable for border cultivation. Had these early-flowering Chrysanthemums possessed the same kind of habit as many of the best November varieties, growing to the height of from 6 feet to 9 feet, they would only have been serviceable for the production of specimen blooms at our early autumn shows; and, furthermore, the fact of their being large-flowered sorts materially increases their value for cultivation in the open. It has, I think, already been pointed out that until recent years all the early sorts were pompon varieties, and that the first step towards the new departure was due entirely to French cultivators. If they succeed in imparting to their new creations all the brilliant colours that characterise the later sorts, then the new French early Chrysanthemums will become very formidable rivals to such showy autumn flowers as the Aster and Dahlia.

Out of those distributed last year four received first-class certificates at the National Chrysanthemum Society's floral meetings, viz., Souvenir de Louis Ferie, Mme. Edouard Lefort, M. Jules Paquet and Veuve Clicquot, the last being staged under the careless and misleading name of Vicomte Clicquot. It seems that, besides the raiser's objec-

tionable practice of multiplying synonymous names, there is also the risk of English exhibitors making mistakes in entering their exhibits; and if it should happen that they receive certificates, the error or errors become perpetuated and synonyms created which a careful regard to orthography might obviate. It is more than probable that if the N.C.S. held their floral meetings more frequently in the early autumn, that other varieties would have been submitted, because many of the 1891 flowers were in bloom as early as July and August. The omission to do so, however, cannot be helped, for the floral committee of that society have quite enough to do to adjudicate upon the merits of such flowers as may be in perfection during the last three months of the year:—

*André Fallières* (Délaux).—Japanese; long broad petals, bright yellow, lightened red.

*Anne Fallières* (Délaux).—Japanese; golden claret, glazed silver, reverse gold.

*Argentea* (Délaux).—Silvery white, shaded lilac-rose, centre golden.

*Belledonne* (Calvat).—Laciniated petals, white.

*Carnea* (Délaux).—Japanese; violet golden flesh colour, glazed silver, centre gold.

*Chancellor Gabriel Valensi* (Délaux).—Violet-rose, flowered white, reverse silvery white.

*Charles Gérard* (Délaux).—Japanese; golden red, shaded salmon-yellow, reverse gold.

*Commandant Dominico Jaccarino* (Délaux).—Carmine, shaded light amaranth, centre bluish silver.

*Commandant Schneraer* (Délaux).—Violet-purple, centre silvery white.

*Comte Alexandre Scheremeteff* (Délaux).—Japanese; golden yellow, shaded crimson, centre darker.

*Comtesse Marie Scheremeteff* (Délaux).—Japanese; violet golden rose, glazed silver, centre gold.

*Conseiller-général Feuilloy* (Délaux).—Japanese; golden yellow, shaded golden red, tips violet-rose, reverse gold.

*Edmond Boissier* (Reydellet).—Japanese reflexed; dark carmine-rose, tipped straw-yellow.

*Eugène Farez* (Farez).—Japanese; long petals, reddish crimson, shaded violet, centre old gold.

*Gambetta* (Calvat).—Japanese; purple, silver reverse.

*Gloire de Mezin* (Délaux).—Japanese; golden yellow, shaded crimson-red, reverse silvery.

*L'ami Etienne* (Calvat).—Pale mauve.

*Louis Bettzich* (Délaux).—Japanese; violet golden red, glazed white and shaded rose, centre gold.

*Mme. Alfred Werlé* (Délaux).—Fimbriated white, centre cream.

*Mme. A. Schlatter* (Délaux).—Japanese; violet-rose, centre gold.

*Mme. Charles de Cazanove* (Délaux).—Buff-yellow, shaded orange-red, speckled yellow.

*Mme. Edouard Rey* (Calvat).—Soft rose, shaded yellow, broad petals.

*Mme. Ernest Lemoine* (Délaux).—Japanese; white, edged violet-rose, centre gold.

*Mme. Eugène Clicquot* (Délaux).—Japanese; creamy white, shaded rose, centre dark cream.

*Mme. Gabriel Fontaine* (Délaux).—Japanese; golden yellow, shaded violet-red, tipped yellow, centre dark gold.

*Mme. Gaëtan de Venoge* (Délaux).—Japanese; semi-double, golden yellow edged violet-red, silvery reverse.

*M. Gayon* (Délaux).—Japanese; red, reverse old gold.

*Mme. Jeanne Fallières* (Délaux).—Japanese; yellowish red, glazed white, centre golden, tipped white.

*Mme. Labour* (Délaux).—Japanese; silvery violet-rose, centre greenish gold.

*Mme. Latou de Molinet* (Délaux).—Japanese; white, shaded rose.

*Mme. Leblanc* (Calvat).—Pure white.

*Mme. Lefèvre Baron* (Délaux).—Japanese; bright violet-rose, reverse silvery white.

*Mme. Léon Cohn* (Délaux).—Japanese; wax-like white, flamed carmine-rose, reverse golden red.

*Mme. L. Fumat* (Délaux).—Japanese; silvery dark cream, shaded carmine-rose, darker centre.

*Mme. Lucie Dekorne* (Délaux).—Japanese; golden red, shaded gold, reverse gold, shaded violet.

*Mme. Marie Constans* (Délaux).—Japanese; rosy white, centre cream.

*Mme. Marie Massé* (Délaux).—Japanese; same shade as James Salter, larger bloom.

*Mme. Marie Robert* (Délaux).—Japanese; white, centre dark cream.

*Mme. Mathilde Bettzich* (Délaux).—Japanese; white, slightly creamy, shaded rose, centre gold.

*Mme. Paul Chandon de Briailles* (Délaux).—Japanese; carmine-rose, spotted white.

*Mme. Pichon* (Délaux).—White, shaded rose, centre cream.

*Mme. Raoul Chandon de Briailles* (Délaux).—Japanese; white.

*Mme. René Chandon de Briailles* (Délaux).—Japanese; soft rose, reverse gold.

*Mme. Schwartz* (Calvat).—Tubulated, lilac, with almost white reverse.

*Mme. Théophile Røderer* (Délaux).—Japanese; purple-carmine, centre nankeen, edged dark carmine.

*Mlle. Eugénie Klein* (Délaux).—Fimbriated, white, centre cream.

*Mlle. Fleuret* (Délaux).—Japanese; pure white, striped carmine-violet-rose, centre cream.

*Mlle. Louise Demaurex* (Délaux).—Lilac-rose, lightened silvery white, centre gold.

*Mlle. Renée Cohn*.—Wax-like creamy colour, striped rose.

*Marc Micheli* (Reydellet).—Japanese; bright carmine-rose, centre yellow, rather early.

*M. André Girard* (Délaux).—Japanese; dark yellow, shaded violet-red, tipped yellow, centre gold.

*M. B. Yung* (Délaux).—Japanese; golden red, lightened salmon, reverse salmon.

*M. Dangerille* (Délaux).—Dark golden yellow, shaded red.

*M. Jules Demaurex* (Délaux).—Dark purple-amaranth, edged white.

*M. J. Graf* (Délaux).—Japanese; lilac-rose, glazed white, reverse silvery, centre silvery white, shaded gold.

*M. Lefèvre Baron* (Délaux).—Japanese; white, slightly creamy, centre darker.

*M. le Ministre Constans* (Délaux).—Japanese; crimson-red, striped dark yellow, centre gold.

*M. le Ministre Develle* (Délaux).—Japanese; centre flesh colour, passing to white, petals edged and tipped dark carmine-rose.

*M. le Ministre Léon Bourgois* (Délaux).—Japanese; violet-rose, flamed white, centre gold.

*M. Paul Lemoine* (Délaux).—Japanese; golden yellow, centre red.

*M. Ribierre* (Délaux).—Japanese; jonquil-yellow, edged carmine-red.

*Papa Toussaint* (Délaux).—Golden-red and dark ochre-yellow.

*Pol-Léon le Guern* (Boucharlat).—Japanese; bright salmon-purple-rose.

*Préfet Léon Cohn* (Délaux).—Golden salmon-red, centre gold.

*Procyon* (Lacroix).—Japanese; bright red, edged yellow, broad petals.

*Sécrétaire Edouard Lefort* (Délaux).—Japanese; brick-red, shaded golden-red, centre gold.

*Sécrétaire Oscar Arlet* (Délaux).—Golden-red, tipped yellow.

*Son altesse Sidi-Ali-Pacha-Bey* (Délaux).—Japanese; golden rose, glazed silver, centre gold.

*Son altesse Sidi-Taieb-Bey* (Délaux).—Japanese; rosy flesh colour, shaded gold, centre silvery.

*Souvenir du Loupillon* (Délaux).—Gold, shaded red.

*Souvenir de ma Mère* (Calvat).—Tubulated, pale lilac, tips darker, dwarf.

*Souvenir de Mme. Demaurex* (Délaux).—Light violet-rose, reverse silver, centre golden.

*Souvenir de Paul Cornu* (Délaux).—Dark crimson-red, centre gold.

*Souvenir de petite Madeleine* (Calvat).—Pure white, dwarf.

*Souvenir de Sembel* (Délaux).—Dark yellow, edged dark crimson.

*Souvenir du Général Dufour* (Reydellet).—Straw-coloured centre, surrounded with white, mauve tips passing to white.

*Veuve Pommery fils* (Délaux).—Dark crimson and silvery grey, shaded rose.

*Zelmire* (Délaux).—Yellow.

C. HARMAN PAINI.

### CHRYSANTHEMUMS IN NEW ZEALAND.

MR. JOHN DUTTON, of Christchurch, N.Z., may be regarded as the first, or at least one of the first Chrysanthemum growers to raise new Chrysanthemums from colonial-saved seed. In a letter just to hand, he says:—

I send you the enclosed clipping from the *Christchurch Press*, as it may interest you and show you that we have made a beginning this year to raise Chrysanthemums from our own saved seed. I also by this mail send a photo of a plant of the best large-flowered seedling ten months from sowing the seed.



I have named it Southern Alps (Dutton); it is a pale primrose-yellow and the plant has 103 flowers and buds on it. I have some beautiful small pompion varieties, free flowering and dwarf habit; also a new strain of small quilled daisies, exceedingly pretty like the quilled daisies, both white and yellow colours.

The newspaper paragraph states that there are on view at the seed shop of Mr. Turner twelve varieties, and that the exhibit is interesting as being the first from seed raised there. The raiser had some trouble before seed was secured, as it is very rare to find any on plants there, the frost destroying the flowers before the seed matures. The flowers on view were only a part of the collection raised from seed saved in 1891.

From Wellington, in the same colony, I learn that Mr. Earland has raised some seedlings from colonial-saved seed, and he, too, is said to be the first raiser in New Zealand. The claim to that honoured title must, however, be settled on the spot, for I have no data to enable me to determine whether the palm should be awarded to Mr. Dutton or to Mr. Earland. The latter gentleman, however, is the one who concerns us most just at the present moment, for he has announced the despatch of some of his seedlings frozen in blocks of ice. These he desires to be submitted to the National Chrysanthemum Society for adjudication, and when they arrive they will unquestionably form a very interesting exhibit.

Chrysanthemums are evidently becoming very much appreciated in New Zealand, and shows have recently been held at Auckland, Christchurch, Wellington, and other places. If Mr. Earland's experiment should prove successful, other growers may follow his example, although it is difficult to understand in what way such expensive experiments can be made to answer. We are so close to other Chrysanthemum-raising centres, that it is doubtful whether we shall ever do much business with the Antipodean cultivators and raisers of new seedlings. At all events, should these frozen blooms preserve their form and colouring in the blocks of ice, one very great difficulty in the way of trade will be removed, because English growers will have an opportunity of judging for themselves whether the colonial varieties are worthy of serious attention. Difficulties in the packing of plants and their transit to this country would soon be overcome if any of the new flowers exhibited signs of exceptional merit.

During the past year correspondents in the Australasian colonies have favoured me with a vast amount of correspondence concerning Chrysanthemums there, but up to the present the New Zealand growers head the list. They have most of the standard varieties in their collections, and indeed it is surprising at times to find what a number of the most recent novelties is already in their possession.

CHRYSANTH.

## FERNS.

### NOTES ON FERNS.

**CONSERVATORY FERNS.**—Under this head I would more particularly direct attention to those kinds which will thrive in a minimum temperature of 40° or thereabouts during the winter season. In most conservatories and show-houses there is room for small or medium sized plants of this character. There are frequently in such houses places where it would not be possible to keep flowering plants for any length of time with even a moderate amount of success, but where Ferns that are of an enduring character may be kept for months together. By growing a goodly number for such purposes there is a considerable saving in the quantity of flowering plants required to completely furnish a house, whilst the effect is in nearly every case considerably enhanced by the addition of the green foliage of the Ferns in contrast to or the subduing of the various colours of the flowers,

particularly when these are employed in a liberal manner. In the case of tall growing flowering plants, as Liliiums of various kinds, the Callas, the Tuberoses and the Francoas, these Ferns constitute a most desirable and effective groundwork, in this manner looking much better than when many flowering plants are grouped together *en masse*. When the supply of flowers is at all short, a good stock of Ferns is of great assistance in conjunction with other plants of fine foliage. It pays therefore to grow some few kinds in goodly numbers, according to the case in point. Of these mention should now be made more particularly of the hardier of the Aspleniums, most of which can be easily increased at this or any time of the year by the small bulbils forming on the fronds. About now these are in a good condition for removal. This may be done by taking small pieces of the old fronds with several young ones forming and pegging down upon sandy soil, or it may be effected by taking each young plant separately and then carefully embedding it into the fresh soil. For this purpose shallow pans will be found the best, as no great depth of soil is really required. If taken now these bulbils would form nice young plants fit for 2½-inch pots by the end of September, and 3-inch pots the following spring. *Asplenium bulbiferum*, *A. flaccidum*, and *A. diversifolium* are three of the most useful as well as being three of the easiest to propagate for decoration by the aforesaid method. *Asplenium lucidum* is best raised from seed; this is one of the hardest of all greenhouse kinds, somewhat liable to attack by thrips, but these are easily overcome by the usual methods employed. Seedling plants of *Dicksonia antarctica* are extremely useful whilst in a small state, with the knowledge that the most promising will eventually make good specimens with ordinary care. This Fern, like the Aspleniums, will withstand the sun's rays remarkably well. Of the *Adiantums* note should be made of *A. pubescens*, a very hardy kind; *A. venustum*, of Maiden-hair-like growth; *A. colpodes*, *A. decorum* and *A. Williamsi*, also partaking of the same character, are all good enduring kinds. *Cyrtomium falcatum* is another fine enduring Fern for the cool house. The greenhouse varieties of *Lastreas* (*Aspidiums*) should also be noted, particularly *L. lepida*, *L. Sieboldi*, and *L. Standishi*. Several of the *Pteris* family are decided acquisitions. Of the taller growing kinds, *P. tremula* is one of the best of all Ferns, suitable both for associating with other kinds as well as for grouping with flowering plants. The various forms of *Pteris cretica* and *P. serrulata* are also excellent Ferns for many purposes, particularly *P. cretica nobilis* and *P. serrulata cristata major*; *P. umbrosa*, although of more vigorous growth than *P. cretica*, is equally useful. *Woodwardia radicans* is not half enough grown; when seen fully developed it is a noble plant. The foregoing list does not include nearly all that are well worth more extended cultivation. I feel fully persuaded that not nearly enough is made of Ferns on the whole for the purposes indicated at the commencement of this article. If looked after with ordinary care they are always to hand, and are so useful when rearranging is being seen to, filling in many places where flowering plants would not be nearly so suitable. Scale may in some cases be found troublesome, but with attention bestowed in nothing more than the average way it is easily kept under.

**HARDY FERNS FOR DECORATION.**—One often hears the complaint of such an amount of plants being required for indoor decoration, with the results consequent thereto of the plants being

permanently injured, or so much crippled, as to require careful treatment for some time to come. Now if hardier plants were more used, as those now under notice, a deal of future trouble and annoyance would be saved. They are well suited for the purpose in many ways, and may be chosen in considerable quantity as to variety to suit given cases. There are those which always look best when placed upon the floor or sufficiently low to be looked down upon. For instance, the *Polypodiums*, the *Lastreas*, the *Osmundas*, and the larger forms of the *Scolopendriums* all look well when stood upon the floor. For vases there is also a good selection from amongst the following: *Adiantum capillus-Veneris* and *A. pedatum*, *Allosorus crispus*, the *Aspleniums* and *Athyriums*, *Cystopteris bulbifera* and *C. fragilis*, with the crested forms of *Scolopendrium vulgare*. A few of these latter may require for greater safety the protection of a cold frame in winter, otherwise when they grow shabby in the autumn all that will be required is to plunge them in a bed of ashes, quite covering the pots. For this purpose a north aspect against a wall would be as suitable as any place that could be chosen. Here they could remain until the first signs of growth are apparent in the spring when any needful attention in the way of potting or top-dressing could be seen to. It should be borne in mind that large pots are not in any case required, whilst if not so much over-watered during the summer as to cause injury to the roots, they would remain for some few years in the same pots. Loam, not too heavy, with leaf-soil and road scrapings is a good mixture for them, potting being done pretty firmly. One great advantage in making use of these hardy Ferns is that they never need occupy any house room during the winter, neither indeed do they require it at other times, although probably they might be found useful even in conservatories during the summer months. These hints on hardy Ferns and a few of their uses in pots are made now so that those readers who during their country rambles may come across the British kinds can collect them for potting up this autumn. If not obtainable in this way, they can be easily purchased at a cheap rate, but in any case it is best at the start to repot in the autumn rather than in the spring. The hardy kinds (not British) are catalogued, and the best sorts even can be purchased at cheap rates in small pots; this it would be desirable to do at once whilst they are still in good condition.

FILICES.

**Ipomœa Quamoclit.**—Most of the annual species of *Ipomœa* are strong-growing Convolvulus-like plants, and one would scarcely recognise this slender climber with its delicate pinnate foliage as a member of the same genus. It is, I believe, a common weed in many parts of the Tropics, but may with very little attention be grown in such a way as to merit a place among the most desirable of indoor twiners during the summer. It is seen under very favourable conditions if about half a dozen plants are grown in a pot 6 inches in diameter, into which a few twiggy branches are stuck for the slender wiry stems to ramble over. In this way if kept in a warm part of the greenhouse or in an intermediate structure, they will grow away freely and flower profusely during the summer. The long-tubed blossoms stand out from the delicate mass of foliage like little bright red stars, that is in the case of the showiest forms, as the blooms vary in colour, there being amongst them a variety with white blossoms. It will occasionally flower fairly well out of doors in an especially sheltered spot if the weather is very warm, but it cannot be depended upon to succeed in this



way. The seed, which takes but a few days to germinate, should be sown in the spring, and if the plants are grown on quickly they will soon flower.—H. P.

## ROSE GARDEN.

### YELLOW BANKSIAN ROSE.

ALTHOUGH the white Rose that Robert Brown named in honour of Lady Banks was introduced twenty years earlier, it was not until 1827 that the yellow Banksian Rose was brought to England from China. It quickly became an established favourite, and still occupies a prominent position in general esteem, for it makes a charming climber, able under favourable circumstances to cover the side of a house and to provide a profusion of its clusters of miniature yellow flowers. It is, unfortunately, not absolutely hardy, but if it be planted on its own roots, even if there should come a winter so unusually severe as to kill the tree down to the ground line, it will then be almost certain to

as on a south wall where its long shoots may be thoroughly matured, it will flower very freely.

**Roses by the sea.**—There is an interesting note by T. Hand in a recent number of THE GARDEN of a fine Cloth of Gold Rose by the sea. The writer concludes by saying that the darker the Rose the less able to stand the sea fogs and air, and, it might be added, the less able to withstand brilliant sunshine inland. He also gives a short and useful list of seaside Roses as follows, which may be well worth repeating for the use of seaside residents. These are Her Majesty, La France, Mme. Victor Verdier, Mme. Gabriel Luizet, Viscountess Folkestone, Baroness Rothschild, Violette Bouyer, Amazone, and Marie van Houtte. Perhaps Mr. Hand will add to the practical usefulness of his note by specifying the distance from the sea of the Cloth of Gold and other Roses named. Are they practically within the sweep of the sea spray, or far enough from the beach to escape this on ordinary occasions? Will other Rose growers by the sea kindly record their experience of varieties that they have seen thrive best or that they have grown most successfully by the sea. I have a pleasing memory of most of the Gloire de

pleasing prospect of their ripening their wood well for passing through next winter. The wood is ripening well, and the eye of the buds is nicely up or prominent for budding. This operation, by the way, should be completed as soon as possible, or the bud will not get firmly enough set to the stock to form one piece with it before too cold weather comes again. With every promise of good growth and flowers, at least as far as my own Roses are concerned, I can look forward to a pleasing autumn among the Roses, and trust this favourable prospect is general.—R.

### THE PLEASURES OF ROSE GROWING.

"A. H.," in his interesting notes on Roses, has discovered a new use for those earth carpetings under the Roses. The dwarf plants keep the roots of the Roses moist and cool, and preserve leaves, shootlets, and blooms from being tarnished and soiled—that is, ruined through earth-splashing. "A. H.," with an eye to clinching these arguments in favour of the ground carpeting of the surface of Rose beds, cites in point a group of The Bride. This specially fair and modest, that is, drooping white Rose has a carpet over its roots of Sedum glaucum. Noting how hot and dry



Rose Yellow Banksian.

break again from below. In a climate like that of the Isle of Wight, however, the yellow Banksian luxuriates, and when the young growths have not been injured by late spring frosts, the display of bloom observable on some of the houses there is magnificent. With flowers resembling nothing so much as yellow double Cherry blossom, and with shining deep green leaves of three or five leaflets, there is no more distinct and characteristic Rose, nor is there any whose flowers collectively make so telling an effect, while individually so dainty and so delicate. The yellow Banksian is a sun-loving plant, and may be better cultivated in an abnormally hot and dry situation than in one at all habitually shady or damp, and it also makes a fine subject where it can have plenty of room in a Rose house, some growers making it a favourite stock on which to work Maréchal Niel under glass. It used to be sometimes said that to get the yellow Banksian to blossom freely it was necessary to cut out all the strong growths, leaving only the twiggy shoots to flower; but this is not the case except where the wood is not fully ripened, owing to a lack of exposure to the sunshine. If this Rose be grown in a suitable situation,

Dijon strains and many other Teas, including especially Homère, the white and yellow Banksian, Austrian Brier, Aimée Vibert, Paul Neron, Coupe d'Hebe, and the common Chinas, all being seen in good health and of especially high colour at different times and places by the sea. Fortune's Yellow, too, allowed to run wild, and several of the Evergreen Ayrshire and clustered Noisette Roses bloom with exceptional freedom and purity of colour near the sea.—CALEDONICUS.

**Roses—autumn prospects.**—These are certainly very encouraging at present, as there are few insect pests, and no traces of mildew, thrips, or red rust. I have seldom seen the late summer growth of the Tea-scented varieties look better or more promising, and these are among the most showy of all Roses as far as foliage is concerned. Early in the summer before the first blooms open, and then again during the formation of another crop of flowers, the majority of the Teas and Noisettes carry the most beautiful rosy and bronzy colours in their young growths. One may be more certain of these having good foliage in the autumn than any other class of Roses, as neither red rust nor orange fungus attacks them. They are also, if anything, less likely to be attacked with mildew than are either the Hybrid Perpetuals, Bourbons, or Hybrid Teas. As the Roses are not growing in a very rampant and soft manner, there is also the

the uncovered earth was, "A. H." placed his hand under the carpet of Sedum, and found the soil cool and moist. A severe thunderstorm came the same night and battered down and earth-splashed the Roses till it was almost difficult to see where Rose petals left off and mud splashes began. But, thanks to the carpet of Sedum, and also no doubt to the drooping habit of the flowers, which have acquired the useful art of bending to the storm, the blooms escaped unhurt. I also agree with "A. H." that, unless for exhibition—and not always or necessarily for that—Roses must not be so grossly or gluttonously fed as to become a nuisance in the garden or under the sitting or drawing-room windows. The roots simply reject or turn up their noses at very much of the gross food thrust upon them. Most Roses grow and bloom superbly in fairly rich garden soil with one dressing of manure dug or pointed in during the winter. Such dressing need become no nuisance to the most sensitive nerves or constitutions. Very many of the stimulants used beyond this annual dressing come of mistaken notions and tend to the injury of the Rose and the annoyance of rosarians.

The whole treatment of a Rose tree from first to last should be a source of pleasure, and should leave the plant at the end of the season better fitted for the severities of the coming winter and the growth



and blooming of the next season than before. Over-stimulating and extreme concentration of vital or manurial force are inconsistent and antagonistic to such continuations of healthy life and growth and beauty. Freer growth, fewer forcing stimulants, and less severe pruning would do very much to make our Roses more natural and more pleasant.  
D. T. FISH.

#### NOTES ON ROSES.

It is some few years since we had such a grand summer for the more double and dark-coloured Roses of the Hybrid Perpetual class. A hot and too dry a season is against this class of Rose. Fine weather without too burning a sun, and interspersed with a few dull days and genial showers, puts a wonderful glow of richness into such varieties as Prince Arthur, Earl of Dufferin, Horace Vernet, and Victor Hugo. Indeed, I have seldom seen these dark crimson-coloured varieties in better form than they are this year. Bad and disappointing a grower as Horace Vernet is, there are few Roses that take the eye more when well grown and staged among a collection. Size, form, and colour are exquisite. It is one of the most deceiving Roses grown, as although doing well this season, it will very likely be a long time before we see it in such beauty again. The only successful way of growing this Rose is to work a few upon both the Manetti and Brier stocks annually. As dwarf maiden plants they flower fairly well, but after this there is absolutely no dependence upon this variety. Louis van Houtte is another beautiful dark Rose that requires somewhat similar treatment, and for the same reasons. I have seen this exhibited in several stands and in excellent form this season. With me it has not been to the front for quite seven or eight years. I have not seen it good among my Roses since I once had a splendid bed of about a thousand of this kind on the Manetti. When these were cut, I could easily find several dozen flowers that were perfect in every way. Victor Hugo is undoubtedly one of the finest additions to dark Roses that has been secured for many years. Shape, size, and colour, habit of growth, and in fact everything connected with this Rose are of the very best.

The bright red or scarlet Roses, such as Comte de Raimbaud, Thomas Mills, Eclair, Gloire de Margottin, and General Jacqueminot, are also very good this season. Reine Marie Henriette, Souvenir de Mme. Thérèse Levet, and others of the red Teas are also extra bright and clear. The present summer would seem a rather better one than usual, as far as Roses are concerned, notwithstanding the sharp trials they have had to go through during the past two winters. Such very double Teas as Ernest Metz, Marie Guillot, and others are opening well. So, too, are Innocente Pirola, C. Mermet, and those of similar form. It is seldom we are favoured with a season when such thin kinds as Thomas Mills and such double forms as Earl of Dufferin both open equally well. This suggests a few words in favour of what I may style "all season Roses." I mean those like Baroness Rothschild, Mrs. John Laing, and General Jacqueminot among the Hybrid Perpetuals; with Gloire de Dijon, Rubens, and Mme. Lambard among the Tea-scented kinds. There are a few varieties that are always good, no matter what the season may be like, and it is these that form our most useful Roses for general cultivation. Although Rose exhibitions undoubtedly do good work in causing us to be ever pressing forward in the endeavour to improve upon existing kinds, this good is certainly somewhat counterbalanced by the many

showy kinds that are brought before the public in the exhibition stands, and which are, unfortunately, of little use for general cultivation. I could readily name thirty or forty varieties that are practically useless for cultivating with any other object than that of the exhibition box, and which are a constant source of disappointment to purchasers, who are led to choose such kinds through seeing them shown in grand form. Very few of our newer introductions are so eminently suitable for ordinary cultivation as Mrs. John Laing has proved to be. I very much doubt if this superb kind would not be placed first among Hybrid Perpetuals for general work if a poll were taken.  
RIDGEWOOD.

#### SHORT NOTES.—ROSES.

**Rose Souvenir de Victor Hugo.**—Those who plant Tea Roses for effect must not overlook this kind, as its merits are of a high order. From its bushy dense habit it is well adapted for close grouping. It flowers most profusely, and the blooms are lovely and variable, usually of a rich bright rose colour in the centre, shading to white externally, but sometimes they are nearly all white.

**Rose Kaiserin Friedrich.**—There were several lovely blooms of this as yet uncommon Dijon Tea in Mr. George Paul's large exhibit of Roses at the Carnation show. It has the characteristic vigour of the race as denoted by its wood and ample leafage. The flowers are distinct by reason of a pretty rose tint that suffuses the edges of the outer petals of the flower. They appear to become sundyed into this charming hue in the same way as those of Marie van Houtte.

**Tea Rose Waban.**—A charming bloom of this was noted among Mr. G. Paul's Roses at the Drill Hall. It was cut from an outdoor plant, and was delightfully fresh and clear in tint. An idea was once expressed that this deeper tinted kind might not be quite so acceptable in consequence of its approaching the red shade. A Rose with the form of Catherine Mermet, however, has something greatly in its favour, and doubtless when stocks of this kind are larger it will be regarded as quite first-rate.

**Rose Mme. Chauvry.**—This is now flowering most abundantly both upon a wall and pegged down. It many respects it resembles Mme. Berard, and against a wall is very subject to mildew, but in the open, pegged down, it does not become so much affected. Like Mme. Berard too, and in distinction to the majority of the Dijon Teas, it, with me, flowers but sparingly at the commencement of the season, but it has the good quality of suddenly bursting out into profuse bloom between the two seasons of the dwarf Teas. Now whilst many of these are growing vigorously the kind under notice is bright and abundant in bloom, and the centre of its large and well-formed flowers glows with the rich apricot colour as deep as that of W. A. Richardson, but shading to a pale fawn yellow externally.

**Drooping white Roses.**—I note with pleasure you have a word of hearty praise for the old, but excellent white Rose Mme. Bravy. It is quite true there are few or no white Roses to beat it yet, though it is nearly fifty years old. But you go on to speak of The Bride, Niphetos, and Souvenir de S. A. Prince as all drooping Roses, as if this drooping were a fault, and ask for more that support their flowers, like the new variety Ernest Metz. This is all very well. But is not this drooping habit given to our white Roses as a protection to their spotless purity? And does not their drooping but add to their grace and charm? Let anyone go a-Rose-gathering after a severe storm of rain and hail; the majority of the standing-up, look-you-in-the-face Roses are very much tarnished or ruined. How gladly then does the bouquetist or vase or

basket furnisher come to a group or bed of such drooping Roses as Niphetos, which, by turning their backs to the storm, have escaped spot or wrinkle or any such thing.—F.

## TREES AND SHRUBS.

### THE FLOWERING OF TREES AND SHRUBS IN 1892.

PROBABLY never has there been witnessed such a profusion of flowers on our trees and shrubs as during the present season. The leafage, too, is unusually healthy and profuse, and the growths long and of good substance, and should there be a favourable autumn and early winter to ripen well these unusually long growths good prospects for the ensuing year may be predicted. Rhododendrons and Azaleas were a perfect glow of beauty, the latter in particular with their many shades of yellow, orange, and red being particularly attractive and lending quite a charm to the woodland in which they were massed in plenty. Several of the rarer and less hardy Rhododendrons have flowered well in Southern England during the present season, and this may also be said of the less commonly cultivated Azaleas. The Horse Chestnut has been loaded with flowers; indeed in some instances to such an extent, that limbs have been broken off by the weight of these, while the scarlet-flowered form has well sustained its reputation as one of the handsomest and most conspicuous of early-flowering, small-growing trees. Judging from the many spikes that are just now jutting above the foliage of the Buck-eye (*Pavia macrostachya*) the present season will be unusual for the wealth of flowers of this handsome and distinct big-growing shrub. Lilacs of many kinds flowered with unwonted freedom, and were ably supported by the Laburnum and Thorns, the latter in particular being brought prominently before everyone by their indescribable beauty. In the Mock Orange (*Philadelphus*) we have had a shrub of more than ordinary worth, for the wealth of flowers produced has been simply amazing, and not on isolated specimens, but everywhere throughout the country. Deutzias, but particularly the double-flowered form, have been wreathed with their pretty pinky-tipped blooms, while the Guelder Rose has been weighed down with its flowers. Perfect sheets of gold were the Gorse and Barberry, the double-flowered form of the former being specially attractive.

The flowering Ash (*Fraxinus ornus*) was as usual a tree of much interest during its flowering period, the Spiræa-like spikes of bloom rendering the tree one of the most distinct and beautiful. Turning to our native trees and shrubs, the Old Man's Beard (*Clematis Vitalba*) has been profusely laden with flowers, and the chief attraction, the fluffy seed covering, may in consequence be expected to be of more than usual interest. The wild Guelder Rose (*Viburnum Opulus*) in almost every South England hedge is flowering with a profusion that augurs well for the pretty bunches of berries later on. Even the common Elder is at present rendered conspicuous for a long way off by reason of the flat heads of yellowish-white flowers, while the common Barberry and Dogwood are worthy of note.

The list is by no means exhausted, and if our late summer-flowering trees and shrubs will only equal in floral beauty those of the spring



and early summer, the season of 1892 will be one of the most remarkable in this way of any for a long time back. A. D. W.

**Ceanothus Gloire de Versailles.**—Apart from the original species and varieties thereof, there are now a great many garden forms of *Ceanothus*, between several of whom, however, the difference is very slight. The variety *Gloire de Versailles* is of Continental origin, and has been grown for many years, but as far as my experience extends it is still one of the very best and hardiest, which last is of great importance, for in many districts the *Ceanothus* suffer greatly during the winter if they are not protected by a wall or something in that way. If not cut too severely they, however, quickly recover, and as summer advances many of them will be laden with their plume-like clusters of pale blue blossoms. In planting the *Ceanothus* as shrubs in the open ground, a sheltered spot should as far as possible be chosen, for the cold cutting winds of early spring often injure them as much as severe frosts in the winter. A free light soil suits them well.—H. P.

**Variegated-leaved Kerria.**—This form of the old *Kerria japonica* has the leaves variegated with pure white, and it can with confidence be recommended to those fond of variegated-leaved shrubs, as the marking is clear and distinct, while the light coloured portion does not become at all disfigured by exposure to the summer's sun. Like the ordinary form, its flowering season extends over a lengthened period, but the blossoms are single, and not double, as in the *Kerria* that is usually seen. The golden-coloured flowers nestling among the variegated foliage has an uncommon and at the same time very pretty effect. It is quite hardy, and succeeds well in light, warm soils. Under glass, too, it is very useful, and in this way it formed for many years a very attractive feature in the temperate house at Kew, where some good bushes were planted out in the beds. The form of *Kerria* in general cultivation, viz., that which bears throughout the summer great numbers of deep golden yellow flowers like small double *Roses* is really handsome, and despite the frequency with which it occurs in some places, it is in others a neglected shrub.—T.

#### EUCRYPHIA PINNATIFOLIA.

THIS Chilean shrub and the North American *Carpentaria californica* were introduced about the same time, and both are very beautiful flowering shrubs, but the *Carpentaria* has advanced in popularity at a much more rapid rate than the South American representative. The *Eucryphia* which blooms at the present season forms a somewhat upright growing bush, clothed with pinnate leaves, while at a first glance the flowers suggest a white *Hypericum*. They are about 3 inches in diameter, and consist of four pure white petals with quite a crowd of long and conspicuous stamens in the centre of the bloom. The lower part of the stamens is greenish and the upper white, while the anthers are when the bloom is first expanded red, but after a day or two as the pollen develops they become yellow. The *Eucryphia* is hardy in many places, and in most parts it will pass through the winter with the protection of a wall, but even then it is by no means invariably to be met with in a flourishing condition, as where the soil is at all hot and sandy it will not succeed. In a sheltered spot where the soil is partially of a peaty nature and always fairly moist, this *Eucryphia* is seen to very great advantage, and when studded with its pure white blossoms, which have an admirable setting in the deep green leaves of a thriving specimen, it forms a very attractive feature, rendered still more noticeable by reason of the fact that blooming as it does towards the end of July or in August, it is at its best when most hardy shrubs are over. The fact that this *Eucryphia* is somewhat exacting in its requirements no doubt to some extent accounts for its being rarely seen,

while its propagation is by no means rapid. If cuttings of the young growing shoots are put in a few may be induced to root, while with older branches the chances of success will be still fewer. Layering is the method most to be depended upon for the increase of this *Eucryphia*, but it is by no means a rapid process, and the plants grow but slowly, especially during their earlier stages. The *Carpentaria*, on the other hand, will strike root freely from cuttings of the young growing shoots taken during the early part of the summer and kept in a close frame till rooted. For this purpose, however, the weak or medium shoots are far better than the very vigorous ones. H. P.

**Periploca græca.**—On no account can this *Periploca* be called showy, yet when profusely laden with bloom it is very pretty, while close inspection will reveal the fact that the individual flowers are most interesting. It is a free-growing climber of a deciduous character, whose leaves are deep green, from 3 inches to 4 inches in length, and firm in texture, while the flowers are each about an inch in diameter, five-rayed, and of a purplish crimson colour inside, the reverse of the petals greenish yellow. These blooms are borne in clusters of about a dozen together, and in the case of a thriving specimen where fully exposed to the sun they are often so numerous that the entire upper part of the plant is quite a mass of blossoms. The scent of the flowers is by no means pleasant. The plant itself is perfectly hardy.—T.

## KITCHEN GARDEN.

### AUTUMN-SOWN ONIONS.

WHEN well cared for, autumn-sown Onions are a very useful crop, as they commence to come in, or at least are large enough for use during the spring if varieties suitable for the purpose are selected. They also form the main crop for summer use, and are valuable far into the autumn when well ripened and stored. By the spring months the main crop of stored Onions will be over, and if preparation is not made now, or at least from now until the end of the month or according to the district, Onions will be lacking when they are really required for daily use. Indeed where the main spring sowing partially fails through unforeseen circumstances, such as from the depredations of the Onion maggot, mildew, or indeed very late ripening, it is essential that autumn-raised Onions should not be overlooked as a means of keeping up the supply. Occasionally one hears of failures through frost during the late winter or early spring months, but such losses rarely occur. I think the failure of autumn-sown Onions may fairly be attributed to too early sowing coupled with a loose soil, these being just the conditions to favour a stronger and earlier growth than is necessary for their successfully combating severe or prolonged frosts when these should happen to be of undue severity.

What is needed for their successful growth is a well-drained soil. The soil should also be in a fertile and well-pulverised condition. It is rarely that the maggot attacks Onions which are sown at this date, so there need be little fear of injury from this cause. It will be noticed that a rather gritty soil makes the best seed bed, and on stiff clay land it will be found very advantageous to add some other matter to assist in getting the soil into this condition. Coarse sand, burned refuse, and such like material are the best and more likely to favour a successful growth. Another source of failure with these autumn-raised Onions in

private gardens is on account of the seed bed not being in a sufficiently exposed position. Very often it is in close proximity to trees, and as the leaves from these fall they blow amongst the Onions and smother them up. Autumn-raised Onions follow well on land recently cleared of early Potatoes or Cauliflowers, and if the soil had been well prepared for these crops as regards manuring, very little assistance will be needed in this respect. It must not be inferred, however, that poor soil will give equally good results, and if there should be the least idea of the soil wanting in fertility, then ought the site to receive a dressing of well-rotted manure. In either case, whether the soil requires manuring or not, a dressing of sifted burned refuse and soot should be applied direct to the surface previous to levelling down and drawing out the drills. The soil must be equally trodden over so as to form a firm surface, this being preferable to rolling. The seeds if sown thinly will germinate evenly, and the seedlings will not require thinning in the least until fresh growth starts in the spring. Surface-hoeing must take place directly the young Onions are visible, this keeping down weeds. When kept clean the air circulates freely among them, and a slight surface stirring will impart a healthy growth and such as will withstand frost. Different districts have certain times for sowing, and what would be early in one district would be quite late enough for another, and vice versa. In the northern districts the first week in August is none too early, and in the south from the middle to the third week. In either case this will give time for the seedlings to appear well above the soil before the wet days of autumn are upon us.

Those of the Tripoli section are generally selected for autumn sowing, a good selection of Giant Rocca being perhaps the best for general use. It is mild in flavour, grows to a large size, and is also a tolerably good keeper when harvested well. This is most important when the bulbs require to be kept as long as possible; consequently it will depend upon how this part is carried out whether they will decay quickly or not. The Early White Naples and large Italian are also good kinds of the same section; the former, besides growing up to a useful size quickly, is also a good kind for drawing young during the winter. The White Spanish and also Danver's Yellow may also be sown now, although it is seldom these are selected for the purpose. This reference would not be complete without a note being made of that excellent little Onion The Queen. It must not be classed with the former, but is most useful in case of emergency if the ordinary kinds are likely to be short the following spring. Instead of sowing in the open with the large kinds, select a sunny border where the soil is fairly light, rich, and also tolerably firm. Shallow drills should be drawn 7 inches or 8 inches apart and the seeds sown thinly. The young plants will grow quickly and be found valuable early in the spring.

A. Y. A.

**Ellam's Early Cabbage.**—Too much can hardly be said in favour of this little early Cabbage. Last year I sowed seed of it on July 28, and when the spring-sown Onions were cleared off, the ground was slightly pointed over to bury weeds and give it a tidy appearance. The plants were put out on September 21 in lines 18 inches apart and 10 inches between the plants in the lines. The Cabbages soon began to grow, and when large enough a little soot and wood ashes were carefully shaken around them to destroy slugs and stimulate the plants; they were then



lightly earthed up. This was all the culture they received. I commenced to cut at the beginning of April and soon cleared the ground of several thousands of sweet firm little heads, and soon had the ground manured and dug for French Beans, which promise to give us plenty of Beans until destroyed by frost. Out of all the plants not one bolted, a complaint we have heard so much about this season.—W. O., *Pota, Cork.*

### EARLY CAULIFLOWERS.

WITH an abundance of Cauliflowers at this date it seems out of season to write about early Cauliflowers for next year, but to get the latter one has to prepare some months before, and there is no better time than the third week in August of the preceding year. I am aware there are many who do not think it necessary to sow now for the early supply. I have tried sowing in heat and find it all depends upon circumstances, as the spring-raised plants require a lot of care in transplanting, protecting and moisture that the autumn sown if kept well exposed, not coddled in any way, are exempt from. Again spring-sown Cauliflowers do not come in so early as autumn sown and they do not give such good heads, so that wherever practicable it is a good plan to sow for early cutting at the end of August, and to winter in frames or cold houses. The old system of planting out seven to nine plants under hand-glasses in October and leaving the four corner plants at the spring planting, removing the others, is a good plan, and gives a succession, as those transplanted in the early spring receive a slight check by removal and come in after the others. To follow out the last named plan a well protected border is the best place, as east winds do more harm than frost, and unless the glasses are close fitting they play sad havoc with the plants in the early spring. I have noticed that those plants potted up into  $4\frac{1}{2}$ -inch pots and plunged in ashes up to the rim with some cocoa fibre over the surface scarcely ever go off, and as they are thoroughly exposed till severe weather sets in, they get hardened and stand frost better. Of course the potting up and planting out of autumn-raised Cauliflowers entail work, but I think there is more with the spring-sown when all is considered and the care required to get strong plants to produce good heads of Cauliflower early in June. In the spring months too there are so many other matters requiring attention, that any work that can be done at this season is a great gain. Many plants of Cauliflowers are lost in the winter through leaving them in the seed beds, as the plants are weak and drawn when left in this state; therefore unable to resist frost. I have wintered these plants at the foot of a wall when they have been pricked off in time to get a good hold of the soil. Often when sown in the spring and allowed to remain too long in the seed-pan they bolt; hence the advantage of autumn sowing where it can be practised. I have also planted out some in a cold frame, but unless given ample space they draw badly, and in severe weather it is difficult to air properly. I have found the plants do better potted up and plunged in the frame, removing the lights whenever possible. I think there is less difficulty in choice of varieties than in other details. Early London is often recommended, but I do not like it on account of its loose growth. I prefer Walcheren, being very hardy and the flower more compact and firmer. Last season I tried Veitch's Pearl, and though termed a main crop Cauliflower it is a valuable early kind, very hardy, an erect grower of medium size with a pure white head of fine flowers. Dwarf Early Erfurt is also a reliable kind; I consider it superior in every way to Early London.

G. WYTHES.

**Exhibition Tomatoes.**—Very fine samples of Tomatoes now turn up everywhere at exhibitions, and there seems to be danger because of the high average of size now seen allied to fine form and colour, that size alone will become the chief feature in determining the decisions of judges. It is

difficult to see how that plan can be avoided. When we see perhaps half-a-dozen dishes of Tomatoes contending in the same class, all so good, so even, and so large, there seems to be no other course open but to allow the scales to determine which of them are the heaviest, for no other element in them differs. That is hardly satisfactory, but it seems to be inevitable. It is perhaps amusing to note that of the half-dozen dishes all may be absolutely so much alike, that there is not a shadow of difference between any of them, and yet all may have diverse names. It is just possible, that seen growing they may display some trifling difference of foliage or habit, but we all know that certain Tomatoes even growing need distinctive names to enable them to be described as distinct. This sameness is found in the Perfection type chiefly and is inevitable, because all who save Tomato seed do so from the finest and handsomest fruits every year, no matter what the name or sort; hence there is a gradual approach to such identity of appearance that no one can find difference. We do not want very large Tomatoes. Mr. Asbee assured me not long since that fruits of medium size, handsome, and of good colour were found more in request in Covent Garden Market than large ones are, and that is easy to understand. Still in face of this fact judges seem to have no other course open to them but to make the awards always to the largest samples. It is a pity that classes for collections should be instituted. These encourage barefaced humbugging, as half-a-dozen names may easily be manufactured for fruits gathered from one sort. In any case not more than six sorts should be asked for, and these, it should be made clear, should be so distinct as to admit of no doubt whatever.—A. D.

### THE LIFTING OF EARLY POTATOES WHEN RIPE.

"A. Y. A.'s" letter on this subject (p. 66) is at once important and timely. The Potato crop could hardly look better, and the early ones are up to this date free of disease. How long they will remain so, however, no one can prophesy, as the closing days of July and the early weeks of August have often brought in or greatly exaggerated the Potato disease. Hence the advice often given in the pages of THE GARDEN before and now repeated by "A. Y. A." to get the early crops out of the way of the disease so soon as possible. Nothing is gained, part or the whole of the crop may be injured or lost, by leaving early Potatoes in the ground too long. The idea that the disease cannot affect them in the ground after they are fairly ripe is too full of risk to be acted on. Why should they be left to the mercy of our changeable conditions in earth and air, fully exposed to innumerable fungoid spores, when they can be safely stored either in spore-proof sheds, cellars, or pits? Any risk of losing the nutty flavour of sweet new Potatoes is easily avoided by storing them in shallow airtight heaps covered with clean sweet earth. All huddling together in large heaps, covering with mats, sacks, musty straw, &c., should be avoided. Potatoes in general, and new Potatoes in particular, readily catch flavours from covering material. Their only legitimate and safe covering is the soil. Enveloped rather than merely surfaced with this, they are safe from fungoid raids and foreign flavours. The first has been denied, and it has been asserted and used as an argument against the early lifting of early Potatoes that the disease does destroy them after they have been taken up. The assertion has arisen from a confusion of ideas thus: The disease is not seldom present without showing much or any sign. The germs of the disease may be in the Potatoes for days or weeks mayhap without the usual blotches on tops or tubers. In such cases the germs grow and develop into rotteness after the tubers are lifted, but no authentic cases are on record where early or other Potatoes lifted sound and stored with ordinary caution and care have become diseased after lifting; hence the advice so often given to endeavour to starve out the disease by the compound process of lifting early crops be-

fore the disease comes and late ones after the disease period has passed over. This with killing the Potato fungus with Bordeaux mixture or spraying with London purple or Paris green will probably enable cultivators to finally vanquish the disease.

Another great advantage of the early lifting of early Potatoes cannot be too frequently pointed out; it clears the ground for immediate cropping with late greens, Cauliflowers, Celery, Turnips, Lettuces, Endive. The whole of the Potato tops, long or short, should be burned, and the ashes of these or any other refuse, such as the breastwood of Gooseberries, Currants, fruit trees, weeds, or other vegetable matter scattered over the Potato ground. This dressing and coating also of manure if available and the subsequent crops would prove the likeliest mode of destroying any fungoid spores of the Potato disease that might be lurking about the ground just cleared of early crops. Through lifting the crop, in depriving the fungi of their natural breeding and feeding pabulum, and by good culture and cropping, grow the Potato disease out of the land, or make its visits or return less probable.

D. T. F.

## GARDEN FLORA.

### PLATE 869.

#### SMALL-FLOWERED AZALEAS.

(WITH A COLOURED PLATE OF AZALEA HEXE. \*)

BESIDES the numerous varieties of Indian Azaleas that are to be met with in most gardens there are a few smaller growing forms, all of which are very pretty and well worth cultivation if only for the sake of variety, for though the individual blooms may be smaller than those of the Indian Azaleas, they are as a rule borne in such numbers, that when at their best the entire plant is quite a mass of bloom. By far the best known of this group is the Chinese *A. amena*, a very neat growing Evergreen, whose bright-coloured blossoms may under glass be had quite early in the winter. Out of doors, however (for it is thoroughly hardy), this little Azalea does not bloom till spring. There is a variety of this (Caldwelli) which is of freer growth than the typical form, and with blossoms nearly twice the size. This is in some cases grown almost to the exclusion of the older kind, as effective plants of Caldwelli can be obtained in much less time than in the case of the other.

Resembling *A. amena* in the Hose-and-hose conformation of the flower, but totally distinct from it in colour, is *A. calyciflora*, which is a suitable companion to the variety Caldwelli. The blooms of *A. calyciflora* are of a bright salmon-red colour, with a distinct orange shade. It is one of Messrs. Veitch's introductions from Japan, and will doubtless in time be much more extensively grown than it is at present.

*A. obtusa* is another of these small-growing forms, without the enlarged calyx segments so noticeable in the case of the preceding. In colour, however, the flowers are somewhat in the same way, being a kind of orange-red. There is a very distinct variety of *A. obtusa* in which the blooms are pure white or occasionally slightly striped with red. Like the others, this is a most profuse bloomer. It is also readily forced, for I have seen it in bloom by the end of November.

*A. roseiflora*, also known by the names of *Rollissoni* and *balsamineflora*, is the only one of this group that has previously been illustrated in THE GARDEN, a coloured plate of it having appeared in Vol. XVIII. This is quite

\* Drawn for THE GARDEN by Gertrude Hamilton, February 13, 1892, from a flowering plant sent by Herr Otto Forster. Lithographed and printed by Guillaume Severeys.











distinct in all stages from any other Azalea and forms a beautiful little flowering shrub for the greenhouse, though this amount of protection is by no means absolutely necessary, as it has proved itself hardy in some districts. The usual habit of this Azalea is to form a low, much-branched bush, which generally acquires a spreading style of growth. The blooms are of a pleasing shade of salmon-pink, larger than those of any of the above mentioned, and very double, the petals being beautifully imbricated. Just as the flowers are partially expanded the specific name of *roseiflora* is very appropriate, as they then much resemble little Rose buds. It suffers greatly during the winter from the dense sulphureous fogs in the neighbourhood of London, but where atmospheric conditions are more favourable, it will in a greenhouse temperature often produce a few scattered flowers towards the latter part of November and keep up a succession in this way till the spring, when the remaining buds open pretty well together, so that generally the plant is then quite a mass of bloom. Some few years since a correspondent of THE GARDEN advocated the growing of this Azalea in a shady spot, and this was certainly very good advice; for where followed, the results have proved to be very satisfactory. From its slow growth it is difficult to obtain anything but small plants of this Azalea.

Besides those above mentioned, there is a group of hybrid varieties between *A. amena* and some of the Indian section, the result being, as might be imagined, that the blooms are much smaller than those of any of the Indian varieties. In habit of growth, too, the majority of them are about midway between their parents, most of them forming dense twiggy bushes, and all very free-flowering. They are also easily forced into bloom a good deal earlier than they would naturally flower. The first raiser of these hybrids was Mr. Carmichael, when at Sandringham, and he employed, I believe, the Indian Azalea *Stella* and *A. amena* in their production. Among the best of these varieties are Mrs. Carmichael, magenta-purple; Miss Buist, white; Duke of Connaught, purplish-rose; William Carmichael, carmine suffused with magenta; Princess Beatrice, pale mauve; and Mrs. Gerard Leigh, pink. Later on, viz., about ten years ago, some varieties of this section were exhibited and awarded certificates by the Royal Horticultural and Botanic Societies. They were raised by Mr. Todman, of Clapham, but whether they are in general cultivation I cannot say. At the time I was very much struck with Duchess of Albany, a pure white semi-double flowered variety. That other raisers were in the field is proved by one of Mr. William Bull's seedlings—Illuminator—being awarded a first-class certificate by the Horticultural Society in 1885. This is one of the freest growing of this section, and the flowers are very bright and effective, being a kind of deep rosy magenta, shaded in the centre with vermilion. The latest addition is the variety herein figured (*Hexe*), raised by M. Otto Forster, of Lehenhof, whose name is so well known in connection with various hybrid plants. In Vol. XXXV. of THE GARDEN (p. 320) that gentleman mentions a batch of seedlings he obtained by crossing the curious Japanese *A. linearifolia* with the above-mentioned variety *Hexe*. They were all free-flowering and agreeably scented. To M. Forster we are also indebted for one of the grandest hybrid Rhododendrons that is to be met with in our gardens, viz., *Forsterianum*, a hybrid between *R. Veitchianum* and *R. Edgeworthii*. The flowers of the hybrid variety are very large and pure white, with the exception of a stain of lemon in the centre.

The smaller growing Azaleas are seen at their best when allowed to assume their natural character of dwarf bushes, for if grafted on to naked stems, after the manner so generally followed in the case of the more commonly cultivated varieties known as Indian Azaleas, they present at best a leggy and artificial appearance; whereas when struck from cuttings and just stopped once or twice during their earlier stages, they form pretty little dense-growing bushes, which are at the same time totally devoid of any stiffness or formality, and for the embellishment of the greenhouse are very useful, added to which they are (as might be supposed from one parent being quite hardy) less tender than the Indian varieties, and in favoured districts of this country would no doubt stand the winter without protection. Cuttings of the young growing shoots strike root readily, and the time at which they may be taken depends of course upon the treatment given to the plants, for those brought on in a warm greenhouse will perfect their shoots in the spring, and, on the other hand, where but slightly protected they are much later, and consequently it is about midsummer before the shoots are ready for cutting. In any case the treatment followed should be the same, viz., insert the cuttings firmly into well-drained pots of sandy peat, and keep close and shaded till rooted, which will be in from six weeks to three months according to the treatment given, and also to the condition of the cutting. When the cuttings are produced in heat they must be kept at much the same temperature or slightly higher till rooted, while those put in later in the season will strike freely in an ordinary garden frame if carefully attended to.—T.

— Mons. Otto Forster, the raiser of the variety illustrated this week, thus writes concerning it:—

Many years ago I was accidentally present at Messrs. Standish and Noble's when a box of Mr. Fortune's arrived. This contained, amongst other interesting novelties, plants of *Azalea amena*. One of these plants was carefully cultivated in my garden when I was at Augsburg, and pollen of a very vigorous flower, which showed the Hose-in-hose character very distinctly, was in 1878 transferred to *Azalea Herzog Adolf von Nassau*. *Azalea Hexe* is the result thereof. It partakes of the Hose-in-hose character of *amena* in a very pronounced way, and is in colour intermediate between both parents. *Azalea Hexe*, as I can state after several years' careful trial, has many good qualities. It is a very free flowerer (often three buds on the end of a single shoot), forces well and early, the growth of the plant is vigorous and the colour of the flowers, even when forced early, a very lively rosy-purple. The compact trusses are very useful as button-hole flowers, as these remain an unusually long time fresh when cut nearly a month on the plant. *Hexe* has already a numerous progeny, as I crossed it with *Azalea linearifolia* (the female parent). Many of the seedlings are Hose-in-hose, and all are agreeably fragrant; they grow very vigorously and the flowers are borne in clusters, but none has the small elegant foliage of the female plant, as I had anticipated.

**Dimorphanthus mandschuricus.**—Whether this is sufficiently distinct from *Aralia* to be regarded as a separate genus is at least open to question, but in any case there can be but little difference of opinion as to its being a very handsome plant when grown under such conditions that its charms are displayed to the best advantage. It is a plant of rapid growth, and quickly attains a height of a dozen feet, while numerous secondary stems are, as a rule, soon pushed up, so that it forms a large mass or clump. The huge compound leaves cover a considerable space, so that in planting it ample room must be allowed for its full development, as if cramped or confined in any way its beauty is altogether lost. This caution is very necessary, for it is such a neat-looking subject when about a yard high, that anyone un-

acquainted with it would scarcely be prepared for the rapid advance and the large size it afterwards attains. As a single specimen it is very effective, for in such a position the leaves sweep the ground on all sides, and early in the autumn, when the noble mass of foliage is crowned with the inflorescence in the shape of large erect compound panicles of small whitish blossoms, it is rendered additionally striking. When planted in such a way too that it just stands out from a belt of the larger shrubs, and breaks up the foreground thereof, it is at times very effective. This *Dimorphanthus* is thoroughly hardy, and while the deep descending roots enable it to thrive in dryish spots, it is, as might be supposed, most at home in good deep soil. Its propagation is of the simplest, for not only can rooted suckers be generally detached, but if the roots are cut up into pieces 3 inches or 4 inches long and placed under conditions favourable to growth, every one will quickly form a plant.—T.

## THE WEEK'S WORK.

### PLANT HOUSES.

**PROPAGATION.**—Seasonable work in this direction now consists in securing good cuttings of *Kalosanthes*, still best represented by *K. coccinea superba*. This is much preferable to retaining old plants from year to year, these latter never looking so well as regards their growth, whilst the flower trusses are rarely ever so fine. About three strong cuttings placed triangularly at the sides of a  $4\frac{1}{2}$ -inch pot will, if well cared for, flower next year. These in the spring could be shifted into one size larger. Cuttings not so strong could be inserted in the same way into 3-inch pots, these in the spring going into one size larger to be grown on to make extra strong plants the year after. Such plants will serve all ordinary purposes of decoration, but if extra large plants are required, then some eight or ten cuttings can be placed in a 6-inch or 7-inch pot. It is better to strike in this way than to place a lot of cuttings together and afterwards divide them. Sandy soil should be used, good loam with a dash of peat or leaf-mould being the staple product. When the soil is none too good, some lime rubble is an advantage; failing this, some charcoal would be a good substitute. When the cuttings are put in, the soil should be made firm and the pots afterwards put into a close frame until root-action is fairly started; but at no time is it desirable to keep them either moist at the root or overhead, as in the case of moisture-loving plants.

*Poinsettia* cuttings for the latest batch should now be got in; these do not often strike so well as earlier in the season, more for the want of warmth at the roots than anything else in conjunction with an excess of atmospheric moisture caused by the want of fire heat to dispel it. It is now too late to do much good with another lot of cuttings of *Euphorbia jacquiniæflora*, but young plants not yet far advanced might with advantage receive a good amount of heat and a slight shift if in need of it. Such *Begonias* as *B. insignis* may still be struck, each cutting singly in small pots with a slightly larger pot afterwards, but no attempt ought to be made to grow plants of any size now the season is getting on. Other shrubby *Begonias*, as *B. nitida*, *B. nitida odorata*, and others which flower later in the spring, may now be struck with advantage, as large plants for wintering are not always desirable. Of *Begonias* not much grown note may be made of *B. corallina*, a decided acquisition in its class. *B. metallica* is another extremely useful plant, being of service in a decorative sense as much for the sake of its foliage as its flowers; this species is easily wintered in a warm greenhouse. Plants of *B. manicata* that are not over large may be potted on, but some cuttings should be put in to keep up a stock, as over-grown ones are not always desirable.

Of decorative plants which are required in quantity, note should now be taken of such as *Panicum variegatum*, *Tradescantia zebrina*, and other varie-



ties, *Fittonia argyroneura* and the *Cyrtodeiras*, likewise of *Selaginella denticulata*. All of these useful plants if struck now can be turned to a good account in the autumn and early winter months. None of the latter useful plants should be wasted to such an extent as to reduce the supply to a too narrow compass; they will grow in many out-of-the-way places from which they can be frequently used instead of entirely depending upon the stock in pots.

*Ixora* cuttings will now strike very well in a brisk heat; so also will those of *Gardenias*, *Allamandas*, *Bougainvilleas*, and other flowering stove plants. Such plants if kept steadily on the move through the winter would make much better stuff for another season than if the propagation be deferred until the spring when there are hosts of things that must be given attention in the propagating pit. Where there are any old or leggy stools of *Dracenas*, these too should be taken in hand now, the tops if at all good can be struck, whilst the stems are cut up into short lengths. I find it a good plan to lay these pieces in moist cocoa fibre only until shoots and roots appear, when they can be potted singly into small pots. Doing this work now is also a saving of time, for if deferred the same process has to be gone through in the spring, when by that time the young plants might be of good size. Crotons to suit the requirements should also be propagated; there is room for using these superb decorative plants far more largely than is now the case in very many establishments. A constant process of propagation is infinitely better than retaining those plants, which instead of being ornaments are rather the reverse, if not positively ugly.

*Abutilons*, although greenhouse plants, are best struck in warmth. Side shoots of the flowering kinds struck now will make nice dwarf plants to come in serviceable next spring onwards through the summer season of the following year. *Asparagus tenuissimus* and other varieties which can be propagated from cuttings should also have attention now, each cutting being placed by itself in a 2½-inch pot, and when struck the stock should be kept on a shelf near the glass. Another very useful plant in a small state is *Ficus repens*. Good cuttings of this should now be obtainable. These, if taken from moist spots, will be almost ready-rooted to commence with. Instead of attempting to winter old plants of the *Impatiens* family, it will be found a better plan to propagate and keep young plants in small pots through the winter. It is much better to keep the propagating pit fully employed. If it lies idle now it will mean an increase of work when there is not enough room for all the plants that may be required.

JAMES HUDSON.

### THE KITCHEN GARDEN.

**LETTUCE FOR WINTER.**—A good salad during the winter being indispensable, preparations must now be commenced to secure a supply of good Lettuce. The plants from this sowing will come in for lifting and planting in frames upon the approach of frost, while a portion may be left in the open to be cut as wanted, although this will depend principally upon the weather, as both frosts and excessive wet have to be reckoned with. In most seasons, however, good Lettuces, by slightly protecting them, may be cut from the open until late autumn or early winter. Weak or drawn-up plants being of little use, ample room must be allowed in the seed-beds, and the soil they are sown in must also be light and friable, so that the plants can be lifted with a bunch of fibrous roots when ready for transplanting. Transplanted Lettuces lift the best, and as there is little or no fear of failure through transplanting, sowing for this purpose should be adopted. A south border recently cleared of Potatoes is a good site for raising the plants. The seeds should be sown in drills drawn 15 inches apart, also taking the precaution to sow the seeds thinly, so that air and light can circulate freely around the plants. The best of the *Cos* forms for autumn work will be found in the old black-seeded *Brown Cos* and

Hicks' Hardy White, and amongst the Cabbage forms All the Year Round, Tom Thumb, and Golden Queen are generally selected for frame work. Stanstead Park is also a splendid Lettuce for either lifting or remaining in the open. During mild winters this will remain in good condition without any protection whatever. Directly the plants are large enough transplant at least a foot apart, a little extra room between the rows being an advantage, this allowing moisture to dry up quickly. The plants which are to be left in the open should be planted in a convenient plot, so that they may be quickly covered in case of an emergency.

**YOUNG CARROTS.**—These during the winter months are considered a delicacy, a regular supply being looked for in the best establishments. This being the case, a start must now be made. Sowing in the open is not the wisest course to adopt, for although the roots will grow freely enough and come to a usable size before winter, yet on the majority of soils root-eating insects are apt to attack them, and the quality of the roots is also impaired. Under these circumstances frame culture is the best method to adopt, not that glass coverings are needed until inclement weather arrives, as the more exposure up to this time the better. An old hot-bed, such, for instance, as may have been put to other purposes, answers well. This is much better than forming a special bed for the Carrots. The surface having been levelled and trodden over, a layer of 5 inches or 6 inches of light sandy soil should be placed over the whole, and if this depth is not sufficient to raise the surface to within a few inches of the top, some additional old fermenting material must be added beforehand so as to make up the deficiency. The seeds being sown thinly and lightly covered, a gentle watering will hasten germination. The soil must afterwards be kept fairly moist to ensure a healthy growth. Both the French Forcing and Nantes Horn are suitable kinds for sowing.

**CHEVIL.**—The earlier sowings will soon be quickly over; therefore, make a sowing for winter use. For winter use the sowing must be made on a sloping and sunny border. The seeds must be sown thinly in shallow drills 9 inches apart. Where Chevill does not succeed well, a dressing of calcareous matter will be found an advantage.

**HARVESTING AUTUMN-SOWN ONIONS.**—These are later in ripening this season, the late spring having retarded growth. As the tops are now changing colour the bulbs will soon be ready for drawing. When allowed to remain unpulled after being ready for growth quickly starts again, when, of course, their keeping properties will have vanished. Any that are still in growth should have the stems bent over, this partially checking growth and hastening on the ripening. A thorough ripening is very essential to ensure their remaining fresh and sound for a lengthened time. If the weather should be fine and sunny after pulling, allow the bulbs to remain on the ground for a few days, afterwards removing them under cover where they may be quite free from wet, but exposed to the sun and a free circulation of air. A temporary stage erected in a freely ventilated Peach house or vinery cleared of fruit suits them admirably. Leaving them in the open if a wet time should ensue is a sure forerunner of their being badly ripened, and their consequent quick decay.

**AUTUMN-SOWN ONIONS.**—It depends greatly upon the district as to the most suitable time for sowing, as it is not wise to be too early in early districts, or too late in the colder or more northern parts. But, as a rule, the first week or ten days of August will suit the latter districts, and in the more southern parts the middle of the month to the third week or thereabouts. Where only a few are needed for dibbling out in the spring for summer use, with a few for storing, a small bed of a variety or two will be sufficient. Whether the seeds will be sown in small beds or in the open in larger quantity, it is very essential that the site be well exposed to the sun and also well drained, as winter Onions detest stagnant moisture. The soil must be in a well-worked and fer-

tile condition, and also be made moderately firm previous to sowing, a firm root-run being very essential. A dressing of soot and wood ashes worked into the surface previous to sowing will also be highly beneficial. The Giant Rocca is about the best of the Tripoli section for pulling during the summer or for storing, Early White Naples being earlier and also adapted for early pulling. Giant White and White Lisbon are also favourite kinds, the latter being very hardy. The Tripolis are not the only kinds adapted for autumn sowing, as the White Spanish and Danver's Yellow are admirable for the purpose. A. YOUNG.

### ORCHIDS.

ALL the houses sadly lack the brightness we would like to see at this season, as well as in May and June, but it is well to take note of what plants are flowering at this season, and add more of them to the collection. When summer is merging into autumn, some of the *Aerides* come in very useful as decorative plants. The most gorgeous of all this genus is *A. Lawrenceæ*. It was highly valued when first introduced, and a celebrated Orchid amateur was glad to give 235 guineas for the first plant in flower sold at Stevens' auction rooms in King Street, Covent Garden. It is now grown in many collections, and the modest amateur of small means can afford to grow this fine species as well as *A. Sanderianum*, which is probably a well-marked, yellow-tinted form of *A. Lawrenceæ*; both of them are well at the head of the genus, and they are plants of free growth. Next to these two there is *A. suavisimum*, also flowering at this season, of which there are now several well-marked varieties, such as *A. nobile* of Warner's "Selected Orchidaceous Plants," Reichenbach's *A. Rohanianum*, and *A. Ballantineanum*; this last is the most distinct, and it generally flowers earlier. *A. quinquevulnerum* is certainly a distinct species; some varieties of it produce longer spikes and brighter coloured flowers than the others. It is truly distinct and beautiful. *A. affine* of gardens is a pretty and distinct *Aerides* flowering at this season; but this well-known plant has now been classed with *A. Lobbi*, *A. Veitchi*, and *A. Godefroyanum* as varieties merely of *A. multiflorum*. All the above may be placed in the intermediate house when in flower, but when making their growth they do best in the temperature of the warmest house. The plants have a tendency to lose their lower leaves, which detracts considerably from their value, and the cultivator who can manage to preserve the lower leaves of the *Aerides* and *Vandas* has mastered one of the more difficult details of Orchid culture. All the above may be grown either in teak baskets or flower-pots. If in flower-pots, three parts of the depth should be made up of clean crocks loosely arranged, the remainder of clean Sphagnum Moss, well mixed with potsherds and pieces of charcoal. One of the prettiest plants we have now in flower in the warmest house is the charming *Dendrochilum filiforme*; its pendulous slender racemes, like so many elegant gold chains, are most pleasing, and they last a long time in good condition. It is, I think, an error to let this plant get anything like dry at the roots even in what may be termed the resting period. Pot the plants in good fibrous peat and Sphagnum, drain well, and keep the Sphagnum Moss growing on the surface all the year round. *D. glumaceum* requires much the same treatment; it flowers in the spring after having made its growth. I find both of them of easy culture, and if the latter species lacks some of the elegance of *D. filiforme*, its delicious perfume makes up for it. *Miltonia Roezli* is one of the most free flowering plants we have in the warm house, and its pleasant perfume of Roses pervades the house when it is in full flower. This species grows very freely with me, and the plants are easily divided when they have grown large enough. I have grown tiny plants in 2½-inch pots until they have grown into specimens large enough to fill a 10-inch pot, and produce 120 flowers all open together, but when the plants are potted on like this



into larger sizes without disturbing the roots much, I find that in time the peat and Sphagnum decay into a rotten mass in which the roots do not live and thrive. It is better to divide such large specimens into several small ones before any decline in vigour is seen, carefully removing the decaying organic matter, and repotting in the best peat and Sphagnum Moss with plenty of drainage. All that is required with these plants is to dip them in a solution of soft soapy water to which has been added some tobacco liquor. Two ounces of soft soap and a quarter of a pint of tobacco liquor should be used to each gallon of rain water. The water should be boiling to melt the soap; add cold rain water to reduce the temperature to between 90° and 100°. This will kill the thrips or prevent their reappearing. Now is a good time to repot the plants. All the deciduous *Calanthes* are in full growth, and they must be kept in a warm growing temperature and moist atmosphere. They should have weak manure water at least twice a week and be syringed occasionally.

We have placed the *Vanda cœrulea* in the warmest house, and as the plants are now about showing the flower-spikes, a watch must be kept to see that no stray slug may venture to make a meal of the tender green points just emerging from the axils of the leaves. They are placed in the lightest part of the house, and are making good healthy growth. There are in the *Cattleya* house good flowering plants of *Cattleya Gaskelliana*, a fine form of the *labiata* section, which carry the season well into August, when *C. Eldorado* comes into flower. This plant requires rather more heat than the other varieties; it is quite distinct from any of the others, and is readily distinguished by its smaller flowers. *C. Wallisi* is the white form. The plentiful supply of the original form of *C. labiata* adds still further to our autumn-flowering *Cattleyas*. The original species which went under the name of *C. labiata* (vera) was very expensive, because it was very scarce. Now that it has become common it has lost none of its value as a decorative plant, and it may be grown plentifully in every collection; whereas, only wealthy amateurs could have plants of it at one time. Some of the more shy-flowering species and varieties require rather special treatment to get them to produce their flowering sheaths annually. *C. Dowiana*, *C. Hardyana*, *C. gigas*, &c., have a tendency to make growths after they have flowered; they ought not to be allowed to do this. It seldom happens if the plants are kept well on the dry side and placed in a light position in the *Cattleya* house, and they ought to have more air. *C. superba*, a distinct and handsome species flowering at this season, must not be forgotten. The plants should be fixed to a piece of Tree Fern trunk and they will flower annually if kept free from yellow thrips, which attack the growths in their course of formation.

J. DOUGLAS.

#### HARDY FRUITS.

**APPLES.**—Early dessert varieties are more plentiful than the later sorts, and fully a fortnight earlier in ripening than last year. Seeing that few or none of these early Apples keep well after they are ripe, the majority of them losing flavour soon after they are gathered, it is advisable to lengthen the supply by means of artificial ripening. Juneating, Margaret and Early Harvest gathered before the seeds are brown and placed in a warm room or forcing house quickly become fit to eat, but in most localities these are already ripening on the trees. Irish Peach, Beauty of Bath, Mr. Gladstone, and Quarrenden all ripen at much about the same time, and are at their best just when they are ready to drop from the trees. If plentiful or wanted to ripen quickly, gather some of the more forward fruit, place in a sweet, paper-lined box and ripen in gentle heat. Keep them out of hay or anything that smells strongly, or the flavour will be spoilt. Trees generally are very unequally cropped, some carrying scarcely any fruit and others far too many. Unless the latter are freely thinned, and it is not yet too late to do this, very

few really fine fruit will be had. Especially is this the case with King of the Pippins, Court Pendu Plat, and a few others, the fruit in these cases having set in great clusters. It is advisable to reduce the latter considerably with the aid of strong Grape scissors. Some of the earlier cooking Apples are now quite large enough to use, and it is even possible to market the thinnings at good rates. If Manks Codlin, Lord Suffield, Stirling Castle, and such like are freely thinned out now, there is every likelihood of the rest attaining a large size. Colouring has already commenced in the case of many choice Apples, and it will be found that the most exposed fruit lay on the most colour, their value being enhanced considerably thereby. Therefore, lose no time in spurring back all superfluous growths to the fourth or fifth leaf, and also remove leaves where necessary in order to well bare the best of the fruit. Heavily cropped dwarfed trees would pay well for a good soaking of liquid manure, and if not already done apply a mulching of strawy manure.

**PEARS.**—It is not much thinning out that has been needed this season. Early varieties are particularly scarce. Where protection of some kind—coping boards saved many crops—was afforded, the fruit is in great clusters, or much more so than usual, and unless well thinned all will be small accordingly. All the Jargonelles that escaped are in great clusters, and if the thinning has been delayed till now remove a portion at once and ripen in heat as advised in the case of early Apples. They may shrivel somewhat, but will yet be very good to eat, while those left on the trees will improve in size and ripen later on. All are better for being gathered before they are ready to drop or quite fit to eat, but they must not be kept long, or they will be found rotten at the core. Those who have fairly good crops of Jargonelle and the earlier summer Doyenné should make several gatherings, leaving none to fully ripen on the trees. If not done earlier, the summer pruning should now be completed, and what thinning out may be necessary in the case of later varieties should be attended to. Spur all the lateral growths back on wall trees to the fourth or fifth joint, reserving and laying in those only that are required for furnishing blank space. Where, however, plenty of fruiting spurs is already formed, some or all of the superfluous lateral growth can be cut cleanly out. A little colour also improves the appearance of some varieties of Pears, and these also should be well bared to all the light and air going. Espalier and cordon trained trees should be treated much the same as the wall trees. On no account shorten the leading growths before all trellis space is filled. If bush or pyramid trees are summer pruned, and this ought to be done wherever the young wood is thick, spur back all side shoots to the fourth or fifth joint and leave a few well-placed branches all over the trees to their full length, that being one of the best means of making non-productive trees fruitful—always provided those shoots are not shortened in the least next winter.

**PLUMS.**—Seldom have the trees generally been so lightly cropped as they are this season. They flowered abundantly and in many cases set well, only to be destroyed by frosts. What fruit there is will be found principally in patches, so thickly set as to require very severe thinning out. Owing to the comparative failure of the crop, those clusters that survived were not so generally thinned out as they ought to have been, but that was a mistake all the same. When softening and commencing to colour, Plums are excellent either for pies or preserving, and if one-half of those hanging thickly is utilised in this manner, the remainder may attain a better size and flavour. Summer pruning ought ere this to have been completed, and young shoots required for furnishing, neatly fastened back to the walls. Plums delight in a moist root-run, and should be kept rooting near the surface by means of a mulching of short manure and occasional soakings of water. Heavy rains have cleared many trees of aphids, but a free use of the garden engine would greatly benefit the trees, especially those against walls.

**PLANTING STRAWBERRIES.**—If well rooted, runners are properly planted not later than the second week in August, and if well looked after, they will grow strongly and produce a good crop of fine fruit next season. They take the most quickly to their fresh quarters when layered in either the shortest of the mulching material or fresh soil, while if layered into small pots, plant out before the plants become much root-bound. If the ground is trenched for Strawberries—a by no means necessary or wise proceeding in all cases—this ought to have been done last winter and a crop of early Potatoes taken off. They must have a firm, yet well-pulverised root-run, or otherwise the plants grow rankly at the expense of productiveness. Nor ought the manure to be buried very deeply, a surface rather than an excessively deep root-action best meeting the requirements of the case. Also allow good space both between the rows and the plants in the row, crowded Strawberries frequently proving a failure in very wet seasons, while the best-flavoured fruit is invariably obtained from plants that are growing well clear of each other. The rows of the stronger growers, notably the popular Sir J. Paxton, ought to be not less than 30 inches apart, a distance of 18 inches dividing the plants in the row, those of a neater habit of growth should be 24 inches apart in rows 18 inches asunder. Plant very firmly, well ramming the soil down with the handle of the trowel, and just deep enough to bury all the roots. Give a good watering and level over the surface of the ground. Keep them in a thoroughly moist state subsequently, and pinch out any runners that show.

W. IGGULDEN.

#### ECONOMISING SPACE.

ALREADY the days have shortened considerably, the best part of the year being on the wane, and what cropping in the kitchen garden remains to be done should be proceeded with as fast as possible. There is little likelihood of too many winter vegetables being grown, but, on the contrary, it happens more often than not a scarcity prevails, especially during January and February at least. During some seasons failures with some kinds of vegetables are inevitable, our climate being but ill suited for hardening and preparing green growing crops for withstanding a very severe spell of cold weather. What we have to do, therefore, is grow as much as we possibly can, and in good variety, not depending entirely upon a few kinds or varieties. In very many places garden space is all too limited in extent to meet the requirements of the establishment, and to make matters worse, those in charge let a few vague notions as to the necessity for strict rotations of crops unduly interfere with their arrangements. That a scientific rotation is of considerable importance there is no disputing, especially when manure is sparingly applied, but if the gardener in charge of a comparatively small place attempts much in that direction, it is very doubtful if the interests of his employers will be best served by it. I hold that the ground at this time of the year must be closely cropped, and this, as a rule, can best be done by paying very little heed to any rules as to strict rotation.

Then, again, very many gardeners, professional and otherwise, are under the impression that the ground must be manured and dug, or, it may be, they are content with digging only in some cases in advance of any fresh cropping, yet this, as a rule, is quite uncalled for at this time of year, and may easily do more harm than good. Heavy soils in particular if dug during the summer cannot well be got into a fit state either for planting or seed sowing till after they have been well baked by sunshine and then moistened by rain. Waiting for the latter occurrences may retard the cropping considerably; whereas if those in charge had been content with merely cleaning and hoeing the surface both before and after cropping takes place, this would have been all the preparation and cultivation needed for several kinds of crops. So far do some carry the mania for trenching, that they cannot turn out forced Strawberry plants from



pots into the open for what should only be for a period of about twelve months without first trenching the ground for them, this waste of labour really doing more harm than good, few crops taking readily to quite newly trenched soil. Loose, deeply dug, rich ground is not the best calculated to produce a class of plants that will withstand severe frosts, and in several instances it pays better to plant on quite solid ground. Particularly is this the case when planting or sowing is long delayed owing to a stress of other work preventing the supposed much-needed manuring and digging.

From generalities I must descend to a few particulars of what I may term economic, though not scientific practices. Savoys I hold to be one of the best winter vegetables we have, and abundance ought to be grown in the gardens of all classes. To have them at their best all the forms should now be growing strongly where they are to heart in, but there is yet much to be said in favour of planting at this late date. Supposing a breadth of early or summer Cauliflowers has recently been cleared off, rather than let this ground be long unoccupied, I would plant it closely with Savoys. Dribbled out from 12 inches to 15 inches apart each way, they would soon cover the ground, and if no really good hearts resulted, there would yet be a supply of tops or greens that might prove of good service next winter. All would come off in time for the ground to be manured and dug for seeds or plants in the spring. Savoys also do well in close succession to Strawberries, no digging being advisable beforehand, and they would pay better, as being more certain than Broccoli when planted close behind early and successional Peas. Chou de Burghley, if not grown too strongly, proves of good service during severe winters, and it is not yet too late to put out strong plants in succession to any early vegetables that may have been cleared off. Plant not more than 15 inches apart each way. This crop also will be out of the way in time for the sites to be prepared for important early vegetables. Borecole in variety requires, in common with Brussels Sprouts, a rather long period of growth, but seeing how early Potatoes are maturing this season, what is to prevent many of the latter being lifted and stored directly the skins are set, and what plants of Borecole there are available put out rather thickly in succession? The tops may be very acceptable after severe frosts have crippled or destroyed less hardy vegetables, and if not, all can be dug in next spring. Late planted Asparagus or Buda Kale does not branch strongly, but forms a single strong succulent growth similar to Turnip tops, more greens following. It is one of the hardest green vegetables we have, added to which it produces very succulent greens very freely as late as June. Plant now 9 inches apart in rows 15 inches asunder.

Market gardeners grow Coleworts very extensively, but private gardeners as a rule do not, yet they are most acceptable towards midwinter. Any of the quick-growing small Cabbages may be treated as Coleworts. Plants raised from seeds sown from the middle of June to the end of the first week in July and put out now 12 inches apart each way wherever there is a border or plot of ground empty will most probably give neat, tender, or at any rate tender tops during December and later. Planted in close succession to autumn-sown Onions, Coleworts rarely fail to do well. Those who still resort to the old fashioned plan of putting out the spring Cabbage in rows 2 feet apart may well plant a row of Coleworts between these, the latter being cleared off long before the others require all the space. It is such neat-growing Cabbages as Ellam's Dwarf Spring, Wheeler's Imperial, All Heart, and Dwarf Etampes that give the best results, and these should be planted not more than 15 inches apart each way on ground newly cleared of spring-sown Onions, no digging in this or in any other cases I have mentioned being resorted to. The value of a good supply of tender young Cabbage in the spring cannot well be over-estimated; therefore plant extensively. If the plants are not obtained by sowing seed at the middle of July and a fortnight or three weeks

later, it is advisable to plant from a single seed-bed at different times, as it is possible to be a fortnight too early in some positions or the same period of time too late.

Potatoes are an excellent preparation for either Turnips, Spinach, or Endive, and all of these are well worthy of being grown extensively for winter use. If the Turnips are not required for cooking their tops may prove very acceptable, especially if the next winter resembles the two last we have had. In the more southern districts, Turnip seed may be sown as late as the end of August with a good prospect of greens, if not serviceable roots, being had, and it is not much winter Turnips take out of the ground. Winter Spinach is, all things considered, of more consequence than any other vegetable I have yet named; at any rate, such is the case in the gardens connected with the wealthier classes, and everything should be done, therefore, to make this crop a success. This is one of the few winter crops that ought to have extra pains taken with it. Winter Spinach rarely fails if the ground is moderately rich and is yet in a sweet, freely-worked condition. Good breadths should be sown early in August and again a fortnight or three weeks hence, a heavy and continuous crop of fine succulent leaves being had if the plants are given good room. Victoria or Monstrous Viroflay is the best for the purpose, though either the Round-seeded or Prickly-seeded answers well. It is hardly possible to grow too much Endive.

I. M. H.

## ORCHARD AND FRUIT GARDEN.

### OPEN-AIR PEACHES.

PEACHES against sunny walls promise to be a great success this season, and where there is a good collection grown, a succession should be provided for not less than three months. This very satisfactory state of affairs is largely due to the introduction of American novelties, more especially those that ripen extra early. These being of free and in some cases most productive growth, have given just that stimulus that was wanted to promote a more widespread return to the old practice of growing Peaches extensively against open walls. A few bad seasons, the introduction of cheap forcing houses, and the neglect to plant young trees in order to have these ready to take the place of any that fail, all tended to bring Peaches, as far as open-air culture was concerned, into disrepute. A few places there were in which a profitable lot of trees could be seen, say ten years ago, but these were quite exceptions. Now-a-days they are to be met with in most gardens, and now that they once more receive proper attention, failures will be few and far between. The open walls will doubtless always have to serve as feeders for the houses, that is to say, if it is desirable to improve the variety, or to substitute a healthy young tree for one that is nearly or quite worn out; the best will be transplanted from the open walls. This is as it should be, for the simple reason that wall or trellis space under glass is of the greatest value, crops on trees thus well protected being the most certain and also of the best quality. Naturally, the conditions under which trees are planted largely affect their future well-doing. With new or nearly new walls, and borders formed of turfy loam, Peach growing is child's play compared with what many in older places have to contend with. It is true old walls can be cleaned and pointed and fresh borders made, but neither the one nor the other is possible or sanctioned in numerous cases, turfy or good fresh loam being particularly difficult to obtain. Those, then, who succeed in growing good crops of Peaches under such difficulties deserve

the greatest praise, and that it is done I very well know, several instances having recently come under my notice.

This is not the time of year to discuss cultural details, but remarks on varieties will not be out of place. Last year I commenced gathering handsome fruit of Waterloo on August 1. This season ripening was unexpectedly early, several good fruit being gathered on July 15, the earliest date that I have heard of Peaches fit for use being pulled. Such varieties as Crimson Galande, Grosse Mignonne, and Dymond in an unheated house will not be ripe before the middle of August, which fact I mention with a view of further demonstrating the value of Waterloo. The fruit is of medium size, very highly coloured, and of fairly good quality if not kept too long. Early Alexander differs only slightly, some think not at all, from Waterloo, and there is no necessity to cultivate both of them. Hale's Early is, perhaps, a surer bearer than either of the two just named, but fully a fortnight later in ripening. It is one of the most profitable varieties in cultivation. With me quite small trees produce a crop, while the older ones are rarely thinned out enough. The fruit is of good size, flat-round in form, very highly coloured, and the quality passable. A good companion for these American varieties will be found in Crimson Galande. The latter is of free, yet not too rank growth and a sure bearer, the fruit being fairly large, Bellegarde-shaped, and very richly coloured, the quality being decidedly good. Waterloo, Hale's Early, and Crimson Galande are a grand trio for open-wall culture, and particularly to be recommended to those on the lookout for something fresh to grow for the markets. A moderately high south or south-west wall planted with dwarfs and half-standards or "riders" between would begin to give some return the second year after planting, and in three or four seasons would be yielding highly profitable crops. There is always a good demand during August for highly-coloured Peaches, though poorly-coloured, house-grown fruit are plentiful enough.

In Bellegarde we have another never-failing variety, and it is one of, if not the very best midseason Peach that can be planted. It possesses a good constitution, but can easily be kept from growing too strongly, and I have not had a failure with it during the past ten years. The fruits are large, flattish-round, and even in form, colour freely and ripen surely, the quality being very good. I have only a very old and quite a young tree of Dymond. The former has been allowed to crop so heavily in past years that but little growth is made, yet I get plenty of medium sized, highly-coloured fruit, the quality of which pleases. This variety also ought to be generally grown.

Barrington must be classed as a late or September Peach, and it is fully deserving of a place in the most limited collections. The tree grows strongly, but never fails to flower freely, a good crop setting during most seasons. The fruits are large, colour, and keep well, the quality also being satisfactory. Sea Eagle, though less well known, gives satisfaction wherever grown. It is a grand late Peach. Quite young trees bear well, while those of larger size usually set fruit so freely as to require to be very severely thinned out. It is only by attending well to the thinning out that extra fine fruit can be had, those on overcropped trees being of poor size and quality. It ripens late in September, keeping well into October.

The foregoing I hold to be a trustworthy selection, and hard to find fault with, but if more are wanted, Grosse Mignonne might well



be added. I have had this under the name of Padley's Early Purple remarkably good in a Shropshire garden, the tree attaining a large size and quite free of mildew. Again, in Essex I found a good tree of it, this time under another synonym—Royal Kensington, and excellent crops of handsome fruit of the best quality were usually produced. In some districts the tree mildews nearly as badly as Royal George, the best Peach as far as quality is concerned in cultivation. Grosse Mignonne ripens about the middle of August. Princess of Wales succeeds well in the more southern counties—that is to say, it is a sure bearer, the fruit, if freely thinned out, being large and the quality passable. It should ripen during the early part of September, or otherwise the quality is very poor. Walburton Admirable ought to be grown where very late Peaches are in demand, this being in season towards the end of September and lasting well into October. It is a fine, but not particularly reliable variety, the fruit attaining a large size and being of good quality. Should a still later sort be required, Salway ought to be grown, this being the latest of all Peaches. I have seen very fine fruit of this variety sent to the table from open-air trees as late as the middle of November, but they were protected with spare pit lights during and after the ripening period. It is a sure bearer, and if well thinned out the fruit grows to an extra large size, the skin being a rich yellow in colour, and where exposed prettily tinged with red. The quality is second-rate, but this is frequently overlooked when the fruit possesses the great merit of showing up well on the table. W. I.

#### APPLE TOWER OF GLAMIS.

AMONGST the Apples which are suitable for general cultivation, and by this I mean those varieties which succeed equally well in any part of Great Britain, there are some kinds which demand attention as being adapted for special purposes, the excellent variety here illustrated being one of those. I have always looked upon this Apple as one of the very best for growing as a standard in either grass orchards or even on cultivated land, that is, where the surface roots are not likely to be injured by deep digging. The tree is peculiarly adapted for growing as an orchard standard on account of its spreading habit, the heads rarely requiring thinning out, being quite unlike some others in this respect. After being planted the shoots require to be shortened back two or three times, so as to gain sufficient branches to form a well-balanced head. This Apple is an example of not treating all varieties alike in the matter of pruning or shortening back, for whereas some kinds will form a well-balanced head if only shortened back once or twice, the Tower of Glamis is not one of these; hence a little extra pruning is necessary to secure a well-balanced head, and also enable it to carry its weight of fruit without breaking off the branches or pulling them out of shape. It is also a free-fruited variety.

This variety is much grown in Scotland and also the northern counties of England, and its cultivation might well extend further south. In shape it is conical, rather angular, the ridges standing out rather distinctly, as may be seen in the illustration. At first the skin is pale green, slightly flushed with dull red, this latter being more pronounced according to the soil it is grown in. After being stored it changes to a pleasing yellow. The flesh is firm and crisp, and when cooked has a very piquant flavour,

and which worthily classes it amongst our best late cooking kinds, especially as it keeps well into February, and in a good fruit store later still. On account of its spreading habit it is not suitable as a trim-growing pyramid, but could be cultivated as a spreading bush if pruned in sufficiently for the first two or three years to enable it to form a well-shaped tree, as I hold that any kind of Apple tree, if of a naturally straggling habit, even if it fruits freely, should be guided sufficiently in its earlier stages to take on a more pleasing style of growth. Tower of Glamis worthily ranks amongst our most suitable kinds for growing as an orchard standard, and may well find a place amongst the most select cooking Apples for general cultivation. For the dwarfing stocks it is not so well adapted, as the habit of growth is against this.



Apple Tower of Glamis.

The Crab appears to be its ideal stock, and on this it is best to work it, even if it be grown as a bush for garden culture. Large standards of inferior kinds might well be re-grafted with Tower of Glamis if the system of grafting as practised in the west of England is adopted.

Y. A. H.

**Peach Early Rivers'.**—But for one serious, and I am afraid irremediable, defect this variety might be rightly termed one of if not the finest early Peach in cultivation. Instead, however, of its enjoying a good reputation, it has the very bad one of wholesale stone-splitting. The tree may be in the best of health, flower abundantly and apparently set well, a heavy crop swelling off in a very satisfactory manner up to the final stage. It is then when the stones crack, open widely from the base upward, and although the fruits do not drop off they neither attain their full size nor flavour,

and are of very little value. What few fruits have sound or perfect kernels and uncracked stones attain a very large size and ripen very early. They are flattish round in shape, in this respect resembling Bellegarde or Crimson Galande, and equal in size the largest of these. The skin is extremely tender, in colour a clear yellow, with a faint tinge of red on the more exposed part, flesh very pale, melting, juicy, and of excellent flavour. My first experience with this variety was in a neighbouring garden, where nothing that was tried prevented this wholesale stone-cracking, and the owner gave the tree to me to see what I could do with it. The season following transplanting a full crop was had, but only three sound fruit out of the lot. This year it cropped remarkably well, but once more proved most disappointing. Although growing in a successional house the fruit ripened before A Bec in an early house, and a month in advance of Bellegarde and Dymond. Some of our highest authorities attribute this weakness, viz., stone-splitting, to the peculiar formation of the flowers, the pistil protruding too far beyond the stamens, imperfect fertilisation being the result of this. The supposed remedy merely consists in supplying pollen of some other free setting variety to the pistil of Early Rivers' flowers, but has anyone yet been successful in this treatment? Quite a variety of pollen has been transferred from the flowers of both small and large-bloomed Peaches to those of Early Rivers', but in my case without any good effect. I will try again, and if I fail, the tree will soon make room for another.—W. IGGULDEN.

#### EARLY PEACHES AND PEACH TREES.

HERE the Peach crop is a very heavy one out of doors; the trees set their fruits very thickly, and therefore had to be severely thinned out before and after the stoning was completed. From a due west wall we have been gathering large highly coloured samples of Alexander since July 12, the fruits being very juicy and richly flavoured. This tree is in fine condition, being furnished from the ground with large healthy foliage. It was planted in the autumn of 1886 in a semi-circular hole extending 5 feet along the foot of the wall and 3 feet from it and 3 feet deep, with about 9 inches deep of brickbats broken fine, and covered with turf, grass side downwards, for drainage, and filled with good sound loam and old lime rubble in the proportion of five parts of the former to one of the latter. I have long been of opinion that were fruit borders devoted exclusively to the roots of the several kinds and varieties of trees growing therein, immensely larger specimens of trees and finer and better crops of fruit would annually be obtained. In our case—which is by no means an isolated one—the south and west borders are indispensable for the forwarding of early and late crops of French Beans, Peas, Carrots, Lettuces, Turnips, and Potatoes, and although care is exercised in pointing the manurial dressings into the soil with a four or five-tined fork, a few surface roots of the trees are almost sure to get injured in the process, and some of the branches suffer more or less in consequence. However, by observing care in the direction indicated the chance of injuring the trees in the manner described is reduced to a minimum. These remarks apply more particularly to Peach, Nectarine, Apricot, and Cherry trees. Another point to be observed in the successful culture of Peach and other wall trees, in addition to training shoots thinly rather than otherwise, is to keep them well supplied with water at the roots and washed overhead every afternoon during hot summer weather with clean water. Mulching the soil over the roots of the trees with rotten manure will greatly contribute to the health of the trees and the weight and quality of the produce. Of course, the summer growths must be laid in be



tween the shoots of the previous year's growth with short twigs, the points being pinched out of extra strong shoots to throw vigour into the weaker ones and so promote a balance of growth. All sub-laterals should be pinched hard back. The fruit should be finally thinned out to from 6 inches to 9 inches apart, giving 12 inches where extra fine fruits are aimed at. In point of earliness Amsden June on a wall facing due south is exactly a fortnight later than Alexander. This is also a highly coloured Peach, the fruits being smaller than those of Alexander; still, it is a very useful and fruitful variety and well worthy of cultivation; the quality is also good. Dr. Hogg follows next. Hale's Early I do not grow outside. H. W. WARD.

## STOVE AND GREENHOUSE.

### ORNAMENTAL STOVE AND GREENHOUSE PLANTS.\*

WHEN we give a backward glance over the past twenty-five years in relation to horticulture in general, we may well be astonished at the progress which has been made in all departments. If so many flowering plants have not been introduced into prominent notice during that period from other and remote regions of the globe, it cannot be said that there has been any lack of new and distinct additions to those grown for the value attached to them as plants of ornamental leafage. Not only by fresh importations has this been accomplished, but the efforts of the hybridist have been most amply rewarded by the valuable and varied contributions to many families of plants. Take, for instance, such as the *Nepenthes*, the *Sarracenias*, the *Caladiums*, the *Dracenas*, the *Crotons* and also the *Coleus*. No one will, I think, deny that there has been a distinct advance made in the new varieties added to each of the genera just named, as well as to others. This increase, both by importations of new plants and by the raising of others, has led undoubtedly to a far more extended system of culture for varied purposes. Plants are used now in so many ways, and with decided advantage also, as compared with a quarter of a century back. This demand has been fostered and well met by our large and well-known trade growers, who supply plants for all purposes. It has, however, taxed the resources of the gardener in many a private establishment to a considerable extent to keep up the requisite supply of what are usually termed "decorative plants," of which those with ornamental foliage form a most considerable portion. Embracing the period I have just named, I think that by far the most important feature has been the vast increase in the cultivation of Palms, which are now raised by tens of thousands and employed in various ways. It requires no great effort of the memory to revert to the time when in some establishments Palms were rarely seen, with the exception of a few of specimen size. They are peculiarly adapted to purposes of ornamentation, whether it be in the conservatory, the mansion, or the open air. Nothing lends such a tropical appearance as Palms of noble proportions, whilst for elegance of outline they are excelled by no other race of plants. Their utility in a small state is well known, particularly so in the case of the lighter and more elegant kinds; but there is room for extended use for those between plants of small size and the specimens. They vary so much in character of growth, thus affording abundant

choice for all purposes. The most important additions of late years to the Palms are the *Kentias*, which, if not consisting of many varieties, embrace within the few those which are of well-known durability and usefulness. Omission should not be made of the *Cycads*. Probably, through being of slower growth, these are not seen in such numbers. Many kinds will, however, when well cared for, develop into useful plants in no unreasonable time. As conservatory plants, or for plunging out of doors in sheltered spots during the summer-time, they rival the Palms, and are well suited to a dry atmosphere. To these should also be added the *Dasyliroids*, which, when arrived at maturity, are fine objects. The greenhouse *Yuccas* can be utilised from a small state upwards, and, although they grow slowly into specimen plants, when that point has been reached they are fine ornaments and very distinct. The varieties of the *Rhopala* are distinctly ornamental plants, being of an enduring character also. They look best, I think, if upon single stems, and are seen to better advantage when standing by themselves. The *Lomatias* and *Grevilleas* are also worthy of more attention; so also is *Erythrina marmorata*. *Cyanophyllum magnificum* is now seldom seen in collections. It can, however, be used whilst in a small state as a table plant, and as it increases in size is equally useful for vases, its massive foliage being so distinct from that of plants usually employed for that purpose. The merits of the *Acalyphas* are now being better recognised, and most deservedly so; they are plants which look well under artificial light. Another useful class of plants is the *Phyllanthus*; these are well suited to grouping. *Eurya latifolia variegata* is very useful for rough-and-ready work. The semi-hardy *Phormiums* and *Cordylines* should be cultivated more extensively, both for sub-tropical purposes during the summer months and also for cool houses at all seasons. All plants with silvery variegated foliage, as *Pandanus Veitchi*, *Eulalia japonica variegata*, *Anthericum argenteo-lineare*, and *Cyperus alternifolius variegatus*, are exceedingly useful as vase plants or for grouping. Tree Ferns do not seem of late years to have met with that favour which they did formerly. Give them, however, but a fair chance and they will prove all that one can desire. Probably many of the imported stems, of which such numbers were received into this country some few years back, did not become permanently established, and have now succumbed or are barely existing. When these are planted out in capacious houses, no plants could possibly present a finer appearance. Those, for instance, which are to be seen in the temperate house at Kew Gardens are grand examples of luxuriant vegetation. As an instance of how well they succeed in pots when carefully attended to and under favourable conditions, those at the Crystal Palace may be quoted; they are magnificent plants. Amongst

#### STOVE PLANTS,

during the past few years, the most remarkable additions have been made to the *Crotons*, *Caladiums*, *Nepenthes* and *Dracenas*. Each of these genera now possesses such variations in form and colouring as to render plants of them simply indispensable where much decoration has to be accomplished. The gain in *Crotons* has been immense. Time was when all of the best could be counted on the finger-ends. Not so now, with such an abundant choice both in habit, form and colour. There are those with broad and massive foliage, as *C. Baron James de Rothschild*, *C. Andreanum*, and *C. Morti*; those with narrow leaves, of which *C. angustifolium* is still one of the best of the drooping kinds.

Mrs. Dorman is, however, a good type, more erect in habit. With extra long and narrow, drooping leaves, *C. Warreni* is an excellent example. Then there are those with recurved foliage, as *C. recurvifolium*; of the trilobed kinds, *C. Disraeli* is one of the best; whilst with foliage of medium width, the type represented by *Queen Victoria* and *Sunset* should be noted, these being of brilliant colour when well grown. Altogether, *Crotons* are most valuable plants both in and out of the stove. *Dracenas* also afford us a great variation, from the narrow, but highly coloured *D. superba* to the broad and noble foliage of *D. Thompsoni* and *D. Youngi*. *D. terminalis* is not beaten in its way, nor is *D. stricta*, which is a strong grower. *D. Lindeni* and *D. Goldiana* are both quite distinct varieties, the former being the more showy and of more value as a decorative plant; the latter, however, rivals it for use as a table plant. The comparatively new *D. Doucetti* bids fair to be a valuable addition; this would, I think, succeed well in a cool house. The *Aralias* now furnish us with greater variety, being also of an enduring character. With such a wealth of ornamental fine-foliaged plants as we now possess, there is hardly any place or purpose to which either one or another may not be adapted. There is, I think, room yet for a more extended use of fine-foliaged plants of small proportions. Good examples of many useful plants can be had for various purposes in 2½-inch pots even, but better in those of 3 inches or 4 inches diameter. These can be turned to a good account, either for small vases or for dinner-table plants. A great deal more use may be made of such plants for the latter purpose than is generally done, and of considerably less size than the stereotyped examples usually seen at flower shows. Many dwarf-growing plants with ornamental foliage, and Ferns also, can be thus employed in 2½-inch pots, but better still those in shallow ones now used for Orchids. Strawberry pans, or a size smaller, when well furnished with such dwarf-growing plants as *Fittonia argyroneura* and *F. Pearcei*, *Panicum variegatum*, *Cyrtodeira metallica*, and *Selaginella cæsia*, could be effectively employed in various ways. On the other hand, plants for the dinner-table could, I think, be used much taller than they generally are, when they are of light and elegant growth; such for instance, as *Cocos Weddelliana*, *Chamædorea glaucifolia*, *Euterpe edulis*, and others. Plants up to 3 feet in height may be employed effectively upon large tables, yet they need not be in pots exceeding 4½ inches or 5 inches in diameter. Shifted into a larger pot, these same plants will afterwards be found of service for larger vases in other positions where their height will add to their effect. There is also room for considerable improvement in the arrangement of plants in the houses in which they are usually grown. Too often they are overcrowded, with damage to the foliage, whilst the effect is lessened. In some cases plants are attempted to be grown in houses which are not suited to them, nor calculated to display them to advantage. The stages and beds are oftentimes too high in both stoves and greenhouses. The effect is far better when the plants can be looked down upon, particularly in large houses where a greater variety could be got together. Far more use should be made of creeping and dwarf-growing plants for a finish to the front, just as one sees done in a well-arranged and finished group at a flower show. Many such can be employed as an undergrowth to larger plants, and frequently with very pretty effect. There is no reason why pots should not in these ways be hidden to a great extent. Ferns, such as the

\* A paper read by Mr. James Hudson, Gunnersbury House Gardens, before the Royal Horticultural Society.



British Maiden-hair, *Nephrodium molle*, *Pteris longifolia*, and other kinds, can be advantageously displayed to clothe the damp and unsightly walls that are otherwise an eyesore and stand in need of frequent cleansing. With a little patience these and other Ferns will soon acclimatise themselves (even without any soil in some instances) where the surface is not of cement. When a little soil can be used, the ornamental foliaged *Begonias* will soon become established. If any difficulty arises with either of the foregoing it is possible to fall back upon *Ficus repens*. The appearance of our stoves, greenhouses, and conservatories could frequently be improved by making more use of climbers, a due proportion of which would not be any detriment to other plants. Hence houses which could be made to look well furnished give an impression of bareness. For the stove *Cissus discolor*, one of the most ornamental of plants with fine foliage, and the varieties of *Asparagus* could be usefully employed. Of plants deserving of far more notice there are the *Dipladenias*, which, if not of ornamental foliage, are truly ornamental plants. The best of the highly coloured varieties of the *Dipladenia* are well known, but the merits of *D. boliviensis* are not nearly so much appreciated as they should be; it can be had in flower from April to November, being most useful for cutting from. There are also *Aristolochia elegans*, *Passiflora kermesina* and *Gloriosa superba*, neither of which is seen too frequently. The varieties of the African *Asparagus* are also suited to a cooler house. I have them planted out where the temperature falls below 40° Fahr. in the winter, yet they thrive. They can therefore be used for covering the walls, pillars, and glass sides of conservatories; *Lygodium scandens* being also useful for the same purpose, but it succeeds better in a temperate house. *Myrsiphyllum asparagoides* should be allowed space, being so useful for cutting. When it is not advisable to occupy all the roof space next the glass with climbers, some may at least be trained up the rafters, a selection being made from those of moderate growth. *Fuchsias*, for instance, are thus seen to decided advantage in a cool house. For training thinly over the roof of a conservatory, the *Tacsonias* and the *Passifloras* with the smaller leaves are well adapted.

#### HANGING BASKETS

deserve far more notice than they receive as a rule. It matters not whether it be a stove or cool house, there are plenty of selections to suit each case. The *Nepenthes*, to which such splendid additions have been made of late years, both by imported species and hybrids, should be grown more extensively for suspending in the stove. They are quite unique and singularly effective, always creating an interest when in good condition. Particular mention should be made of *N. Mastersiana*, which is undoubtedly the finest hybrid yet raised. *Asparagus deflexus* does not appear to be sufficiently known as a basket plant. It is quite distinct from the kinds usually grown, and equally ornamental. Several Ferns are excellent for the same purpose. Notably so amongst the Maiden-hairs is *Adiantum amabile*; another good basket Fern is *Gymnogramma schizophylla gloriosa*. For a cool house in the summer some of the *Davallias* are well suited. *Cheilanthes elegans*, although it cannot be considered as one of the best for the purpose, I have found to grow better in a basket than a pot. Amongst flowering plants *Hoya bella* is excellent in a warm house, so also are some of the varieties of the *Æschynanthus* and *Achimenes* when well cared for. In the greenhouse there is an abundant

choice, but the merits of *Lobelia gracilis* do not meet with that recognition which this plant deserves. Basket plants do not at all times receive sufficient water, hence they often present but a poor appearance. A plant of singular effect for the stove when well grown is *Thyracanthus rutilans*. It is seen to the best advantage when trained as a standard some 3 feet or 4 feet in height and producing its long pendulous racemes of scarlet flowers. For the stove, again, there are the *Ixoras*, which, although met with of specimen size in exhibitions, are not by any means to be considered as being only fit for such purposes. They are, when well cultivated, the finest of all our bush-growing stove plants, being valuable as decorative plants whilst still in quite small pots, and also of the greatest service in a cut state.

#### LARGE CONSERVATORIES.

In the arrangement of these there should be ample scope to make good use of ornamental foliage plants as permanent objects of interest. For my own part, I prefer to see the beds planted out and on a level, or nearly so, with the floor, having a marginal line of *Selaginella denticulata*, amongst which small bulbs can be dotted for early flowering. When such beds are filled so that each plant has plenty of room and to spare, smaller examples of flowering plants can be introduced between them, the pots of course being plunged. Where this is done it is a good plan to have empty pots sunk level with the soil; into these the plants can be dropped. Some permanent specimens, as *Agaves* and other succulents, would be found to do better if retained in pots or tubs. Many plants which are of ornamental character can be transferred from the stove to the conservatory during the summer months—*Crotons* in variety, *Dracenas*, such as *D. terminalis*, *D. Baptisti*, *D. Youngi*, *D. amabilis*, and *D. Shepherdii*, with the hardier of the stove Palms, as *Areca lutescens*. Both the *Crotons* and *Dracenas* will afford a pleasing change and lighten up the sombre appearance of other foliage plants when there is a deficiency of flowering examples. *Clerodendron fallax*, a plant of noble growth when of specimen size, can also be kept in good condition in the conservatory for several weeks. Greater care is necessary in the watering of stove plants so employed, less water being required.

#### ROCKWORK,

when well clothed with plants of ornamental foliage of suitable character, is a splendid addition to conservatories, particularly where a wall which is unsightly has in a manner to be hidden. These places are suitable for the fine-foliaged *Begonias*, *Ligularia Kämpferi argentea*, the variegated Grasses and Ferns. Of the latter, where it is possible to use them to advantage, the larger forms of the *Nephrolepis* should not be overlooked. Ferneries composed of either natural or artificial rockwork, with the Ferns planted out, are most attractive features. The hardier of our exotic Ferns may thus be grown without any fire-heat at all, particularly several of the Filmy kinds, fine examples of which may be seen in the fernery at the York nurseries of Messrs. Backhouse. This is sunk below the ground-level, hence partially protected. With a fair command of heat, many tender kinds can be successfully grown when planted out. The adaptation of rockwork and Ferns to Orchid houses is, I think, an excellent idea, adding a charm even to those popular and attractive plants. A capital example of this description is that which can be seen at the Chelsea nurseries of the Messrs. Veitch. A new and suggestive departure in the same nurseries has

recently been made in another Orchid house, where rockwork with Ferns surrounds a tank in which aquatics are growing. Both Orchids, Ferns and aquatics are evidently quite at home. More use ought, I think, to be made of aquatic plants; many of them are most ornamental. If the cultivation of such as the *Victoria regia* cannot be carried out for want of a sufficiently high temperature, it is not a difficult matter to select others suitable to a cooler house.

It must be a strange matter if the obstacles which present themselves to the cultivator cannot in one way or another be overcome and the houses rendered both attractive and ornamental by the use of plants with fine foliage. Each case should be carefully studied, and those things used in its ornamentation which by previous observation have been found to succeed. In this way I am fully persuaded that our plant houses may be made more interesting and attractive than they are to be seen at times. Plants which have ceased to be in any way ornamental by reason of failing health should not be tolerated except for stock purposes. It is an utter mistake to attempt to bring round into a healthy state small or medium-sized plants such as *Crotons*, *Dracenas*, and others which are of quick growth, when young ones can be raised in less time and with much better results. If not wanted for propagating purposes, the rubbish heap is the best place for these, room being thus afforded for growing other and more promising plants. The culture of the majority of ornamental stove and greenhouse plants cannot be considered a difficult matter when the means at disposal are fairly good. We who are gardeners have to contend against disadvantages in one form or another; this is, I think, oftentimes to our profit. These difficulties arise in the culture of the plants under consideration as in other instances. The mealy-bug, where it exists, is undoubtedly the greatest plant pest we have. When once cleared of it a great sense of relief is afforded, to say nothing of the saving of labour in cleaning, which can hardly be effected without injury if the case be a bad one, the plants at the same time being weakened by the presence of the insects themselves. Amongst *Crotons* I have, in common with some other growers, been troubled with the leaves dropping from the points of the shoots at times. This, if not detected in time, goes on until the plants are completely denuded of any semblance of a leaf. This is caused by a very minute species of spider, which can only be seen with any distinctness through a powerful glass. I would term it the white spider to distinguish it from our old enemy the red spider. When I was first troubled with this, I tried insecticides without avail. Speaking about it one day to Mr. Thos. Baines, I was advised by him to syringe frequently with water strongly impregnated with soot. This I found most effectual. Tobacco powder will answer the same purpose; but as *Crotons* delight in plenty of moisture, I consider the other by far the better remedy.

#### SOIL.

In the cultivation of ornamental plants (and others also) I attach great importance to good and suitable soil for each respective kind. Peat of fibrous character, with the best loam obtainable, and leaf-soil from Oak or Beech leaves, form the staple composts. Good soil is far better by itself than poor soil with either artificial or natural manure added to it. The latter may sustain a plant for a time, but must fail much sooner than the former. It is better to pot into good soil, and then to feed with manure when the pot is well filled with roots. The work of potting pays for being done carefully.



Rushing this work through in a hurry does not compensate for the immediate gain in point of time. Firm potting for all plants of permanent character is far preferable to a loose state of the soil, the ultimate gain being less labour with respect not only to watering, but also repotting sooner than would otherwise be required.

The culture of plants in small pots for decoration is deserving of more recognition in respect to the foregoing remarks than it would at first glance appear to be. When a plant has fairly well filled its pot with roots, and it should perchance have the appearance of not being in the best possible condition, it may be inferred that another shift will have a good effect. Thus the plant when in a larger pot is not so well adapted to its uses, even if the remedial measure be beneficial. Stove plants, which are used in various ways for house decoration, will bear repotting better, and will suffer less from exposure when in proportionately smaller pots. No plants should be repotted until they have thoroughly well laid hold of the soil of their last shift; otherwise the younger roots will suffer through the soil remaining moist for too long a time, being consequently cooler also. Ornamental foliage plants when in good health will bear liberal treatment as regards watering. Palms in particular thrive well when watered freely; in fact some might be termed semi-aquatics. More Palms are, I think, brought into a sickly condition from want of water than from any other cause. Crotons also are somewhat like our common Willow in this respect.

In conclusion, I would draw attention to the effect produced by a judicious use of plants of ornamental leafage in mixed groups, as seen now so frequently at our horticultural shows. They are indeed the chief factors employed, for it is easier to dispense with flowering plants altogether than it is to take the opposite course and rely solely upon those in flower.

**Stauroanthera grandiflora.**—Visiting the garden of an old gentleman recently who had long been a traveller in many parts of the world, I came across this plant which I first flowered in 1863 from seeds sent home by the Rev. C. Parish from Moulmein, and which I have rarely seen since. It is rather a difficult plant to grow, and it makes large leaves from 6 inches to 9 inches long or more, growing all on one side, fleshy and strongly ribbed. It bears a panicle of many flowers, which are soft blue with a yellow centre; it belongs to Gesneraceæ.—W. H. G.

**Amaryllis from seed.**—Those who may have ripened any seed will do well to sow it at once; it will, if well ripened, now germinate more freely than in the spring, whilst if well cared for a season will be saved in the period of flowering. All who contemplate adding to their stock, or who may have thus far omitted to cultivate these gorgeous spring blooming plants, should order the seed at the same time as they do their bulbs for autumn potting, or better still send for it at once and sow without delay. We have secured ours, and before this is in print it will have been sown. The young plants will be carefully attended to and be kept growing all through the winter, the following spring and summer, right on through the second winter without any rest, so that no time is lost in reaching the flowering stage.—H. G.

**Gloriosa superba.**—I was glad to observe from "H. P.'s" note (p. 80) that this fine old plant was more generally grown, for we have nothing like it among bulbs, and few things more beautiful. It may be well grown on a large open trellis, great care being taken not to bruise or injure the points of the long slender shoots, for these finally develop the bloom. But the most effective place for growing the Gloriosa is up a pillar or rafter or hanging from the roof of a medium-sized plant stove. If it can have a place to itself and be fully exposed to

the sun, it will flower all the more freely, the blooms being of brighter colour. Fibrous peat with a liberal addition of gritty silver sand and a dash of sweet leaf mould proved the best root-run. I found, too, the Gloriosa do best when left undisturbed for years.—D. T. F.

#### NICOTIANA AFFINIS.

THE above is a great favourite in most gardens during the summer months and very easily grown. Being an annual, it is readily raised from seed, and there is no difficulty in getting

the year. The advantage of growing the Nicotiana is its long-lasting free-blooming properties. There is no plant that gives a better return in the way of bloom than *N. affinis*. For cutting, it is not so useful. It may be grown to come into bloom in a very short time. It is not often seen at its best, unless when planted out; but it is most telling when a few plants are grouped in the cool conservatory or greenhouse. As a plant for corridor decoration it is charming. It opens its flowers in the evening, and is therefore all the more valuable. To raise a good stock of plants for



The Sweet-scented Tobacco (*Nicotiana affinis*).

up a stock of plants with only moderate means. Of late years this variety has been grown more in the open than formerly, and it is a charming plant for the villa garden or for beds in the flower garden. It is often seen as a dot or centre plant, and, being deliciously scented, it is always admired. For house or conservatory decoration it is one of the most useful plants we have, and is mostly grown in pots, but when planted out in the conservatory, as shown in the illustration, it does far better than in pots. As I find it one of the most useful decorative plants for the cool house, I will describe my plan of raising and keeping the plants in a healthy condition, so as to get abundant supplies of bloom for six months in

early bloom, seed should be sown in a pan in February or March, and as the seeds are very small, it is well to prepare pans or pots by thoroughly saturating the soil before sowing. A good compost is three parts good loam and one of sifted peat or leaf-mould, using less loam if it be of a heavy nature. When sowing the seed, care should be taken to shade from strong sunshine, placing in a temperature of 60° or higher. It is a good plan after sowing the seed to cover the pans with paper or Sphagnum till the seeds germinate. When the seedlings are large enough they should be pricked off into pans or boxes; for house decoration 3-inch pots may be used. I prefer pans in the early part of the year as being more useful,



taking up less room than pots. After pricking off, shading is important, as the young seedlings are very tender in a small state. At the next shift out of the pans, if plenty of room is allowed, the plants may be potted direct into 5-inch pots and grown on in an intermediate house temperature or frames close to the glass. They may be allowed to bloom in these pots if required to come in quickly. I pot on again into 7-inch pots, stopping once while in the 5-inch pots. Some may not agree with such large pots or stopping, but our conservatory being roomy we require extra large plants, and by using 6-inch or 7-inch pots we get fine specimens, and they last in bloom for months if liberally fed with liquid manure. When in small pots and a mass of bloom the plants often get dry and become infested with green-fly and the foliage becomes of a sickly yellow hue; hence the advantage of ample root space and plenty of feeding. Fumigation with tobacco or dipping readily kills the fly, but when well grown and liberally treated there is little trouble in this way. If a few plants can be planted out in a moist border they are much finer than grown in pots, and last the whole summer. The foliage of planted-out specimens assumes much finer proportions and the flowers are much larger. For a succession a sowing in May and another at the end of July will keep a conservatory gay for many months; the last two sowings, if sown thinly in pans, the seedlings potted into 3-inch pots, afterwards into 5-inch or 6-inch pots, the smaller size for the last lot, will be all that is required. For planting out in the open ground early in June, one shift out of the seed-pans into boxes of good soil will be all that is required, allowing ample space between the plants in the boxes to prevent drawing. When boxes are used, there is less trouble than with pots; the plants require to be treated like a half-hardy annual and be given plenty of moisture. When ready to plant, they lift with good balls of earth and roots, and make rapid progress in the open. If deficient of roots or drawn by being too long in the boxes, shading and stopping the long shoots will do good. A group or bed in a sheltered corner is most effective, as in exposed positions wind gives the plants a ragged appearance. The plant, being a gross feeder and requiring a lot of moisture, should get plenty in dry weather; also feeding when planted out in the open. Plants may be had in bloom through the winter months if required, but the growth is weaker and the flowers less fragrant, as often damp affects the blooms during dull weather. When grown for winter decoration, a light, dry, airy house is essential, and I prefer 5-inch pots, sowing in August and keeping the plants in a cold frame till October. They then bloom freely for some time if kept near the light and clean.

G. WYTHES.

**A good double Begonia.**—I enclose a spray and photograph of a seedling double tuberous Begonia. It is growing in an 8-inch pot, and at the present time I can count about 100 fully-developed double blooms. —B. G. ROWNTREE.

**Andersonia sprengelioides** (G. M.).—This comes as a surprise, as it is a plant not known in these days. I hope you will be successful with it. It belongs to the Epacris family, and should be potted in sandy peat, well drained. The flowers are terminal and pink. I saw this plant over 30 years ago in the gardens at Herrenhausen, Hanover.—W.

**Fuchsia triphylla.**—To succeed with this Fuchsia, it needs more heat than the ordinary garden forms; in fact, though it will grow in a greenhouse, it is far more satisfactory when grown in a structure kept at an intermediate temperature. Under such conditions it will thrive and

flower with the greatest freedom, while the dark-tinted foliage wears a far happier look than it does in the greenhouse. It is certainly a very beautiful flowering plant, whose value is greatly enhanced by the fact that the brilliant orange-red blossoms are in colour quite distinct not only from those of any other Fuchsia, but also from those of nearly all occupants both of the stove and greenhouse. No particular treatment other than the increased temperature is needed to succeed with this Fuchsia, which can in the spring be as readily struck from cuttings as the other members of the genus.—T.

## SOCIETIES AND EXHIBITIONS.

### INTERNATIONAL HORTICULTURAL EXHIBITION.

#### CARNATION AND PICOTEE WITH COTTAGERS' AND ARTISANS' SHOW.

AUG. 1, 2, AND 3.

THIS show must in every respect be considered a decided success. The competition in the Carnation and Picotee classes was good, many fine collections being shown, but in the classes for vegetables, many of the flowers and some few of the fruits from cottagers' and artisans' gardens, it was exceedingly keen. A dozen to eighteen entries in the classes for single dishes of vegetables were nothing uncommon. In that for a collection there were no less than sixteen competitors, the produce being of a high standard throughout. The first prize in this class was retained in the London locality, but the second from a Lanarkshire garden ran it very hard indeed. Several miscellaneous groups from trade growers contributed greatly towards enhancing the general effect.

**Carnations.**—The display at Earl's Court certainly fell below that recently made at the Drill Hall in point of quantity. The fact of the show being held on Bank holiday, added to its having immediately preceded that held at Oxford, operated to keep exhibitors away. In point of quality the blooms favourably compared with those at the Drill Hall, the flowers from Slough being very fine and rich in colour. With twenty-four blooms of Carnations, Mr. Charles Turner, Royal Nursery, Slough, was awarded the first prize for a very fine lot of flowers indeed, having of scarlet bizzars: Dr. Hogg, Robert Houlgrave, Dandy and Mars; crimson bizarre: Mrs. Barlow; pink and purple bizarre: Harmony; scarlet flakes: Miss Constance Graham, John Ball and Henry Cannell; purple flakes: Charles Henwood and Colonel Wyndham; rose flake: Mrs. J. W. Jack, very fine, and Lady Mary Currie, several being shown in duplicate; all large, full, and finely coloured. Second, Mr. F. Hooper, Widcombe Hill, Bath, also with good flowers, but unnamed. An extra prize was awarded to Mr. W. Welsford, Clapham, S.W. In the class for twelve varieties the first prize was withheld, the second being awarded to Mr. J. Portbury, gardener to Mr. W. N. Tray, Putney. With six varieties Mr. W. Hooper, Chippenham, was placed first with unnamed flowers. Mr. J. Portbury was second, and Mr. S. Fear, Enfield, third.

Yellow grounds were also remarkably fine, and again the first prize was awarded to Mr. C. Turner, with twenty-four varieties, he staging superb blooms of Adela, Edith M. Wynne, Almira, Mrs. Walford, Countess of Jersey, Magnet, Mrs. Henwood, Stadraith Bail, Goldfinch, Nonpareil, Remembrance, Prospero and Constellation, several of the foregoing being shown in duplicate. Second, Mr. F. Hooper, also with remarkably good flowers, but unnamed. With twelve varieties of yellow grounds, Mr. C. E. Goble, Ryde, Isle of Wight, was first, having fine blooms of Romulus, Lord Rendlesham, James Bennett, Countess of Jersey, Old Coin, Lady Sutton, Mrs. Henwood, and seedlings.

Selves and fancies were remarkably fine; indeed, it is doubtful if ever before Mr. Turner staged

twelve finer blooms than he did in this class. He had Germania, Romulus, Salamander, Marie Murray, Mrs. Muir, Lord Rendlesham, Mrs. Clements, Victory, Lady Mary Currie (a beautiful rosy pink self), Rose Wynne, Rose Unique, Governor, King of Searle's, and Iona. Second, Mr. F. Hooper, also with very fine flowers, but unnamed. The best stand of twelve selves and fancies came from Mr. C. Blick, gardener to Mr. M. R. Smith, Hayes Common, Kent, who had finely developed blooms of Eudoxia, Niphetos, Madcap Violet, Mrs. L. Jameson, Germania (very fine indeed), Romulus, Lord Rendlesham, Alice Ayres, Salamander, and seedlings. Second, Mr. W. Hooper, Chippenham, with unnamed flowers.

**Picotees** were very fine, and Mr. C. Turner was awarded the first prize with twenty-four blooms, having, of heavy red edges, Brunette, Adolphus, J. B. Bryant, and John Archer; light red edges, Lady Cathcart and Thomas William; heavy purple edge, Zerlina; light purple edge, seedling; heavy rose edge, Madeline and Mrs. Harford; light rose edges, Favourite, Lady E. van de Weyer, Nellie and Lady Churchill. Second, Mr. F. Hooper, with unnamed flowers; third, Mr. W. Welsford. With twelve blooms, Mr. S. Fear, Enfield, was first, having yellow and white ground varieties mixed. His best blooms were Countess of Jersey y.g., Minerva y.g., Mrs. Henwood y.g., Prince of Orange y.g., Annie Douglas y.g., and three or four white ground flowers. With twelve blooms Mr. F. Hooper was first and Mr. J. Portbury second, both staging unnamed flowers. Specimens in pots were contributed by Mr. C. Turner, who had a dozen excellent plants of C. Henwood p.f., Countess of Jersey y.g., Mrs. Muir, white self; King of Scarlets, rich scarlet; Victory y.g., &c. Border Carnations in twelve bunches were somewhat largely shown and were very effective. Mr. C. Turner was first with charming bunches of fine quality, having Old Coin y.g., Queen of Bedders, a bright pinkish rose self; Ne Plus Ultra, white self; Lady M. Currie r.f., Victory y.g., Romulus, fancy; Charles Henwood p.f., Mrs. Muir, Baby Castle, Almira y.g., Lord Rendlesham, fancy; and Bellissima r.f. Second, Mr. C. Blick with flowers of fine quality, having Aline Newman, a pale rosy crimson self; Roma r.f., The Archer, white; The Beale, buff-salmon self; Trumpeter, pale red self; Duke of Orleans y.g., Beethoven, purple; Sir B. Seymour, Mrs. L. Jameson, pale rose; The Bravo, crimson, flaked with black; Athene, purple; and Albatross, white; third, Mr. E. G. Goble. The last had the best bunch of a self-coloured border variety, staging Princess Alice, a capital rosy pink self; second, Mr. F. Hooper with an unnamed white self. The best six bunches of self-coloured border Carnations were furnished by Mr. C. Turner, who had capital examples of Mrs. Clements, pale yellow; Lady M. Currie, which had run to a rosy pink self; The Governor, King of Scarlets, Rose Wynne, maroon self; and Salamander, pale rose. Second, Mr. E. C. Goble, who had Rosy Morn, General Boulanger, crimson; Governor, Queen of Bedders, pale rose; Princess Alice, and a seedling.

First-class certificates of merit were awarded to Mr. C. Turner for King of Scarlets, a rich bright self; Lady Emily van de Weyer, a medium rose-edged Picotee; Rose Wynne, a rich maroon self; and Edith M. Wynne, pale yellow ground, heavily edged with reddish maroon.

**Cut flowers.**—The quality of the produce in these classes (some forty in number) was much above the average. Annuals are evidently the favourite flower of the cottager. All things considered, they cannot be surpassed where a constant change from year to year has to be made. The class for six bunches of annuals was keenly contested, the best lot coming from Mr. Coleman, Feltham; these were Sweet Peas, Sweet Sultan, Cornflowers, annual Chrysanthemums, Coreopsis, and Stocks. Mr. Farmer, Gunnersbury, had Candytuft (white), Asters, Stocks, Zinnias, Phlox Drummondii, and double annual Chrysanthemums; the former, it will be noted, contained all hardy kinds. Hardy herbaceous and bulbous flowers were also well shown, the best coming from Mr. Hooper, Chippen-



ham. This lot contained Gaillardias, Harpaliums, Gladioli, Delphiniums and Phloxes, all fresh and good. Another popular class was that for annual Chrysanthemums, many well-grown lots being staged, those from Mr. Coleman being placed first. Sweet Peas, again, appear to be grown in good numbers, the bunches being of excellent quality, the best coming from Mr. Sargood, Ealing. Border Carnations, although not shown in large numbers, were mostly good, those from Mr. Hooper being of fine quality. One excellent display was made of Indian Pinks; this came from Mr. Salmon, West Norwood. Lilies were, on the whole, disappointing; this is a matter for surprise, considering that this is the season for them out of doors. *Lilium auratum*, it is true, was well shown in one instance by Mr. Bromley, Hammersmith.

Marigolds again came to the front, particularly the African; the finest were those from Mr. Salmon, who also had the best French varieties, the second prize going to Lanarkshire. Mignonette is evidently a great favourite, and the improved varieties are now cultivated; the finest bunch came from Mr. Farmer; the several bunches were large and fine in this class. Pansies find a place still in the cottagers' gardens, several lots being staged, the best coming from Mr. Sell, Luton. Some very fine single Petunias were shown, the varieties up to date; Mr. Salmon had the best. Mr. Farmer was again successful with Phlox Drummondii with a fine bunch. Only one good lot of Sunflowers was staged; presumably it is rather too early; these were from Mr. Sargood. Ten-week Stocks in good strains were strongly *en evidence*; Mr. Salmon had the best. *Zinnia elegans* were only of fair quality, but two good boxes of Roses were shown; the best of these came from Mr. Coleman.

The show Dahlias were really fine; the best came from Mr. Reeves, Sittingbourne, the flowers large and full; the same exhibitor was also first for Cactus varieties. Pelargoniums (single, double, and Ivy-leaved) produced a good show in the respective classes, Messrs. Salmon, Coleman, and Reeves being the most successful. Only one collection of ornamental Grasses was staged; these do not apparently find favour. The prizes for bouquets of annuals and biennials, for a hand bouquet, and for a bouquet of Everlasting Flowers brought out a very good competition, although not extensive; overcrowding was, however, apparent. The best of the first named was that from Mr. Sell; of the second that from Mr. Sell again, a good production; and of the last from Mr. Watson, Lanark, a good selection. Some of the best arrangements of flowers, however, were those in the classes for children under sixteen years of age; these were very meritorious exhibits indeed. Miss Coleman, of Feltham, was the most successful, taking the first for an exceedingly beautiful bouquet of wild flowers, a model for all the other exhibitors in the show to copy. Miss Coleman also took first for another praiseworthy exhibit in the class for a bouquet of natural Grasses and hardy Ferns, having by far the best. In the class for a hand bouquet of any flowers she was barely beaten by Miss Gilbert, Guildford.

**Plants.**—In many of these classes the standard of cultivation was excellent. Some considerable pains had evidently been bestowed upon the culture of the several productions. The best class was probably that for three pot plants, distinct, Mr. Nelson, of Hammersmith, being a good first with two freely-flowered plants of Plumbago (the pale blue and the white variety) with a good Fuchsia. Mr. Venn, of Acton, pressed him hard with a large plant of Hydrangea and others. The best plants (very fine) of Musk came from Mr. Martin, West Norwood, who was first both for the common and the giant. Pelargoniums, again, were shown remarkably well; these are really amongst the best of all plants for the cottager and artisan to grow. The three best zonals were those from Mr. Bromley, Hammersmith, who also took the first prize for one Fuchsia with a freely-flowered plant. Begonias are not yet appreciated to any large extent if the productions shown are to be taken as a standard, only

two exhibits in two classes (and these not remarkable) being the result. Phlox Drummondii was poorly represented. This is a doubtful pot plant at any time for small growers. Petunias are, however, in much favour, the first prize going to a well-grown plant, others of much merit following. Lobelias (dwarf) were very well shown, the best coming from Mr. Bolton, Lavender Hill. The best three pots of annuals were very good examples. These came from Mr. Nelson, whilst Mr. Farmer took first for one Balsam and one Aster, both fair examples.

**Vegetables.**—These were very good; the collections staged in many cases equalled those of professionals both in quality and setting up. In some of the collections staged the exhibitors must have had some glass to assist them in obtaining such good quality and variety. There were no less than sixteen lots of six dishes of vegetables shown and scarcely a bad lot amongst them, judging them as cottagers' exhibits. The first prize was a superb lot, Mr. A. Farmer, Gunnersbury, taking the premier award, having very fine dwarf Marrowfat Peas; Marrows of a nice size, not coarse; Globe Beet, very fine; White Spanish Onions, Beans and Carrots. Mr. R. Watson, Lanark, had a very fine lot, five of his dishes being grand, and no doubt had he omitted Parsley and shown roots or green vegetables, he would have taken first place. The Parsley, though good, is not a strong point in cottagers' vegetables; the Leeks, Cabbages, best in show; Potatoes, Celery (very good), and Carrots were fine samples and beautifully grown. The third place was awarded to Mr. H. Sell, Luton, who had splendid Ashleaf Potatoes, Tomatoes and Onions. Five extra prizes were deservedly given. The competition for runner Beans brought out eleven competitors, Messrs. Parling, Sargood, Attwood and Coleman taking the prizes in the order named. There was more competition in the Broad Bean class; first, Mr. Watson, Lanark, others being taken by local exhibitors. For dwarf French Beans, fifteen dishes were staged, the first and second prizes being taken by Messrs. Farmer and Attwood. Beet was severely contested, twenty lots, nearly all of the Globe or Egyptian section, being shown, the principal prizes going to local exhibitors. Red Cabbage only brought out two medium lots, and but a poor competition in the green section. Carrots were well done, fine clean roots in both varieties being staged, the Short Horn section being specially fine roots, twenty-three competing for these prizes, Veitch's Model being the best long variety. In the class for three heads of Cauliflowers, some excellent heads were staged; indeed a credit to any specialist, Messrs. North, Attwood, Gale and Edwards taking the awards. Strange to say, no entries appeared for what would be thought the cottager's Cucumber, the ridge variety. For frame Cucumbers there was a good competition and some excellent fruits, Messrs. May, Hooper and Coleman leading. For a collection of cut herbs, six varieties, there was a limited lot shown. For Leeks, Mr. Watson, Lanark, was first with a fine lot, others being very inferior. Lettuces, both Cos and Cabbage, were fairly good, twenty lots being staged, the Cos being best. Onions made a fine show, some grand bulbs of both kinds being staged, the autumn-sown White Leviathan of Mr. Farmer being a grand sample. There was a good competition in the class for thirty-six pods of Peas, nearly all shown being good, Duke of Albany type predominating. There were over seventy dishes of Potatoes staged, all being good clean tubers and of medium size. In the class for a collection of four dishes, two of round and two of kidney, eleven lots were staged. In the single dish competition the same exhibitors took many of the prizes; the varieties shown mostly were International, Snowdrop, Reading Giant, Schoolmaster, Beauty of Hebron, Victor, Early Puritan, and Ashleaf Kidney. Radishes were well represented for cottagers, but coarse. Shallots brought out no less than eighteen lots of great merit; here there was much difficulty in awarding the prizes, so many good dishes being staged. Tomatoes were not shown in quantity, but this is early for this vegetable grown in the open. Turnips

made a fine show, taking up much space, all white kinds being staged, but good solid bulbs. The same remarks apply to Vegetable Marrows, a quantity being staged of excellent quality, the judges awarding the prizes to quality over coarseness, the latter a fault cottagers often make in exhibiting vegetables.

**Fruit.**—The competition in the fruit classes was not so keen as might have been expected, and the quality of many of the dishes was not first-rate. Apples were poorly represented, and call for no special remarks. Cherries call for few remarks, being poorly represented. Black Currants were shown by seven competitors, and Red by eight. The class for hardy fruits in collections of four kinds was poorly filled. Gooseberries in both classes were not largely shown. Only two good dishes of Plums were shown. Raspberries were of fair quality on the whole. The fruit classes did not exhibit much merit. This is to be regretted, as cottagers would find the culture of fruit, especially small fruits, as profitable as that of vegetables. The Covent Garden show for fruit and foreign produce did not bring out much competition. For the best packed basket of Grapes, Mr. G. Featherby was far ahead. For a collection of English and Channel Island fruit there was only one competitor, M. le Poidevin, Guernsey, who was awarded second prize, he having fifteen baskets of Tomatoes, eighteen large Melons, three baskets of Grapes, Figs and Peaches.

**Miscellaneous productions.**—The finest things in this line were the three splendid groups staged by Messrs. Laing and Sons and the extra large groups of tall Palms from Messrs. Wills and Segar. Messrs. Laing's consisted of a grand selection of Caladiums in the newest and best kinds, similar varieties to those shown at the last meeting of the Royal Horticultural Society being the most prominent therein; these being staged on the ground as a central group made a very effective display. The two side groups contained well-grown foliage plants, choice tuberous Begonias, a well-grown Statice with several Orchids, Gloxinias, Cannas, and Campanulas, all in good flower; also some good plants of Bertolonias and cut Roses, a gold medal being awarded. Messrs. Wills and Segar's two groups consisted, as before stated, chiefly of Palms; these with other fine-foliaged plants made a splendid background to other exhibits. Messrs. Dobbie, of Rothesay, staged a fine assortment of Violas or tufted Pansies, with choice kinds of Sweet Peas and a fine strain of African and French Marigolds; also of vegetables, good types of red and white Celeries and Leeks, all finely grown and effectively staged, a silver-gilt medal being awarded. Mr. Peters, gardener to Mr. H. T. Sturgis, Leatherhead, showed two lots of Black Hamburg Grapes on stands. Messrs. Dobbie, of Rothesay, had some fine Leeks, Celery, Onions, and Parsley, with a quantity of other exhibits (silver-gilt medal). Messrs. Jarman and Co., Chard, Dorset, sent a fine lot of Sunset Tomatoes and several varieties of Potatoes, some being specially good (silver medal).

Smaller miscellaneous exhibits were also exhibited, chiefly of various floral arrangements and cut blooms, bronze medals being awarded to Miss Hunt, South Kensington, and to Miss Webster for arrangements, and to Mr. Hopcroft, Chelsea, for various cut flowers.

**Presentation to Mr. and Mrs. E. S. Dodwell.**—As Mr. and Mrs. Dodwell have this year entered upon the jubilee of their married life, advantage was taken of the eighth annual exhibition of the Oxford Carnation Union, which was held on the 2nd inst., to present this worthy couple with a piece of plate subscribed for by a few private friends in commemoration of the event. The day being fine, a large circle of friends and lovers of the Carnation were present, including Mr. Dodwell and several members of the family. The presentation was made and the luncheon held in Mr. Dodwell's garden in the midst of numberless



illustrations of the flower he has done so much to improve and popularise during the past half century.

## DESTROYERS.

### BOUILLIE BORDELAISE, CAUSE OF ITS FAILURE.

At the meeting of the scientific committee of the Royal Horticultural Society on July 26 the following communication was received from Dr. Russell:—

I send you now the result of my examination of the Bouillie Bordelaise used at Chiswick. Mr. Barron, I find, took 7 lbs. of sulphate of copper and 10 lbs. of quicklime; he slaked the lime in 10 quarts of water and dissolved the copper sulphate in 7 quarts of water, and afterwards diluted these liquids so as to make the total quantity up to 100 quarts. The clear solution from the lime was added to the sulphate of copper solution, and the precipitate allowed to settle. The Tomatoes were syringed with the clear liquid. The effect has been disastrous, the stems and leaves having in every case been burnt, and the lower leaves had to be removed. Some of the same solution falling also on Vine leaves produced red spots (burns). Now this solution, prepared as above described, was simply a dilute solution of sulphate of copper, containing about 1 oz. of sulphate of copper in the gallon; so that the whole of the process for preparing the solution was entirely useless, and the product, viz., the hydrated oxide of copper thrown down by the lime was allowed to settle and was not used; in fact, if you had taken an ounce of copper sulphate and dissolved it in a gallon of water, you would have got a solution of exactly the same kind as the one which was used. In the letter from M. Cornu, which you have sent me, I see it is stated that this hydrated oxide of copper is the active agent, and that the copper ought to be totally precipitated from the liquid. At the same time, I think that the nature and the preparation of this Bouillie Bordelaise have not generally been clearly stated and understood. I suppose I may assume that this hydrated oxide of copper is the substance which it is desired to prepare, but it will be a matter of the greatest importance as to whether it is suspended in a solution of sulphate of copper, or in lime water, or in pure water, all of which cases are possible according to the proportions of the materials used. In the case of Chiswick there was a deficiency of lime, and hence the copper sulphate remained in solution. To get rid of the sulphate of copper, which appears to have acted so injuriously, the instructions should be to continue the addition of lime till the liquid just ceased to have a blue colour when a depth of 2 inches or 3 inches is looked through. I should think that the different results which have been obtained by different experimenters may be to a great extent accounted for by the want of an exact description of how the Bouillie Bordelaise was to be made and how it should be used.

The following are extracts from M. Cornu's letter received by Dr. Masters (from the Muséum d'Histoire Naturelle, Paris):—

The proportions of the Bouillie Bordelaise vary from 3 to 4 kilogrammes of sulphate of copper, with 3 to 4 of quicklime, and 100 kilogrammes or litres of water [1 kil.=2½ lbs.; 100 litres=22 gallons]. It is better to have less copper than lime, so that all of the former may be precipitated. The copper salt must first be dissolved in water (10 litres), and the lime also separately in 20 litres; the two must then be mixed together. Under these conditions the copper is reduced to the state of a hydrated oxide, which is quite or nearly insoluble, and does not burn the leaves. The lime also effects a mechanical adherence of the copper salt to the surface of the leaves. The hydrated oxide of copper becomes soluble under the influence of organic acids contained in small quantities in the liquid in contact with the vegetative organs. There is an elective property in cellulose

membranes for salts of copper, and the natural explanation which follows from this fact is, first, that the Peronospora is killed by the salt; and secondly, that the spores cannot germinate upon leaves the membrane of which has imbibed the copper salt. Leaves which have thus received the mixture are not invaded by the Peronospora, while adjacent leaves are less easily attacked. It has been observed in Bourgoigne that the Vines were much less attacked by the Peronospora, the props of which had been treated with the sulphate of copper, than those not so treated. Hence it is advisable to soak all the objects which surround the plants, especially the props or supports, &c., in the Bouillie Bordelaise, as well as the walls, soil, pots, &c. The author finally suggests the trial of copper sulphide finely pulverised and scattered over the borders, plants, &c.

With reference to this last mentioned suggestion of M. Cornu, Professor Church observed that copper pyrites in fine powder suspended in mine water have been proved to be most injurious to young Grass in water meadows. Free sulphuric acid and basic sulphate of copper and iron were produced, the acid being the chief destructive agent.

## PUBLIC GARDENS.

**Proposed park for Ramsgate.**—The finely-wooded estate and historic mansion of Ellington, within the boundary of the borough of Ramsgate, being at present in the market, it was unanimously decided at a public meeting recently held in the town hall to authorise the Town Council to purchase the property for a public park at a cost not exceeding £15,000.

**Lincoln's Inn Gardens.**—In accordance with a practice of some years' duration, these are, by permission of the Benchers, now available to the public every evening from 6.30 until dusk. On and after August 15 until the middle of September they will be thrown open as early as five in the evening. This privilege is intended more especially for the benefit of the poor children who inhabit the surrounding thickly-populated neighbourhoods.

**Paddington Recreation Ground.**—Of the £50,000 required to secure these for the public for ever, nearly £44,000 have now been obtained; but unless the balance is raised by May next the efforts which have been made by Mr. Harris, the secretary of the committee, by Mr. Beachcroft, the present tenant (who had the place laid out for recreation purposes in the hope it would be purchased), and by other gentlemen who have been active in the movement, the valuable open space will fall into the hands of the house-builder.

**Gift of a recreation ground.**—At a special meeting of the Long Sutton (Lincolnshire) Local Board, on Saturday, the chairman read a letter, which had been received from the Winfrey family, of Long Sutton, announcing their intention of presenting to the board, for the use of the town, an excellent Grass field of between two acres and three acres in extent, situate near to the market-place, to be used as a recreation ground. The authorities were asked to take over the field under certain conditions, and prepare it for the purpose named. It was resolved to call a meeting of the ratepayers to consider what steps should be taken in the matter. Two members of the Winfrey family have seats on the Holland County Council.

**Christ Church, Spitalfields.**—A correspondent writes: "The vicar and churchwardens of Christ Church, Spitalfields, have kindly opened their extensive churchyard as a public garden, but, strange to say, children are not admitted unless accompanied by an adult. The result is one of the most pathetic sights in London at the present time. The whole day long hundreds of children are peering through the iron bars surrounding the churchyard, looking longingly at the few enjoying themselves inside. As there are two men appointed to stay in the enclosure all day, surely they might let

the poor children in. The neighbourhood is one of the most crowded in London, and the traffic very dangerous."

**Gardeners' Orphan Fund.**—The monthly meeting of the committee took place at the Hotel Windsor on the 29th inst., Mr. William Marshall in the chair. Among the special receipts announced were donations of two guineas each from the chairman and Mr. Herbst; from Mr. Cummins, proceeds of a Rose fair held in connection with the annual exhibition of the Croydon Horticultural Society, £8 1s.; from Mr. William Dean, Birmingham, £3 3s., a moiety of the proceeds from the sale of flowers at the recent Rose show at Moseley; and 15s. from Mr. A. J. Brown, School of Handicraft, Chertsea. The next meeting of the committee will be held on October 28. An interim sub-committee was appointed to assist the secretary in any way he may require.

**Anthurium Andreanum.**—The issue of THE GARDEN for July 9 contains an article by Mr. W. H. Gower (p. 28) which ascribes to M. Linden the introduction of Anthurium Andreanum. This is an unintentional mistake which I shall feel obliged to you to correct. I discovered Anthurium Andreanum in May, 1876, on the Western Cordilleras of New Grenada, and am the only person who introduced it into Europe. I disposed of the entire stock of it by sale to M. Linden under a contract duly signed by both of us, and agreeably to which it was put into commerce, but he (M. Linden) was in no way the introducer of this species. This question has, moreover, long since been settled, and the circumstances of the discovery of the species and its introduction to cultivation have been fully detailed by me in the *Revue Horticole*, the volumes of which I have not at hand at present to enable me to refer to the year.—ED. ANDRE.

**Lavender flowers.**—Could any of your readers please tell me the names of people who grow in quantity Lavender for cut blooms, as I wish to procure some? I find it does not grow very well in the north of England.—J. S. U.

**A Carnation book.**—"L. M." would be glad to know what is the best handbook on the cultivation of Carnations. She has "English Flower Garden," but that only deals with outdoor varieties.

\* \* "The Carnation Manual" will soon be ready.—Ed.

**"The English Flower Garden."**—In reply to several inquiries, this book is being reprinted, but as the plates of the old edition were broken up, the whole had to be re-set and many alterations made, especially in the illustrations. We regret it has been so long doing, but we hope it will be ready in about eight weeks' time.

**Fruit trees for New Zealand.**—I am desirous of sending out some young Apple trees to a friend in the south of New Zealand to be planted there with a view of exporting the fruit to England. Could you tell me what variety of Apple is most fitted for such transport for home consumption, i.e., what are the Apples which keep best when so sent, and which are the most remunerative? At what time of the year they had best be sent, and if possible how packed? Any other information would be of great service.—MALO.

**Names of plants.**—*Elder.*—The Bladder Senna (*Colutea arborescens*).—*J. R. D.*—No enclosure. *Sandridge.*—One of the Ayrshire Roses.—*Greenwood Pim.*—Bennett's Seedling; Ferns next week.—*T. Carey.*—1, *Oncidium sphacelatum*; 2, *Oncidium roseum*; 3, *Microstylis metallica*; 4, *Laelia xanthina*.—*C. Agnew.*—1, *Gongora truncata*; 2, *Dendrobium Lowi*; 3, *Dendrobium Gibsoni*.—*T. W.*—*Epacris paludosa*.—*J. Waters.*—1, *Epidendrum Wallisi*; 2, *Cattleya granulosa*; 3, *Oncidium bifolium*.—*Anon.*—*Eucalyptus coccifera* or *cordata*; we do not know why it is used at funerals.—*G. Green.*—1, *Maxillaria nigrescens*; 2, *Microstylis metallica*; 3, *Masdevallia bella*.—*C. C., Carlshatton.*—You must send better specimens with numbers attached.—*G. B. H.*—1, *Dendrobium aduncum*; 2, *Goodyera Rolissoni*; 3, *Cypripedium chloroneuron*.—*Harry T.*—1, *Cattleya Gaskelliana*, poor variety; 2, *Catasetum macrocarpum*; 3, *Odontoglossum Pescatorei*, well-marked flower.—*J. M. Burton.*—*Odontoglossum cristatum*, *Mormodes pardinum unicolor*.



## WOODS AND FORESTS.

### SEASONABLE FORESTRY.

AUGUST is generally a busy month with the forester. The marking off and preparing of ground for the present season's planting, including removal of rough surface herbage, draining, fencing and pitting, should receive attention in time, so that all preparations may be well in hand and everything in readiness by the time this most important of forest operations is commenced. The many advantages of autumn planting are so well known that it is quite unnecessary to recapitulate them here; suffice it to say, that unless in peat bog or cold late soils, autumn, and not spring, planting is to be recommended. There are one or two exceptions to the rule as well as those just advanced, for I find that in storm-swept districts and in maritime situations generally, planting operations are best deferred till spring—to that season when the young plants will be the shortest time possible exposed to their rather trying surroundings before growth has commenced. I have more than once noticed that shrubs and trees planted by the seaside and in cold, exposed inland situations have got so rocked about, even although they have been weekly attended to in the way of making firm and soiling, and so damaged between October and April, that they have failed to grow freely. In the case of peat bog, the roots become partially damaged before a start to grow has been made when the plants have been inserted in the autumn, and it has been found advisable by those who have devoted much attention to peat bog planting to defer the work until March and April, preparation of the ground being effected during the autumn and winter months. Burning of all rough surface scrub and herbage is the first preliminary to planting, such strong-growing shrubs as the Gorse, Broom and dwarf Willows being grubbed out by the root, while Heath, the Restharrow and dwarf Gorse may simply be cut over either with a shearing hook or scythe. Burning of all these uprooted plants is to be recommended in so far at least as the keeping in check of insect pests is concerned.

Great care is necessary in burning Heath ground for planting that the flames are kept in bounds, as if these are allowed free course the whole natural beauty of the country-side may be at stake. By clearing a band, say 20 feet wide, of all the surface herbage around the line of plantation boundary much evil may be averted, and particularly so if a man with a broom or light sign-post-like arrangement is stationed at every 100 yards around the enclosure. Draining of the ground where necessary will next require attention, and this will best be done by cutting open ditches and running these into a main drain at the lowest part of the ground, and wherever the nature of the soil indicates that excessive dampness is present. The size of the ditches will greatly depend on circumstances, but usually those of 2 feet in width and 2½ feet in depth work well and are to be recommended. Main drains should be much larger proportionately, and with their sides much sloped to prevent falling in by the rush of water undermining the soil. Never cut the small drains at right angles to the main drain, for they are sure to get filled during heavy rains by the rush of water along the main, but always at about half that angle, which will cause the rush of water in both small drains and mains to be in the same direction or as nearly so as possible.

Fencing of the ground should next be taken in hand, and the kind of fence to be used will

depend greatly on the situation of the plantation. Where stones are plentiful, as on hill-sides, by all means erect the excellent and almost everlasting wall made of these; while if the woodland is near, posts with five or six wires stretched along will last for a considerable time. Wire fencing is now, however, so readily and so cheaply procured and so quickly erected, that I always recommend it, unless under very unusual circumstances, for the enclosing of woodlands. It is cheaper than wood or stone, requires but little looking after, and is, practically speaking, everlasting. The draining and fencing of the ground having been completed, pitting should be set about, as the longer the pits are open before they are used the better, as the weather has a powerful influence in sweetening and ameliorating the freshly-turned up soil. Speaking generally, the pits should be dug out at 4 feet apart, they being 15 inches in diameter, and fully 12 inches deep, the bottom and sides of each pit being well loosened with a pick. In making the pits cut each turf in two and place these grass-side downwards on the lower side, and the soil loosely on the upper side of each pit. They may be formed cheaply by contract or piece-work at so much per 100, the price varying with the rate of wages in the district and quality of the ground to be pitted. These preliminaries having been completed, the whole should be left for six weeks if possible before the plants are inserted, this giving the soil time to become pulverised and in a healthy condition before planting is engaged in. A. D. W.

**Rotation in planting.**—Whatever diversity of opinion prevails among foresters as to practical management, nearly all are agreed as to the impolicy of replanting with the same description of trees, at any rate until a certain period has elapsed. There must be time for the soil to become sweetened, for fresh mineral food to be prepared, or for the destruction of enemies, insect and fungoid.

**The white-leaved Weeping Linden** (*Tilia argentea pendula*) is a handsome drooping variety with large round leaves, of a greyish green colour above and silvery grey beneath. Worked upon stocks standard high, the branches shoot out almost horizontally, and as they increase in length bend gracefully towards the ground, giving to the tree a decidedly pendulous character. Being a strong grower, it requires to be vigorously pruned to keep it in shape. In this way it can be trained into a round symmetrical head, and will always be found a desirable addition to any collection, on account of its distinct silvery foliage, which contrasts effectively with the deep green of other trees.

**Pinus ponderosa.**—The Silver or Yellow Pine, as it is commonly called, ranks second among the Pines of the Sierra as a timber tree, and almost rivals *Pinus Lambertiana* in stature and nobleness of port. Because of its superior powers of enduring variations of climate and soil, it has a more extensive range than any other conifer growing on the Sierra. On the western slope it is first met at an elevation of about 2000 feet, and extends nearly to the upper limit of the timber line. Thence, crossing the range by the lowest passes, it descends to the eastern base, and pushes out for a considerable distance into the hot volcanic plains, growing bravely upon well-watered moraines, gravelly lake-basins, arctic ridges and torrid lava-beds; planting itself upon the lips of craters, flourishing vigorously even there, and tossing ripe cones among the ashes and cinders.

**Weeping trees.**—Graceful in outline, elegant in growth, impressive and attractive in appearance, weeping trees possess all those characteristics which render them especially valuable for the embellishment of landscape, park, and lawn. This peculiarity of form among weeping trees is a

precious one, inasmuch as the contrast between the rigid upper portion of the tree and the pendulous outer and lower parts forms a very striking and attractive feature, quite distinct from the aspects usually presented by other trees. But for all this they require to be employed discreetly, or the good effect which they are capable of producing is destroyed. They should be planted sparingly and not near one another, and carefully selected and suitable sites must be chosen for them, or half their charms will be lost; when met at every turn or too often repeated their interest and attraction are greatly diminished. They should never form large groups or masses, nor be mixed up with other trees in belts or borders. In the hands of a skilful planter they are capable of producing the most charming results, and are more effective in giving character and expression to a landscape than any other trees.

### GAIN AND LOSS ON STANDING TIMBER.

THE inquiry of "P." week before last, as to how it may be ascertained when a tree ceases to add sufficiently to its bulk annually to pay a fair interest on the estimated value of the tree as timber, is a thoroughly practical one, not so well realised by owners of timber as it should be. Estate restrictions and other causes hinder the felling in many places of large quantities of timber that is either all but standing still in value or actually losing often at a heavy rate every year. I could name woods of Oak timber that have been going back for over forty years probably, and where the quality of the timber is now so doubtful and well known that no purchaser will look at it standing unless at a price that will cover all risks. Numbers of these Oaks will contain from 100 to 200 cubic feet, which if sound would fetch from 2s. to 2s. 6d. per foot. Call the number of trees 2000 in this wood, reckon the loss at an annual rate roughly of from 5 to 10 per cent., and you will be within the mark. When it is stated that on many estates neither felling nor planting is going on, it will afford some idea of the state of British forestry. In answer to "P.'s" question how to know when a tree is standing still or going back in value, I may say that the rate of increase in the quarter girth annually (taken by a woodman's tape) will give him a fair idea, and he may easily average it in a plantation. If a tree containing, say, 40 cubic feet of timber increases in quarter girth a quarter of an inch in one year, it is adding about 1¼ cubic feet annually, and the price per foot will represent the increase in value. A good general guide as to the rate of growth in a tree is the condition of the top. If the annual shoots are of fair length, the foliage abundant and good, the tree is putting on value as fast as can be expected under the circumstances, for soil and situation make all the difference. The rate of growth may also be told by the width of the annual rings in the felled timber. When a tree looks stunted, has poor foliage and growth, or shows dead twigs or branches, it is standing still or losing, and is then only a lumberer of the ground. J. S. W.

P.S.—Of course, the greater the leaf area the greater the deposit of tissue annually in the trunk and limbs.

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"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—Shakespeare.

## FLOWER GARDEN.

### THE BLACK AND WHITE PINK AND OTHER FLOWERS.

It is gratifying to a humble amateur that a note inquiring about a lost old favourite should have provoked so many interesting letters, and even more than one courteous offer to supply the want. May I be allowed to thank those of your correspondents who have come to the rescue, and to make a special acknowledgment to Mr. Horner for his interesting notes. The kindly scoldings of this eminent florist fall lightly on the shoulders of the hardened heretic who holds that flowers are for the garden rather than for the show table, and I should have liked to answer a few points in his letter that suggest quite erroneous ideas of my notions of the value of plants, but that I think anything approaching wranglings on the subject are wholly profitless.

We of the ordinary garden are not ungrateful to the kings of the show table, to whose patient labours we owe so many grand flowers; but we ask them to consider our wants also, and to help us to the most beautiful in more varied ways, rather than to the most precise or the most symmetrical, or the most in accordance with certain written rules.

I cannot help thinking that all gardeners of taste will agree that many flowers are spoilt by being driven too far in one direction. Take Snapdragons as an example. I should say that a perfect Snapdragon is about 2 feet high, with a bushy base and a reasonable number of flower-spikes; the flowers large, set fairly close, but not crowded, and of some good telling colour—rich scarlet-crimson, yellow, or white for preference, and the colour is the richer, both far and near, if it is not uniform (except in the case of white), but if the crimson approaches a rich bay colour on the lip, and if in the yellow the colour is stronger at the same point. Now the wild Snapdragon is a leggy thing of washy colour, with small flowers set far apart, but that is no reason why the plant should be dwarfed, as it has been of late years, to some 5 inches in height and the flowers cramped together in tight, level bunches. In this case all the natural beauty of the plant is lost, and this is what I venture to maintain is an example of the "florist spoiling the flower." The pretty old *Nigella* (Love-in-a-mist) has been spoilt in the same way by being dwarfed to a few inches, but I always keep a carefully selected strain of what seems to me just right in height and in size, colour, and degree of doubleness of flower.

The show flower question is obviously beset with difficulties for the very reason that judging must be according to fixed rules, and that these rules must tend to drive the flowers into fixed patterns, for it does not seem humanly possible to frame rules that shall include much variety of kind of beauty. Hence arise "points," and all competing flowers must conform. Some of the requirements are obviously sound, for most flowers are the better for substance of petal and evenness of edge and some kind of symme-

try. But in others the beauty and charm of the flower may just depend on a fringed edge or a petal of delicate texture, and though a liberal number of classes may be allowed for, it is hardly possible to provide enough, even in one kind of flower, to include all the beautiful forms that one flower is capable of taking, and therefore many good forms are excommunicated. I have taken some pains for many years with a fine strain of yellow and white *Polyanthus Primrose*. Every year among some thousands of seedlings something with a different kind of beauty appears, whether in colour, marking, habit, or general aspect of the whole plant. Once I tried to collect them into classes, but so greatly did they vary in so many pretty ways, that when I had made sixty classes I gave it up.

G. JEKYLL.

*Munstead, Godalming.*

***Tropæolum polyphyllum*.**—A friend from the neighbourhood of Salisbury sends me up a fine flowering branch of this plant. He says, "The plant is perfectly hardy here. I grow it in a deep porous loam, and in this the tubers bury themselves some 2 feet in depth, and the plants festoon the rock-work with rich golden-yellow. The flowers are now beginning to decline in beauty." This plant was figured in *THE GARDEN*, May 11, 1878 (p. 442), and no more glorious hardy plant can be grown. I wish I could see it more frequently than I do; so also I would like to see the cultivation of the greenhouse tuberous species extended. I refer to such species as *T. brachyceras*, *T. coeruleum*, *T. tricolor*, and some others which annually bloom in great profusion.—W. H. G.

**Cottagers' flowers at Earl's Court.**—I was much interested in ascertaining what annuals stood best for the three days they were shown in a cut state by cottagers at the recent exhibition at Earl's Court, and the palm must be given to the annual *Chrysanthemums*, and more especially the double varieties. At the close of the exhibition at the end of the third day these were as fresh as when first staged some sixty hours previously. But while the varieties of *carinatum tricolor* were fresh and good, those of *C. coronarium* were particularly so; the massive double flowers characterised by both freshness and colour, and by the help of a little attention in the way of adding fresh water and shortening flower-stems, would have continued fresh for a few days longer. Sweet Peas last well also, but they would have been more attractive in many instances if the cottage exhibitors had not bound so many flowers into a bunch, giving them the appearance of a head of Cauliflower when formed wholly of a light colour. Others, by employing flowers of a few varieties and a little foliage also, made up very pretty bouquets light and airy. The judges favoured these, and very properly so. Bunches of *Coreopsis Drummondii* with its deep golden colour stood well also, and this was particularly noticeable in a collection of annuals grown and flowered in the grounds of the South Kensington Museum. *Petunias*, *Stocks*, *Viscaria cardinalis*, blue Cornflower, Candytuft, and some others were really very fine as illustrations of town production. All through the exhibition the *Petunias* stood well, and so did *Stocks*. Scarcely any *Asters* were shown, as they are very late in getting into bloom this season. An exhibitor from Hammersmith had a very fine bunch of *Lilium auratum* which did him the greatest credit. *Marigolds* stood well, the massive orange African varieties especially, and the fine collection of blooms shown by Messrs. Dobbie and Co. were apparently as fresh at the close of the shows as when first staged. Tufted *Pansies* soon went down before the warm, close atmosphere, and I am afraid exhibitors make a point of cutting their blooms too far advanced. *Delphiniums* stood well; so did some of the *Godetias*; and the blooms of *Dianthus Heddegi* and its variety *laciniatus* from South Kensington Museum were delightful. The cottage exhibitors of flowers

are beginning to grow the finest and most attractive hardy annuals. The yellow Sweet Sultan was conspicuous for its bright golden colour.—R. D.

### WHITE FLOWERS FOR CUTTING.

THE demand for white flowers increases with each succeeding year, and no garden of any size is complete without a plentiful supply. Fortunately, all through the summer and early autumn months many plants with white flowers are very easily grown in herbaceous and mixed borders, and in their way quite equal to choice hothouse flowers. In the very front rank I should place white *Stocks*, and there are few to beat East Lothians sown in boxes in autumn. If pricked out into 3-inch pots, wintered in a cold frame and planted out in April, they will make grand plants early in summer and last a long time. *Apreros* of this Stock, it is rather strange that of the three colours, white, scarlet and purple, there should be annually so much larger a percentage of singles in the purples than in the other colours. White Sweet Peas are almost, if not quite, of equal value with *Stocks*. It is sometimes advised to sow Sweet Peas in autumn, but they want a lot of attention in the early season if birds and slugs are troublesome. I prefer to sow in February in 3-inch pots, hardening off and planting out early in deeply-dug ground. Of the several varieties of *Spiræa* valuable for cutting, preference must be given to *palmaria alba*, a lovely variety whose feathery plumes are exceptionally light and graceful. A stock of forced *S. japonica*, planted out and allowed to remain in the ground over one season, will also furnish an abundance of flower. Small or Cactus-flowered white *Dahlias* are not common; indeed among the new varieties of the last two seasons one hardly finds a white variety. The best for cutting are still Guiding Star, Lady Blanche, and *Camelliaeflora* in the poms, and Constance and Mr. Tait in the Cactus sections. I should like whilst on the subject of *Dahlias* to sound a note of warning as to the depredations of earwigs. These insects are very numerous and troublesome this year, and in common with the foliage on Peach and Nectarines, I noticed quite early in the season that the leaves of the *Dahlia* were getting badly punctured. The use of the 2½-inch pot inverted on the top of the stake (with a little dry hay to tempt the insects to resort thither after their nightly depredations) has proved effectual. I have shaken as many as a score some mornings from each pot. There are few better white flowers for summer cutting than the white *Antirrhinum*. I have a goodly display of this on the herbaceous border, and a wonderful profusion of flower is produced from individual plants. Many varieties of the annual *Chrysanthemum* are nearly white. As this is of easy culture, quick to come into bloom, and very free, standing also a long time in water, it can safely be included in any list of flowers for summer cutting. In common with the majority of better class annuals, this should be sown in a little warmth about the end of March. Plants are thereby secured early, and if put out as soon as possible the flowering season is considerably lengthened. No mention of white flowers would be complete that did not include the old white Clove, of which, given suitable soil and situation, blooms perfect in form, substance, and colour can be secured. It is not so free with me as the old crimson Clove, but still quite indispensable as a button-hole flower in its particular colour. Attention has been directed on more than one occasion to the value of *Godetia* for cutting. Duchess of Albany is a white variety of exceptional merit. I question if there is a more thoroughly useful plant from a cut-flower point of view than the double white Yarrow (*Achillea ptarmica* fl. pl.). Although not altogether what one might term a high-class flower, lacking the sweetness and grace of *Stocks*, *Spiræas*, and other things previously mentioned, it is invaluable for filling up wreaths, crosses, flower baskets or to meet any large demands of a similar nature. As summer declines and the days shorten, the supply of white out-



door flowers in quantity seems to increase and will last until the approach of frost—plenty of white annual Asters, summer Chrysanthemums, also *C. maximum* and *uliginosum*, to mention a few of the many good and useful flowers. There are some white flowers, which, although admirable in themselves, are yet from some cause or other not admissible in quantity on the border. Take, for instance, *Lilium candidum*. What a miserable appearance this has presented of late years in the majority of gardens—foliage brown and bad, and flowers nothing like so good as they would be with clean, healthy foliage. Powders, in the shape of “antiblight” and “mildew preventer,” are only partially effectual. I was wondering the other day how two or three applications of Bouillie Bordelaise would answer. It might act as a preventive if the foliage was well damped with the same at intervals before the appearance of the disease. The white herbaceous Phlox is handsome in appearance, but not of much use for cutting on account of the short time it lasts in water; still, we are glad to use it and renew frequently, for there are few white flowers that produce such splendid heads. *Heliotrope White Lady* would be a grand flower for cutting were it not that a failing similar to that of the Phlox has to be scored against it. I should like to say a good word for white Verbenas. Given a variety with fairly long flower-stalks, one is never at a loss for a supply of white blooms, and provided they are not kept too long before being placed in water, they will remain fresh for several days and the delicate perfume is much appreciated. Very pretty nosegays can be made with a mixture of white Verbenas and Sweet Peas, a little *Thalictrum adiantifolium* foliage and a fringe of Pheasant’s-foot *Pelargonium*. E. BURRELL.

Claremont.

## NOTES OF THE WEEK.

**Carnation Celia.**—I am sending you some flowers of *Carnation Celia*. For borders it surpasses everything I have seen, at once vigorous, free and fragrant.—W. ALLAN, *Guntton Park*.

**Duration of the Strawberry season.**—I picked my first Black Prince Strawberries on June 6 from the open ground, and have still some Filbert Pine left. Alpines beginning to ripen.—J. H. W. THOMAS, *Belmont, Carlisle*.

**Sweet Pea Princess May.**—We send you here with a few blooms of our new Sweet Pea Princess May (Invincible Blue × White). The colour is quite distinct and contrasts well with that of Princess Beatrice, blooms of which we also enclose.—LAXTON BROS., *Bedford*.

**Aster diplostephioides.**—I send blooms of *Aster diplostephioides*. Seed of it was offered in 1885. Since then it seems to have been lost sight of, and one does not meet with it anywhere. It is a native of the Himalayas and is the largest of the perennial Asters. It grows without any special culture, and has annually bloomed with me since 1886, and I have now quite a stock of it.—G. H. C.

\* \* A lovely and in aspect really new plant.—ED.

**Malva californica.**—This is one of the prettiest of the shrubby Malvas, and appears to attain small, tree-like proportions in its native country. Like *M. capensis*, it has medium-sized, Vine-like leaves. The flowers, pendulous on long stems, are of various shades of rose, thickly striped with crimson, and seem to follow each other in long succession. It was represented to me as a hardy plant, which it certainly is not, and I nearly lost my stock by placing too implicit reliance on the seedsman’s description.—J. M., *Charmouth, Dorset*.

**Early-flowering Chrysanthemums.**—I have sent you blooms of two new early-flowering Chrysanthemums, the plants of which have been grown entirely in the open air in 6-inch pots. The plant of *Gustave Grunerwald* (a photograph of which I send) was raised from a cutting put in on the 5th of April, and was in bloom on August 5. The flowers of this are of a pale magenta shading to

white. The cutting of the other variety—*Georges Devered*—was put in on March 17, and the first bloom opened on August 2. The plant was then 18 inches high. The flowers are pale yellow, slightly tinged with crimson when young.—W. PIERCY, *Forest Hill, London, S.E.*

**A note from Scarborough.**—We have had no summer since June 12, not a single really fine warm day. Cold, black north-east winds have done their worst, and nothing save Roses has thriven. To-day we have a downpour of rain and half a gale of wind which has quite spoilt both the *Centaurea* and *Mallow* blooms I hoped to send. I send you three blooms of a fine new Tree *Carnation Terese Franco*, which got first prize at Nice show last spring. I saw it there with eight huge flowers on one stalk, and with great difficulty got a few little rooted cuttings from the raiser, who has not yet sent it out. I wonder if you can see its beauty in the comparatively poor blooms I send from weak plants. It should quite supersede *Miss Joliffe*.—EDWARD H. WOODALL.

**Ramondia pyrenaica.**—I am afraid that I made a mistake in asserting that this plant was short-lived, and indeed in writing some notes to a contemporary last week I stated as much, as I had a conversation with Mr. Wolley Dod in which he affirmed its longevity. He, however, attributed the unsatisfactory condition of my plants to the sun having got at them. Probably both that and Mr. Ley’s idea are correct. I find it very difficult in my garden to get shade. Mr. Wolley Dod also told me that it was a delusion to suppose that it required to be planted in a sloping direction, for that it did as well on the flat. I am also sorry that my memory deceived me about *Campanula pelviformis*.—DELTA.

**Strawberry Lord Suffield.**—I send you a dish of this to show you what a valuable late Strawberry it is going to be. It must supersede *Waterloo*, as its flavour is so greatly superior. These are now only one-fourth of natural size.—W. ALLAN, *Guntton Park*.

\* \* Really excellent flavour, without a bit of that horrible acid which abounds in the market Strawberry. Of a moderate size, and more like a pointed Grape than a Strawberry. To many people its size would be an advantage, because there is no gain in having a monstrous Strawberry. The fact is we want a new departure in these things, and ought not to look to shape or colour or to whether a fruit will carry to St. Petersburg or not, but simply to its flavour.—ED.

**Veronica salicornioides.**—A year or two ago you asked for flowering specimens of *Veronica salicornioides*. Hitherto the plants have flowered very sparsely. This year the oldest plant I have has flowered very freely, and I beg to enclose specimen. The plant is a large one, upwards of 18 inches or 20 inches in diameter. A score of younger plants in the garden, perhaps 12 inches diameter, have little or no bloom, just a pip here and there, so that I conclude the plants must be a certain age before they will flower freely.—E. MOIR, *Newport-on-Tay*.

\* \* An extremely interesting and curious little bush *Speedwell*, densely set with small white flowers that do not rise over the cord-like stems and foliage of the plant—clearly one of an alpine nature.—ED.

**A Daisy sport.**—On June 3 I noticed several Daisy heads entirely destitute of ray florets, and on examining them more closely I saw that all the flower-heads on a single plant were rayless. The disc florets also were changed into a dull green, the receptacle itself being absent. I sent a specimen to Kew, and Mr. Baker has most kindly thrown some further light on the sport. He remarks that such deviation is rare in the Daisy, though seen to occur in other heterogamous composites, and instances *Anthemis nobilis* as a case in point. Nature’s aberrant forms are so many and various, that I feel I must leave it to others better versed than myself to pierce into her hidden mysteries. We see the results, but the agency by which such change is accomplished must often be veiled from our ken. I have noticed the sport each week, but

fail to see any further change, and no marginal florets have appeared.—PETER INCHBALD, F.L.S., *Hornsea, near Hull*.

**Gardeners’ Royal Benevolent Institution.**—It is with much gratification that we announce that the Rt. Hon. Lord Brassey has consented to preside at the forthcoming annual dinner of this institution. It will be remembered that Sir Julian Goldsmid, Bt., M.P., was to have presided this year, but through the death of Lady Goldsmid just prior to the time fixed for the dinner in June last he was unable to do so, and with the general election so close at hand, the dinner was postponed. It is all the more gratifying to find that the committee has been so fortunate as to secure Lord Brassey as chairman. In order to meet the many appeals for assistance to gardeners and their widows in their old age and debility, it is hoped that the response towards the further increase in the funds will be such as to enable the committee to add a good number of additional pensioners in January next.

**Yucca gloriosa.**—Perhaps there is hardly any place in the British Isles where Yuccas are more at home than here. Old stems of the above-named species thrown down in any out-of-the-way shady place root freely and throw up numerous young plants from adventitious buds in the stem; some of these are nearly 3 feet in circumference at the base. The young plants we find useful in winter for vases around terrace walls. These with *Chamaerops humilis* and *C. excelsa* take the places of more tender plants used in summer. We also use them largely for filling beds in the flower garden in winter. Unfortunately, *Yucca gloriosa* flowers late in autumn generally, but this season it has bloomed much earlier, and thus will not be so soon destroyed by late autumn rains and winds. This glorious Yucca is now furnished with its long panicles of flowers from 6 feet to 8 feet high, and from its unusual appearance forms a pleasing feature in the landscape.—W. OSBORNE, *Fota, Cork*.

**Our charitable and benevolent institutions.**—We have the greatest pleasure in announcing that upon the occasion of the silver wedding of Mr. and Mrs. H. J. Veitch, a thank-offering for the many mercies of the past twenty-five years has been jointly made by Mr. and Mrs. Veitch to the amount of £1100. This is distributed as follows: £500 to the Gardeners’ Royal Benevolent Institution, £500 to the Gardeners’ Orphan Fund, and £100 to the Convalescent Fund of the United Horticultural Benefit and Provident Society. These noble gifts to such worthy objects mark an epoch in the life of each society, and will undoubtedly gladden the hearts of many aged and infirm gardeners or their widows; of many upon whom rests the responsibility of providing for the orphans of gardeners, and likewise of those gardeners who, although subscribing towards such a worthy society as the “United,” and deriving benefits from its funds in due course, will now be able to receive grants during convalescence before again resuming their duties.

**Indigofera Gerardiana.**—This is undoubtedly one of the prettiest of hardy leguminiferous plants flowering at the present time. It is of very graceful growth, the shoots being slender, and springing up from the stool each year, ultimately attaining a height of 2 feet to 3 feet. The leaves are pinnate and about 4 inches long, the leaflets oblong and deep green. The flowers are borne in erect spikes, 6 inches long, from the axils of the leaves on the older portions of the shoots; they are pea-shaped and of a pale purple colour. A specimen in the collection of leguminiferous plants at Kew, measuring about 5 feet across, has for some time been a very pretty picture, the whole tuft flowering with the greatest freedom. It may be remembered that in June of last year a white variety of this species was exhibited at a fortnightly meeting of the Royal Horticultural Society by Messrs. Veitch. Its varietal name was *floribunda alba*, and it deservedly obtained a first-class certificate, the flowers being pure in colour and the spikes finer than in the type. Both are worth a place in any border of hardy plants.



# TREES AND SHRUBS.

## THE SKIMMIAS.

THE only species of this genus—there are but four altogether—worth cultivating are *S. japonica* and *S. Fortunei*. The former, as its name implies, is Japanese; the latter is a native of China.

First of all, I must state that there has been very much confusion between these two species, and to Dr. M. T. Masters belongs the credit of having cleared away the mystery which surrounded them. The plant universally known in gardens as *S. japonica* is really not Japanese at all, but a native of China, whence it was introduced to the nursery of Standish and Noble in 1849. Mr. Fortune—the discoverer of the species met with it in 1848 in a garden at Shanghai, the nurseryman from whom he obtained it informing him that the plant was brought from a high mountain in the interior called Wang Shang. Of all the plants Fortune

*S. japonica* by Thunberg, that name had to be transferred to it, and the one named *S. japonica* in gardens was called *S. Fortunei*.

The Skimmias thrive under very varied conditions as regards soil, &c. I have seen them thrive splendidly in strong clay and also in poor sandy soil and peat. The true *S. japonica* is one of the very best town Evergreens we possess.

To sum up, the real facts as to the names, &c., of the Skimmias above mentioned are as follows:—

*S. JAPONICA* of Thunberg is the name to keep up. It is a native of Japan. *S. oblata* of T. Moore is the female plant, and *S. fragrans* is the male plant of the same species. Other forms are *S. Foremani*, *S. Rogersi*, *S. oblata ovata*, *S. fragrantissima*, and *S. oblata Veitchi*. In order to produce such beautifully berried species as those grown by Mr. Foreman, of Dalkeith, and Mr. Rogers, of Southampton, it will be necessary to plant specimens of the two sexes in proximity.

*S. FORTUNEI* of Masters is a native of China. *S. japonica* of gardens is identical with this. *S. rubella* is a seedling form. *S. japonica argentea* is a seedling or sport, only differing from the type in having the leaves bordered with white. *S. Fortunei* is a much dwarfer grower than *S. japonica*,

line, whose long slender shoots are pendulous and almost devoid of foliage. This, however, is not particularly noticeable by reason of the bright green bark. The golden-coloured blossoms are borne for a considerable distance along the thin drooping shoots, and in this stage a thriving specimen is for grace and beauty difficult, if not actually impossible, to surpass. This Broom, which grows freely from seed, is a native of the Mount Etna district, and was introduced into this country during the early years of the present century. In common with most of its class, it will flourish even in hot sandy soils.—T.

## SHRUBS FOR TOWN PLANTING.

*OSMANTHUS ILICIFOLIUS* in the smokiest districts of both London and Liverpool has stood well; in fact, may perhaps be considered the best all-round evergreen shrub for town planting with which we are at present acquainted. The pretty *Ligustrum coriaceum* has done well, the bright, healthy foliage seeming not to mind the noxious fumes to any great extent. An evergreen, too, its value is thereby doubled, while it will grow in poor soils and bear unmerciful prunings unflinchingly. *Griselinia littoralis*, though yet a little-known shrub, is one of great value for planting wherever the air is contaminated by smoke or other noxious fumes. The thick, almost fleshy evergreen leaves do not appear to be much the worse by coming in contact, almost constantly, with such. The Venetian Sumach and the Stag's-horn Sumach (*Rhus Cotinus* and *R. typhina*) are excellent big-growing shrubs for the town garden. Even after a hot and dry summer, and when many other trees are sere in the foliage, the Sumachs look wonderfully fresh. Both are of value in an ornamental sense; the fluffy inflorescences of the former and peculiar downy shoots are characteristic traits of by no means common occurrence. *Hibiscus syriacus*, too, stands well when subjected to smoke and the tainted atmosphere of any of our large English towns. In London it does almost remarkably well, while fine healthy bushes of it may be seen in Glasgow and Manchester. Being a plant of unusual beauty, town residents should plant it largely in their grounds. *Aucuba japonica* is well known for its excellent behaviour as a town plant, the stout leaves after being washed by the rain looking bright and healthy the whole season through. In town and city squares, even in the most densely populated parts, the *Aucuba* may be seen doing well and looking little the worse of the almost constant atmospheric impurities to which it is subjected. Being of easy culture, rapid propagation and a strong grower, are extra commendations to the frequent use of this shrub in the midst of our most busy centres of industry. The Way-faring Tree (*Viburnum Lantana*) does not receive that amount of attention that as a hardy, smoke-resisting shrub its merits justly entitle it to. When better known and more readily procured, it will, no doubt, be largely employed for the purpose under consideration. It flowers with great freedom and bears unusual quantities of the brightest and showiest of berries, and succeeds well in any soil of fair quality. The Flowering Currant (*Ribes sanguineum*) is a well-known, handsome shrub, and one that enters largely into the composition of the occupants of the city garden. Free of growth, succeeding in the poorest of soils, bearing hard trimming back with perfect impunity, and flowering with unwonted freedom, are all valuable traits in the character of a town shrub. *Phillyrea Vilmoriniana* has proved itself, from numerous experiments carried out in the heart of London, to be a most valuable adjunct to our rather restricted list of town shrubs. Of neat habit, free of growth and perfectly hardy, it is sure, when more plentiful, to be largely planted in our town and city squares. It is of recent introduction and not at all well known.

Lilacs have few equals as town shrubs, and they have been used largely and with very promising results in many of our most smoke-infested towns, to wit, Liverpool, Warrington, and Manchester. The commonly cultivated white and lilac forms



*Skimmia fragrans.* Engraved for THE GARDEN from a photograph sent by Mr. S. V. Harcourt, Malwood.

sent to the nurserymen above mentioned only one reached England alive, and this identical plant was exhibited at the Horticultural Society's rooms, 21, Regent Street, on October 23, 1852, "when the Knightian medal was awarded it, and the plant, in popular parlance, made a great sensation." The proper name of this species is *Skimmia Fortunei*. The true *S. japonica* is a Japanese plant, and did not find its way into British gardens for some years after *S. Fortunei*. Like that species, it was introduced by Fortune. Unlike *S. Fortunei*, this is dioecious; that is to say, one plant bears female flowers and the other male ones. Both sexes have received specific names, and mere forms of both have been described specifically in horticultural periodicals. *S. fragrans*, for instance (an illustration of which is here given), is simply the male plant of the true *S. japonica*. The first plant of *S. japonica* which flowered in this country was named *S. oblata* by the late Mr. Thomas Moore in 1864. As, however, Dr. M. T. Masters has clearly shown that this plant was exactly identical with the one named

and does well as a pot plant for window decoration, &c. N.

***Spiræa paniculata*.**—Though differences of opinion may exist as to the correctness of the name given, there can be none as to its being a very beautiful *Spiræa*, and one, too, that blooms later than many of the others. The flowers are borne in erect branching panicles, which are usually more or less pyramidal in shape, and its season of blooming is extended by the fact that the flowers on the secondary branches do not expand till the central ones have been open some time. A large bush of it some 5 feet or 6 feet high is, when occupying an isolated position and in full flower, a very beautiful object.—H. P.

***Genista ætnensis*.**—Throughout the month of July this has been one of the most conspicuous of our outdoor shrubs, as it was at that time in full flower. It is one of the larger members of the Broom family, for it reaches a height of 10 feet to 12 feet and forms a succession to the recently noted *Genista virgata*, which is of about the same height, though of totally different habit. *G. ætnensis* forms a specimen of a loose graceful out-



would seem to be superior to any of the others, though good results have followed with *Syringa Josikaea* and one or two others. I would recommend that whatever else is planted Lilacs should find a first and prominent place in town gardening. They are hardy and easily grown. *Leycesteria formosa*, a shrubby plant of unusually vigorous growth, has stood another severe test as to its suitability for town planting, having been experimentally used in one of the most chemically impure and tainted atmospheres that it was possible to pick. Being of rampant growth and having smooth shining stems, the sooty nodules are washed readily off, and so may to a great extent be accounted for its smoke-resisting qualities. The Bladder Senna (*Colutea arborescens*) grows with freedom in two at least of our smokiest English towns. The only drawback would seem to be that the inflated seed-pods, which are one of the most ornamental features of the tree, get sadly discoloured by the heated fumes and smoke. Not so, however, the leaves, as they remain green and fresh for a very long time, but the seed-pods being somewhat wrinkled give a good chance for the sooty deposit getting encrusted. *Skimmia japonica* and the Kentucky Coffee Tree (*Gymnocladus canadensis*) are two excellent subjects for the town garden, both having survived in the impure atmosphere of one of the worst districts of London. They are both highly ornamental plants. The Snowy Mespilus (*Amelanchier Botryapium*), with its racemes of showy white flowers, has stood the test of smoke and grime in such a way, that it may confidently be recommended for planting in almost any locality. This also may be said of *Forsythia viridissima*, or other pretty deciduous shrubs of somewhat straggling and free growth. *Cotoneasters*, various species, succeed well as town plants, those having stood the test best being *C. frigida*, a bold-habited, scarlet-fruited kind, and *C. Simonsi*, another most ornamental and very desirable species. Poor soils, largely mixed with lime rubbish, and such as we find predominating in town gardens, suits them well—a great point of advantage in plants for such a place. The Spurge Laurel (*Daphne laureola*) is an excellent town shrub, and one that is of great beauty, if only for the glossy green leaves of large size and the brightest lustre. Beneath the shade and drip of other shrubs or even trees it can eke out almost a marvellous existence, and there looks as fresh and healthy as could be desired. *Kœlreuteria paniculata* in the smoky parts of Manchester and Warrington has stood well for some years back, and may confidently be recommended as an excellent shrub for our most filthy and impure atmospheres. Even in such places and during the summer months it dares to expand its showy yellow flowers. The *Euonymus* is a well-known shrub for the town garden, it seeming to disregard to a great extent the city fumes and smoke. *E. japonicus* has stood for many years in a sooty part of London, and at present seems but little the worse for the almost incessant fumes to which it is subjected. *Hypericum nepalense* is evidently the best of its family for planting in the town garden, and certainly in Glasgow it has proved itself a most valuable adjunct to the list of such shrubs as really do well in that grimy city. Both the Gum and Laurel-leaved *Cistus* (*C. ladaniferus* and *C. laurifolius*) do well where they are subjected to a heated and impure atmosphere, while they are plants of great beauty, though, perhaps, not perfectly hardy in every situation. The *Laurustinus* and *Weigela* have proved themselves—for suburban districts at least—fairly good shrubs, but the flowers get blackened in the worse smoke-infested parts, and are then anything but pleasant to look at. *Cydonia japonica* copes with soot and smoke in a most pleasing manner, good examples of which may be seen in almost every English town; while the Almond (*Amygdalus communis*) is almost as good in that respect. *Prunus sinensis* fl.-pl. must also be included in our list, for it betrays in one of our most smoky towns but little evidence of the constant struggle with the impurities of the atmosphere that must go on.

Amongst climbing shrubs, the common Ivy (*Hedera Helix*), Virginian Creeper (*Ampelopsis hederacea*), Trumpet Honeysuckle (*Lonicera sempervirens*), *Crataegus Pyracantha*, the yellow Jasmine (*Jasminum nudiflorum*), and the Vine (*Vitis vinifera*) may be considered the best.

A. D. W.

**Spiræa callosa alba.**—The *Spiræa* cultivated in this country under the above name is a really beautiful little shrub that flowers from the commencement of August or thereabouts till cut down by the frost. It forms a dense mass of closely packed stems, each terminated by a flattened corymb of pure white blossoms, which are so numerous, that when at its best the entire plant is quite a mass of that hue. In planting a group of *Spiræas*, it is just the thing for the foreground thereof, and I have seen a bed of it interspersed with bright-flowered *Gladioli* which had a remarkably pretty effect. When the flush of bloom is over, a succession is often kept up for some time, in proof of which I may mention that during a mild autumn we have had it in bloom till November. It is thoroughly hardy and must have a place among the best of our flowering shrubs.—T.

## ORCHARD AND FRUIT GARDEN.

### THE FRUIT CROP.

WHAT a pity "H. G. H." and most correspondents who write of these and kindred matters give no clue to their whereabouts. "H. G. H.'s" account is very encouraging, but then we are quite ignorant of his favoured locality. It cannot assuredly be in East Anglia, for here we have seldom had fewer Apples and Plums nor a more scanty crop of Pears; while Cherries are abnormally plentiful. There is another peculiarity of this season's fruit crop of a very cheering character, viz., the excellent crops of Peaches and Nectarines in the open in many gardens, and a fair crop of Apricots in others. The fact of nearly the whole of the Plums being quite cut off and Peaches and Nectarines left seems to point to other causes of failure besides climate. It is well, however, to remember in this connection that the Peaches are on walls and the Plums mostly in the open. But this is by no means an exhaustive or satisfactory answer, inasmuch as the majority of Plums and Gages on walls have disappeared as well as those off bush trees and standards in open gardens and orchards. Neither does the break-down crop of last year account satisfactorily for the absence of any this, for seldom has there been a heavier crop or better out-of-door Peaches and Nectarines than last year, and yet here they are again in special profusion and of most promising quality. Still the experience of practical growers is pretty well unanimous that a break-down crop of Plums of one year results in barrenness the next. Nor is this greatly to be wondered at, as perhaps no trees are so cruelly overloaded as Plums. Neither does their free blooming the succeeding year afford any sure guarantee of their carrying a crop of ripe Plums. The blossoming takes little or no vital strength out of the Plum tree, and so soon as the extra strain of setting or swelling the embryo Plums comes, the strength of the tree gives way.

Of course, too, injuries from frosts and cutting winds during the blooming period tend also to the falling of the blooms and embryo fruit, and it would often be difficult to say how far promising crops of Plums arrested and destroyed on the threshold of life were the victims of starvation or of cold. "H. G. H." also adverts to another cause often as potent

probably as either, viz., dryness at the roots. Abundant supplies of moisture are needful for dilution, more minute subdivision, and wider diffusion. Supposing these are withheld, the embryo flowers of Plums and other fruit trees may be choked off through the grossness of their food and its excess of uneatable, non-absorbable solids. Be that as it may, dryness at the root sheds off buds in showers, whether of *Camellias* struggling to unfold their beauty, or Peaches, Nectarines, Apricots, Plums attempting to set. This drought at the roots is also a preventible cause of failure, and so far it is more hopeful than either of the other causes, though for that matter the exhaustion of the food supplies of Plum or other trees should also be prevented or remedied. The first is the best and safest, and should be managed through severe and judicious thinning. Many Plum growers would have made more money last year had they thinned off three parts of their crop. It ought not to be beyond the skill of our fruit preservers to convert green Plums, any time before they are stoned, into a most delicate and valuable sweetmeat. And, apart from that, the grower would win by losing through severe thinning through the enhanced prices obtained for superior and more uniform samples; and the crop, fitted to the strength of the tree, might be repeated annually.

If, too, the heavily-laden Plum trees of last season had been top-dressed with say 40 tons per acre of good farmyard or other manure as early last autumn as possible, this being dug in and the surface kept clear of weeds up to the end of 1892, the chances are all in favour of the trees being made strong enough to have carried a good crop this season. Soakings of house-slops or farmyard or other sewage might have been equally or even more useful as stimulants, and might have been given to develop last year's enormous crops, as well as to fortify the trees for carrying another grand crop this year. Too much is expected from most of our fruit trees, and too little is returned to them in the form of food, drink, skill and culture; and hence, no doubt, a large proportion of our fruit failures which we complacently place to the discredit of our most capricious climate, though the climate might answer that it is extremely difficult to explain how weather that has sufficed to give us Peaches, Nectarines, Apricots should prove so dead against Plums, Apples, Pears.

I quite agree with "H. G. H." in his estimate of bush fruits and Strawberries. Unless in cases where the Gooseberries got hard hit with the spring frosts, these as well as Currants and Raspberries have been plentiful and good. As to the foliage of the Strawberries, this was generally severely crippled or downright killed long before the spring frosts. Large plantations were almost leafless early in the winter, and the continuous spring frosts made matters worse. The chief marvel about the crop is that with so little leafage the crowns should have thrown up and the fruit swelled off as they have. But the early and in some localities almost complete defoliation of Strawberries last winter is one of those mysteries which have not yet been explained. An almost greater mystery is the quality and quantity of the Strawberry crops under such semi-defoliated conditions.—D. T. F.

— It is very difficult to assign a reason why some kinds of fruit should be so plentiful while others are so scarce. The crop of Apples will be very variable, although the quality shows evidence of being good, the fruits being very clear-skinned. Occasionally one comes across trees bearing a fine crop, and in other parts



there is hardly a fruit to be met with, even of the same varieties. Whilst the Apples were in flower the weather could not be considered unfavourable, the weather at that time generally being fine and dry too dry in fact, and this, I am under the impression, will be found the true solution of the failure in the majority of cases and partially so in others. There cannot be any denying the fact that warm showers, even if accompanied by boisterous winds, are very beneficial in securing a good set of fruit. At these periods the pollen is made more potent and not parched up with drought. I noticed particularly whilst the Apples were in bloom that the air was very steady, with very little wind indeed, and this must have had a pernicious effect upon the bloom. The petals of the flowers had a crumpled appearance, as if suffering from the lack of support. Some varieties did not appear to feel the ill effects like others, probably on account of the flowers being hardier. Amongst these might be mentioned that ever fruitful kind Stirling Castle, and also Ecklinville Pippin, Duchess of Oldenburg, Frogmore Prolific, King of the Pippins, Worcester Pearmain and a few others. Fruit forcers under glass are fully alive to the importance of not keeping the inside temperature too dry and arid whilst the different subjects are in flower, and to counteract the influence of this, they resort to lightly spraying over the flowers of Peaches, some kinds of Grapes, Plums and such like, generally with the most pleasing results. This was denied the Apples whilst they were in flower, hence the shortness of the crop. No doubt it will be found that the crops will be more abundant, or at least quite up to the average in the more humid districts. Pears will be the general failure of the year, and these by any means had not nearly so favourable a time as the Apples. The blossom in the first place was generally scarcer, and this must be attributed at any rate to the trees not being in condition the previous autumn to perfect the blooms in embryo, so that to weakened flowers and an indifferent blossoming time we must attribute our failure. Stronger or better matured flowers might have been enabled to have better withstood the inclemencies of the weather. Plums appear to be considerably below the average. With the exception of a few trees on a north wall, and which consequently bloomed later than others on more favourable aspects, the crop on walls here is very poor. I never saw trees more heavily laden. Bryanston, Reine Claude de Bavay, and Transparent amongst the Gages, Early Prolific, Victoria, The Czar, Prince Englebert, Belle de Septembre, and a few others are all carrying heavy crops. The trees are grown as naturally spreading bushes, and the only pruning they receive is a thinning out after the fruit is gathered if they appear crowded. Close pruning of Plum trees growing in the open is a mistake. Whilst these were in flower they were subjected to a storm of sleet and snow, but not frost. Cherries, again, were the best crop I have ever seen, and of Morellos, both in the open and on a north wall, I have a splendid crop. This latter kind certainly had a very favourable blossoming time, but not so the others. In fact, they were subjected to such storms of sleet and snow directly the flowers had set, that one would have thought they would have received such a check as to drop off wholesale. This again shows that rough storms do not injure them greatly if frost does not accompany or immediately follow. Apricots are disappointing, and will, I fancy, be a general failure. The bloom was abundant and apparently set well, but afterwards withered up, the

check they received being evidently too much for them. Whilst these were in flower, or rather directly after they had set, the frosts were very severe, and a covering of two or three folds of fish netting was not sufficient. Peaches and Nectarines, on the other hand, are excellent, the set being most abundant. Our trees have a wide glass coping, and the fronts are protected with a warm blind. If Apricots could have been protected in the same way, I fancy they would have withstood the inclemency of the weather better. Amongst small fruits Gooseberries are the only failure, but it could hardly be expected otherwise, considering the severe frosts at the time they were in bloom. Whinham's Industry and Golden Drop are our notable exceptions. —A. YOUNG, *Abberley Hall, Stourport*.

#### APPLES AT SWANMORE.

WHETHER due to soil, situation, culture, or sorts, not only is there in the large grass orchard at Swanmore a very fine crop of Apples, but good crops seem to be common there. So encouraging has been Apple production here, that Mr. Myers has laid down on a very open, breezy expanse of hillside, some 350 feet above the sea level, about five acres of land with Apples in the expectation that presently these will have good market value. To secure a crop of almost anything but wheat, which, if ever so good, yields but a very poor return, seems to be the aim in view, and not so much to make a personal profit as to set before the neighbouring landowners and farmers the merits of Apple culture properly conducted, and on a somewhat stiff soil on the chalk. All are standard trees, which are chiefly Bramley's Seedling, Cox's Orange Pippin, and Worcester Pearmain, planted 30 feet apart, and, excepting just where the standards are, all dwarfs on the Paradise stock are planted 15 feet apart, so that ample room is given for development, as it is not purposed to hard-prune, but simply to thin the branches as required. The dwarfs include Ecklinville Seedling, Warner's King, Mère de Ménage, &c., sorts selected because, as may be seen in the old orchard, they thrive so well and crop so finely at Swanmore. Although so breezy a site has been selected for this new orchard, ample preparation has been made for the provision of shelter, for plantations and belts of Fir and Larch have been planted all about, and these, making rapid growth, will in a few years furnish excellent wind breaks. Most certainly, according to preconceived notions concerning Apples, the soil and site seem to be objectionable, but there is the fact that certain varieties of Apples do very well indeed close by; whilst as to disadvantages of site, if there really be such, they can soon be corrected by the provision of shelter. Certainly the trees, although planted only in the autumn of 1890, are looking remarkably well. All are on elevated mounds, have had an ample mulching of manure, and are both carrying fruit and making good growth. To exclude rabbits and hares it has been found needful to run wire fencing all round the orchard. The surface of the soil is rough Grass and has no value. Nearer town it would pay to under-crop, but in such an out-of-the-way place as is Swanmore land is not of great value. In the garden orchard, which was planted perhaps twenty years since, such varieties as Ecklinville Seedling, Warner's King, Mère de Ménage, Lord Grosvenor, Lord Suffield, Keswick Codlin, New Hawthornden of kitchen varieties do admirably; indeed more finely cropped and handsomer trees of Mère de Ménage, Ecklinville, and Warner's King could hardly be found anywhere. Then of dessert varieties, Cox's Orange Pippin, King of the Pippins, Irish Peach, Worcester Pearmain, Golden Pippin, Wormsley Pippin, Red Quarrenden, &c., are all carrying fine crops, and the fruit in many cases is highly coloured. Certainly it looks as if this year Swanmore would rival Madresfield in the production of colour. This orchard is, too, on rough Grass, which is hardly mown over, but scythed

over now and then as labour can be spared. A very fine Hawthorn hedge 12 feet in height screens the orchard from the north winds; on the west a broad belt of trees, and on the east the kitchen garden wall furnish shelter. Of pruning there is little; the Apple crops furnish most of that, and the rest is simply thinning of branches done in the winter. A. D.

#### TWO GOOD STRAWBERRIES.

Two years ago Mr. Gumbleton expressed surprise that in some remarks in THE GARDEN on the respective merits of certain varieties of this fruit I should have made no mention of Marshal MacMahon. Mr. Gumbleton assured me that it was the best of many kinds grown by him, at the same time sending me some runners for trial. I can honestly confirm all that was said in favour of this Strawberry, and I am the more desirous of bringing it to the notice of Strawberry growers generally, as I have not this season once seen it alluded to in THE GARDEN. There is something in this Strawberry that reminds one of Héricart de Thury, but it is larger and more vigorous in growth, and is just as much behind Sir J. Paxton and President as Héricart de Thury is before them. The flavour is good, with a dash of the Pine in it; the flesh is remarkably firm, colour bright, and altogether it should be an excellent kind for field culture, coming in just as the midseason varieties are over. I gathered the last dish on July 23, Sir J. Paxton having been over nearly a fortnight. It is the early and late gatherings that are the most valuable, and in a general way it is as difficult to gather really good fruit, in the home counties at least, in the latter end of July as early in June. I feel sure that MacMahon would be a profitable kind to grow for a late supply, and I recommend it to the attention of those who are desirous of lengthening the Strawberry season. As regards fertility there is nothing to be desired. I am certain that a well grown one-year-old plant will yield quite a pound of fruit. I had but a small plantation of it, and it was a matter of wonderment to members of the household on account of the large quantity of fine fruit it yielded. I feel sure that by putting plants on a north border, a good supply of fruit could be relied on up to August. Coddington Pine I used to grow, but have, unfortunately, lost it. I have never seen it mentioned in any gardening paper, neither have I found it in any trade list. It is a great bearer, with a true Pine flavour, the berries being very firm with red flesh throughout. It ought to be one of the best kinds for preserving, and its vigorous nature should fit it for field culture. Those who grow largely for jam-making should look to this Strawberry, as I am convinced there is no better variety for the purpose. My plants were given me by a lady, who stated that it was raised at Coddington Manor. I should imagine that it would still be grown there or in the vicinity. It seems very strange that so good a Strawberry should never have become sufficiently known to find a place in trade lists. J. C.

*Byfleet.*

**Currants and Gooseberries at Swanmore Park.**—It cannot be owing absolutely to methods of pruning, although the bushes are kept comparatively thin, and I am assured by Mr. Molyneux that something is due to soil; but I have rarely seen such heavy crops of Gooseberries as have been in the kitchen garden at Swanmore Park this season. I was both interested in and greatly pleased with the bush fruits. Raspberries are failures at Swanmore, and under no conditions has Mr. Molyneux been able to make them take kindly to the soil. Of Gooseberries, Ironmonger, Red Champagne, Whitesmith, Warrington and many of the larger sorts were fruiting wonderfully. Of Red Currants there was a grand crop. The bushes are pruned so that each on a single clean stem has from ten to twelve branches, ranging from 5 feet to 6 feet long; consequently, each one gets ample light



and air. These branches were each thickly hung with bunches of fine fruits, and nowhere have I seen better. Leaders are now hardly encouraged, as the branches are long enough. The method of pruning is very diverse from that usually found on the one hand in private gardens, and from that hard stubbing in the London market gardens, but it is eminently successful in any case.—A. D.

### PLANTING STRAWBERRIES IN LIGHT AND HEAVY SOILS.

THE planting of Strawberries at this season is an important operation, and the selection of varieties requires some care, as on light poor soils there are several good kinds that do not thrive. In heavy loam of a fair depth with ample drainage I have seen Strawberry beds twenty years old, and at that age give a lot of small fruits, whilst on dry sandy soils they often go off when treated well, and the grower finds it useless to plant and gives up in disgust. The reason of failures on dry thin soils is in a great measure owing to lack of moisture, as it will be found the plants frequently go off or die when full of foliage. In such soil much can be done by supplying moisture, by mulching, and by mixing heavy marl or clay with the soil. This last is a costly operation if a quantity of fruit is grown, but for small quantities is worth the trouble; indeed, with a light soil with a gravelly subsoil it is absolutely necessary to get good fruit. Plenty of manure on such soils is necessary, and I know of none better than farmyard or cow manure. On heavy land the plants may have plenty of room, but in light soils I advise planting much thicker (2 feet apart in the row and half the distance from plant to plant), as the plants on the light soil do not grow so much as in the heavy, and their being closer the ground is shaded, thus keeping the roots cool. I have even found it necessary on hot, dry land to allow more freedom of growth in the autumn, merely trimming each side of the row when cleaning the beds, not cutting between the plants, clearing every one, as should be done where they succeed. Of course, the small-fruited varieties, such as Black Prince and alpinas, take little room, and if planted at 20 inches apart in the row and allowed to grow together, merely cutting off old leaves and useless growths, they do better than grown with more room.

#### PLANTING.

I have referred to the advantage of mixing heavy material with poor unsuitable land, but on heavy loam less preparation is needed in the way of soil. Manure and deep cultivation are equally important. Deep cultivation need not, however, be carried out to the extent often thought necessary, as to trench heavy land three spades deep often means bringing up poor soil best left at the bottom. If the ground is dug two spades deep on land double-dug for the previous crop, trenching is not required. I do not like planting new runners on ground recently trenched. When the runners are planted in soil recently trenched, there is often much loss in the winter, as the frost gets into the ground and lifts the plants out. In suitable land there is less need of manure, as often liquid manure can be applied when the plants are forming their fruits in the spring. Artificial manure can also be employed if there is a good supply of moisture to wash it down to the roots. I prefer to plant the second or third week in August, as by that date good runners may be had. I prefer strong runners to using forced plants, especially on light land; the forced plants make more show, but do not give such fine fruit and do not last so long. At one time I always used forced plants, but find runners much more profitable. There is one drawback in purchasing runners, and that is they are sometimes sent out with few roots and not in condition to plant out in their permanent quarters. When this is the case I would advise planting in rows, 1 foot 6 inches apart between plants on a rich border, lifting when ready when well rooted. If this plan is adopted there is no loss of plants, as often occurs; the runners being on a small space

can be readily attended to, and time is saved in the end.

I would also advise planting in beds yearly. Some may object to this, but it is a safe practice on poor land. If this is done a bed can be destroyed, and I would not retain any plants after fruiting two years. This is not really imperative, but it is the best plan to get good fruit. On heavy land 2½ feet to 3 feet may be given between the rows. I prefer the minimum, and 15 inches between the plants. The great advantage in planting every year or two is that the ground is brought into a better state of cultivation, and by frequent changes of soil the growth is much finer, and the ground can be cleared from insect pests when frequently cultivated.

#### VARIETIES.

Often varieties that succeed in one locality fail in others, but it will often be found that those kinds succeed best in poor soils that have a good amount of foliage. For instance, Noble is one of the best in this respect, as it rarely fails in any soil, being a vigorous grower. Keens' Seedling is also one of the best in such soils and an excellent town variety, doing well in confined gardens, its smooth glossy foliage throwing off the dirt. Vicomtesse H. de Thury is also one of the best and very free, but on light soil it requires more moisture, as it produces a lot of thick foliage and is an enormous cropper. Dr. Hogg can often be grown where British Queen would fail. It is very hardy, of beautiful flavour, but requires better cultivation than some. On heavy soils it grows to perfection. James Veitch is good in ordinary soil and of great size. Eleanor or Oxonian generally succeeds well on poor land, but requires frequent renewal. Waterloo does best on heavy or good loam, but in whatever soil it is grown it requires frequent renewal, it being useless if left too long in the same place. Jubilee is an excellent variety of recent introduction, and does well in any soil or position. It is somewhat like Noble in growth, but with richer flavour. For late fruiting it is very good. Of the Pine section in poor soil the Elton rarely fails, and is an excellent cropper. President does well in most gardens as a mid-season variety, but in some soils it fails to make a free growth. Sir J. Paxton may also be included in the list of reliable kinds.—G. WYTHES.

—Now that the system of summer planting of Strawberries has become generally recognised, it is usual in the best gardens to make a fresh plantation annually as early during the month of August as possible. Early planting is also very important, so that the plants may have ample time to become established before cold weather arrives. Where failures sometimes occur as regards their not fruiting freely the season following planting, they must either be attributed to late planting or else very weakly plants. I had ample opportunities of noting and testing this last season, for whereas those which were planted early grew well and fruited freely, those which were late in being planted had not sufficient time to become strong before winter; consequently they suffered. The reason was not far to seek. The crowns were weak, and the cold winds of March which caused such destruction to vegetation acted similarly with the Strawberry foliage, this being totally destroyed, thus weakening the crowns considerably. The stronger and earlier plants, although the foliage was cut badly, had stronger crowns, and so were enabled to push up strongly when genial weather arrived. The largest fruits are also obtained from these yearling plants. Where failure has followed the grower's efforts, it must not be considered due to the system, but to either late planting, indifferent planting, or weakly plants. It is even possible to have poor results from faulty planting.

The plants will have been prepared ere this either by layering into pots, on to turves, or rooting in good soil. I prefer the former methods, as the runners take quickly to the soil and grow right ahead without the least check. It is only by layering that good plants can be obtained, for although some people detach the layers and root them in

frames, it is a slow process, and the season is far advanced before they are sufficiently rooted to bear removal without suffering. Nor can good results be expected from detaching the layers, even if fairly well rooted and planted direct into the bed, for although they may take to their quarters and grow away, it is too late for them to form crowns strong enough for fruiting well the following season. After the layers have become sufficiently rooted they should be planted, for if allowed to become root-bound and the planting left over for a few weeks, they cannot be expected to succeed well.

The preparation of the ground is most important, as on this success mainly depends. As most growers are aware, a loose root-run is most inimical to the free progress of the Strawberry, and, on the other hand, so is a hard and almost uncultivated soil. I have seen the most beneficial results from plants grown with but little extra trouble other than deep digging and manuring, and have also seen them fail by what I may term mere surface cultivation. I have invariably found that where good vegetables can be grown, and these withstand a fair amount of drought without suffering when only subjected to ordinary surface cultivation, or what I may term mere digging and manuring, then Strawberries can be expected to thrive admirably. On those hard gravelly soils where vegetables collapse very quickly upon the least spell of dry weather, it is quite evident that something more is needed than surface cultivation. Where a variety will not succeed, it is very often through the constitution of the variety itself, as it is very rare that all kinds fail alike. The market grower is situated quite differently to the private gardener. The latter has to adapt himself to circumstances, so consequently has to resort to different methods to give him a chance of succeeding. Hence, in some instances deeper cultivation has to be resorted to if good crops are to be secured, and also a freer use of manure.

The soil will no doubt have been prepared ere this in the majority of cases where a summer plantation is in course of preparation, but if not it matters little, as the surface may be made firm by treading. Loose planting is also a great mistake. The plants are much longer in becoming established, and quickly feel the effects of drought. In forming the plantation, there will be nothing lost by allowing ample room between the rows. Where close planting is carried out, a free circulation of air, so essential for ripening fruit, is prevented. Two feet between the rows will not be any too far apart, and I also allow the same between the plants for stronger growers, and 18 inches for the weaker. This distance may appear too much to some people for the first year's fruiting, but if good plants are put out on suitably prepared soil, it is astonishing the size they will grow to.

The ground having been levelled and made all ready, proceed with the planting. Where pot plants are to be used, see that the balls are well moistened beforehand, and as the most is to be made of the plants in a short time, they will derive substantial benefit by having a little fresh soil placed about the roots, as into this the roots will ramify quickly. A spadeful of soil should be taken out at each station, and the same quantity of better soil returned. In planting, press the soil well around the ball, taking care that it is placed deep enough, or quite up to the base of the layer, and which would be about half an inch above the ball. It is also better to place the plants just below the ordinary surface level, so that a basin-like cavity is formed, and which will be found of marked benefit for the application of water. If a dry time should follow, water will be needed on alternate days, giving it through a can with a rose. The benefit of the cavity will now be seen, as the water will reach direct to the roots. In any case it is always the safest plan to give a watering on the eve of the planting day, as it must be remembered that the roots are as yet confined to a ball, and any relaxation on the grower's part in the application of water may result



in the balls becoming unduly dry and the plants suffering after planting. The runners must be kept closely pinched off, and a surface skimming with a Dutch hoe occasionally will keep down weeds. Y. A. H.

**Judging of Grapes.**—"A. D.'s" remarks on the above (p. 61) are timely and sensible. Certain Grapes are judged as to what they ought to be or are at their best, and not on their merits as shown. This is very unfair to the growers of good Sweet water, Foster's Seedling, Frontignan, Duke of Buccleuch, Mrs. Pearson, Hamburgs and others. Green Muscats, Madresfield Court, Gros Colman and others should have no chance, unless in the heaviest bunch classes, against better-ripened bunches of other varieties; but the new plan of judging without tasting is fast relegating flavour to a second place, or giving it no place at all.—CALEDONIAN.

**Peach stones splitting.**—In reply to the inquiry of "T. T." in THE GARDEN of July 23 as regards Peach stones splitting, my experience of Early Louise Peach is that it is subject to stone-splitting, but from what cause I am unable to say. I grew it some years ago, first of all in an unheated Peach house, but owing to the stones splitting and becoming a shelter for earwigs, I removed the tree to a wall outside. Here, again, though the removal checked the free growth and the tree produced some fine fruit, the stones still opened. When the tree was inside, I thought a too liberal treatment and over-luxuriance caused the mischief, and as the more natural treatment did not obviate the defect, I discarded the variety altogether.—H. F.

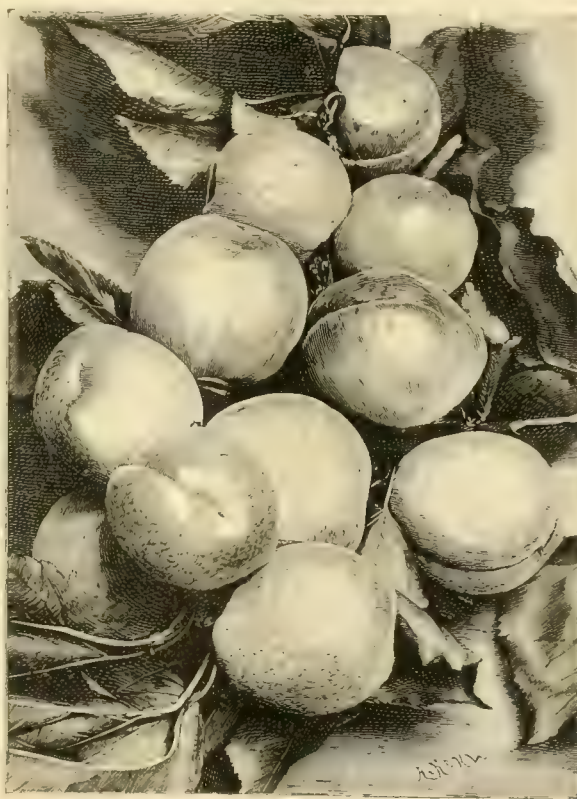
**Strawberry Keens' Seedling.**—With so many new kinds brought before the public every year there is some danger of our losing sight of good old kinds. It is doubtful if Keens' Seedling is surpassed, all points considered, as a main-crop kind or for forcing. I am under the impression that there are good and bad strains of this old kind. In the garden here the soil is very suitable for Strawberry growing. During the last four years I have tried many sorts, and at the present time I have a dozen or more kinds, but I cannot find any that surpasses the strain of Keens' Seedling I found when I took charge. It is a good grower, very free fruiting, the colour very good, and the fruit of a good size. It is not quite so early as King of the Earlies or Noble, but quite as early as Vicomtesse Héricart de Thury. For a forcing kind it is valuable; in fact I rely on this principally, growing the major portion of this kind. Some years ago when calling on Mr. Denning, then in charge of Lord Lonsborough's garden at Coombe Lane, he showed me some of the best pots of Strawberries I ever saw, remarking it was a true stock of Keens' Seedling.—J. CROOK, *Forde Abbey.*

**Strawberry Auguste Nicaise in the open.**—Now the fruiting season is over, attention will be paid to the production and planting of runners for the next season's crop. This year the above variety has been exhibited on several occasions of an enormous size. As far as my experience goes, it does not succeed so well in the open as when forced; indeed, unless planted annually and in good land, it does not always thrive. The best position I have found it succeed in was a north border, but this is no doubt owing to our light soil—not a good Strawberry soil by any means. For forcing for large fruits it is all that can be desired as far as size and appearance go, as many of the fruits grow abnormally large, often weighing 2 ozs. each. There is also another point worth notice. It will not be hurried and requires a longer time to perfect its fruit during the colouring period than many others. If allowed time and a cool house the flavour is much better. I have secured very large fruit in the open ground from young plants by potting up runners at this season and planting out in March in good land, reducing the fruit by severe thinning and keeping them clear of the soil by a few forked sticks. It is also a good Strawberry for cold frames, as it is then seen at its best.

For planting in the open as a main crop variety, I do not think it nearly as good as many other older varieties, and those who saw it forced would do well to plant sparingly for outdoor work, unless the soil is a good stiff loam and large fruits specially required.—S. H.

## APRICOTS.

WITH regard to the richness and lusciousness of well-ripened Apricots there can be no two opinions. They may not be so generally popular as Peaches, especially if the latter are grown under glass, but there are plenty of good judges who prefer Apricots to any other kind of fruit that may be placed before them. Why, then, are they not more grown by amateurs and cottagers? That Apricots will not succeed on all soils and in all climates must be conceded, but very few can say for certain that they will fail in their particular locality unless they have



Apricot Hemskirk.

made an intelligent attempt to grow them. The best advice that can be given to amateurs is to ascertain what has been done by professional gardeners in their respective neighbourhoods. It is somewhat difficult to decide exactly what soil best suits Apricots, but with me they do remarkably well in a medium loam, too much clay or too little of it in the soil apparently being fatal to longevity. The worst failures that have come under my notice have been in the Weald of Kent and Sussex, on the heavy clays of Essex and Middlesex, the chalky soil of Wilts, and the hot gravels that crop up in various districts. On the other hand, in many parts of Derbyshire, Leicestershire, Oxfordshire, Worcestershire, Shropshire, Gloucestershire, Somerset, Dorset, Devon, and Cornwall Apricots thrive admirably, being quite as easily grown as Plums. Of the eastern counties generally I have had no experience, and should be glad to hear whether

or not Apricots could be successfully cultivated in any of them.

Not a little depends in all cases upon the choice of site. The trees must have the benefit of wall or fence shelter, and neither very low nor cool walls or fences answer well. The aspect ought to be nearly or quite south, all the sunshine possible being needed by the trees, or otherwise the wood fails to ripen properly, light crops being one of the sure consequences of this. In some of the midland counties mentioned cottagers grow Apricots on the sunny gable ends of their houses, and occasionally they are to be seen on the fronts, the spaces between the windows being occupied by the trees. So well do the trees succeed in these positions, a free extension of growth evidently suiting Apricots well, that not a few of the owners frequently sell enough fruit to nearly or quite pay the rent. Instead, therefore, of so many house, stable, and other sunny walls and fences being either devoted to Plums, or, worse still, not utilised at all, why not try what can be done with the choicer Apricots? A sunny site, as before stated, is indispensable, and next in importance comes the necessity for a well-prepared root-run.

Few amateurs probably will err in giving the trees a too rich compost, though many professional gardeners have done so, the consequence being a rank, unfruitful growth. More probably the mistake will be made in not treating them with sufficient liberality. Too much moisture, especially in the autumn, is injurious, but planting in raised borders is a simple way out of this difficulty. Quite fresh turfy loam is all that need be given the trees at the outset, and this not being forthcoming, substitute the best ordinary garden soil procurable, that of a moderately strong character best suiting Apricots. Open holes for each tree not less than 4 feet square and to a depth of about 18 inches, with intervals of 12 feet between. Remove all soil that is either little better than clay, and also any excess of gravel or stones there may be. Return the top soil into the bottom of the hole, forking a little fresh soil into this and make it somewhat firm. Then add sufficient fresh loamy soil to raise the back 12 inches above the ordinary level with a slight slope to the front, this being all the preparation needed, though if the soil be poor, a liberal addition of half-inch bones and some burnt garden rubbish will act most beneficially.

As far as size of fruit and quality are concerned, Moorpark is much the best of all Apricots, but unfortunately it is also the most fickle, the trees being liable to gum badly, the limbs dying off wholesale. Hemskirk produces large fruit very freely, also possessing a good constitution, and if only one tree is planted, let it be of that variety. Royal has been known to succeed where other varieties have failed, and both that and Shipley's are well worth a trial. A fairly good dwarf fan-shaped tree can be bought for 3s. 6d., and a fine specimen for 5s., the quickest returns being had by planting one of the latter. If economy be the order of the day, then order maidens, these being usually sold at 1s. 6d. or thereabouts. Prior to planting cut away all bruised ends of roots, and cleanly cut across the broken ends



in order to facilitate healing. Avoid deep planting. The collar of the tree ought to be nearly or quite exposed and the roots evenly distributed throughout the soil, the reckless plan of setting a tree in a hole and shovelling the soil on to the roots so as to mat them together being most reprehensible. It pays well to surround the roots with a little fresh light compost, some of the residue of a garden fire or smother being particularly congenial to them. If the soil is at all wet, avoid trampling on it, and in any case give newly-planted trees a mulching of strawy litter in order to exclude severe frosts.

Pruning the trees is not so much of a mystery as many appear to imagine. All the same it is a very important detail, and I will do my best to describe it sufficiently. A good trained tree would be furnished with from eight to twelve branches all of much the same size, and whether there be few or many, it is advisable to lay them all in to their length (though not till the ground has settled somewhat), and exactly as previously trained. Cutting back the branches rather hard is a loss of time, the trees very probably being two or three seasons before they again attain their original size. Even lightly shortening the branches is a mistake, though, if the points are green, that portion should be cut off. Laid in to their full length, either lateral growth or fruiting spurs will develop at every joint, but those pruned are liable to break near the ends, the lower parts being quite naked. During the summer all lateral growths other than one or two on each branch (these being required for furnishing blank wall space as the trees extend) should be shortened back to a length of about 4 inches and further reduced to a length of 1 inch at the winter pruning. No fruit ought to be expected or allowed to form during the summer following upon planting, but if all goes on well, a few may be had in the following year. Maidens or trees that have made one unpruned shoot must not be allowed to remain intact, but should unhesitatingly be cut back to within 4 inches of the point of union of the graft or scion with the stock. From the resulting shoots select four of the best placed, and carefully train these in an oblique direction and well clear of each other. Next winter these branches ought to be shortened to about one half of their length, and each giving two well-placed shoots, the foundation of a good tree is laid, no more shortening back being needed. Let the trees extend freely, laying in fresh branches according as there is good space for them, and they will soon become very profitable.

Apricots succeed in greenhouses better than most gardeners, amateurs or otherwise are aware. In very many cases where glazed structures are erected against walls of dwelling houses or high back walls of any kind, the latter might well be utilised for the culture of Apricots and other hardy fruit. Standard-trained trees can be bought, these being the best to plant where there are front or back benches or stages in the way. Prepare the borders, plant, prune and train exactly as advised in the case of open-air trees, and they are almost certain to do well. They must, however, be kept well supplied with water at the roots and not be forced, ordinary greenhouse treatment best meeting the case. M. H.

**Grapes failing to colour.**—Would you kindly let me know in your next issue what is the matter with my Vines? The vinery is a fine airy lean-to, facing south, with plenty of piping. The Vines are old ones and have hitherto borne well. Last year I had the main stems cut away and replaced them with good canes that had received

two years' training, and they fruited and ripened well. The Vines are planted inside in a 6-foot border, and the outer wall is arched so as to allow the roots to work outside. Outside there is no border, and the lawn comes right up to the house. The Vines blossomed well and the Grapes formed right well; here they stopped, and have lately done nothing, nor will they swell or ripen. Morning and evening the path is watered down, and since the Grapes commenced to colour the house has been entirely closed at night, only a couple of inches of the top ventilators left open. The highest temperature at night has been 63°. I enclose two bunches of the Grapes. No. 1 from east end of house seems to have shanked; No. 2 from west end of house will neither ripen nor swell, but splits and seems mouldy. The foliage is in perfect health, plenty of it, and the house is not shaded.—W. A. G. TREWYN.

\*.\* In all probability the Vines were over-cropped last year and again this season. When all the bunches that show on a Vine are allowed to grow, or say one to each lateral, the strain is so great that nothing short of a perfect root-action and liberal treatment at the roots will sustain them. Market growers, with their fresh borders and high culture generally, may venture to crop very heavily, but even in their case it is not many years that the same set of Vines will remain in a profitable state. When, however, the borders are worn out, or, what is more likely in the case under notice, the roots are nobody knows where, the cropping must be comparatively light, or otherwise a partial or complete failure may result. Lightening the crop considerably, all the least-promising bunches being unhesitatingly cut off, may, perhaps, have the effect of improving the quality of the rest. A more liberal diet may also be needed. A thorough soaking of liquid manure if given at once should greatly benefit the Vines, both as regards the present and future prospects. Quite a variety of special manures is advertised, either of which doubtless would do good if applied as advised by the vendors, but none would act more quickly than good Peruvian guano, used at the rate of 1 oz. to the gallon of soft water. Merely running up new rods to take the place of the older ones is not enough, this being only a detail in the work of renovating old Vines. The borders also require attending to, and unless this is done the improvement is only of a fleeting character. After the fruit is cut, and while the foliage is still fresh, at least one half of an old border may safely be cut or forked away, and a fresh loamy compost substituted; this will become partly occupied by roots before the winter sets in. Plenty of instances have come under my notice of the roots of old Vines being subjected to still more severe handling with the very best results, a great improvement in the quality and weight of the crops taking place during the next and following seasons.—W. I.

#### FIG TREES UNFRUITFUL ON WALLS.

THE past two seasons tried Fig trees severely, and those that were not killed level with the ground lost a lot of wood, and will have had a difficulty in making sufficient fruiting wood to be of much use this season. The disadvantage of so much top growth in one season is that the new wood is long-jointed and soft, and in a severe winter is more likely to be injured than hard, short-jointed wood. I would, therefore, advise using the knife freely at this season, to let the main shoots get plenty of sun and light to mature new growth, this being important to get a good crop next season. In the winter of 1880 I had the Figs cut down level with the ground, the result being a lot of wood the following season. As Figs were a speciality, I did not like the look of the gross wood the trees were making, as I thought it meant few fruits the next summer. I restricted the root-run by digging a trench a yard and a half from the trees and cutting back the strong old roots, doing the work early in August, filling in the trench with good loam and old mortar rubble, well ram-

ming the material as the trench was filled in. The result was that the growth made afterwards was shorter jointed, and that which had been made ripened up splendidly. Suckers came up plentifully, but these were soon destroyed, and with the new wood kept thin I secured some of the finest Figs the following season I ever saw grown in the open air. It will be noticed that trees making a gross growth at times require attention at the roots. I would not hesitate to take extreme measures and root-prune immediately all trees that are shy fruiterers, but strong growers. I would even go further; I would advise a restricted root-run, especially on walls where extension of branches cannot be allowed. With so much young wood being made after the severe frosts of the past winter, pinching of the main shoots will have been omitted, but all laterals should now be attended to, and, if practicable, the main shoots should not be allowed to run their full course without a check, as there is no advantage in a strong long-jointed growth; a check by stopping hardens the wood and furnishes the wall better. When the root-run is restricted at this season the trees can be given more feeding next year to improve the quality of the fruit, as there will be abundance of young fruits to absorb the food. The trees also will be in a better condition to produce fruit, as being in a healthy state in the new material, more fruit will be formed and less wood. Top-dressing liberally in the winter will be beneficial; even old trees that produce but medium-sized fruits are worth attention in the way of root-pruning and giving new soil. In all cases care should be taken not to give manure or a rich fertiliser in the new compost; this latter is best given on the surface the following season. S. H.

#### EARLY PEACHES IN POTS.

EARLINESS in any class of fruit is always considered a desirable feature, whether high flavour is present or not. This is the reason why the earliest Peaches now under cultivation are invariably highly prized, although they may be a little deficient as regards flavour. Certainly in this latter respect they cannot compare with such of the old early kinds as Royal George and the Mignonnes, but perhaps in time this feature will be imparted to varieties which may yet be raised. As far as earliness is concerned, the old first early kinds are now far in the rear in this respect. The first dish of Peaches in any garden is invariably highly prized, and where a high-class dessert has to be maintained, early Peaches are valuable, and any deficiency in quality is not so much noticed. If it was not for their earliness little would be heard of them; in fact they would hardly find a place in our gardens at all. Although I consider these very early Peaches suitable for very early work, it is not worth while to cultivate them as trellis-trained trees, and this under a fixed roof. The fault generally lies in the wood being liable to become so over-ripened when early forced as to cast the buds. By adopting pot culture the course of procedure may be so varied as to be more suitable for their requirements and counteract the tendency of over-ripening. It is a long time for trees to remain under glass when the fruits are ripened early in May, and it is this which must be obviated by a special line of culture. When grown in pots the trees are more under control after the fruits are gathered. After the fruit is gathered the trees may be removed to the open air to a partially sheltered position, this being the more likely to cause a natural retarding of ripening. Very often, however, trees are forced into earlier ripening after being placed in the open air than even if allowed to have remained under glass. Many people think that by the rapid change of colour in the leaves and their consequent early falling, it is a very satisfactory state for the trees to be in and a forerunner of good prospects the following season, but which hope is not realised. An eastern aspect is a very good position, but away from trees or any object likely to throw a shadow over them. This would result in a slower maturation, and being sheltered from winds, the leaves remain on



longer than they otherwise would do. Peach leaves, as most people are aware who have had much experience with this class of tree, are very sensitive, and when they are blown about by violent winds the continual oscillation quickly causes a rupture, and they fall before their time. When grown in pots, a dozen trees may be accommodated in a small structure, and by forcing these early, afterwards removing to the open air, the house could be put to other profitable uses. The trees, however, must not be removed directly the fruit is gathered, as at this time we are not safe from frosts. Early in June, or even a little later, is the most suitable time. The trees must be brought to bear their change by a gradual system of exposure, more or less as the case may be, according to the weather. It must be remembered that the trees have been brought on at high pressure, and any quick change to the open air would surely result in early defoliation. Nor must the trees be allowed to suffer in the least from the want of water, for although in the open air, they will take a greater quantity than when under glass. They must not be highly fed up with stimulating manures, but a watering occasionally with clarified liquid would be necessary to keep the roots actively at work. I have used soot water with good results, this imparting a healthy cast to the leaves and also assisting in their being retained longer than by the starvation process. Red spider is the only insect to fear, but this can be easily kept under by an occasional syringing. Y. A. H.

## STOVE AND GREENHOUSE.

### THE BALSAM.

I HAVE noticed at some of the recent flower shows very good plants of double Balsams, which evidence that a favourite flower of forty years ago still has admirers. In such things as zonal and Ivy-leaf Pelargoniums, Begonias, Gloxinias, &c., the Balsam, a mere tender annual, has found formidable competitors, yet none of these plants give just the form or merit which attaches to the old favourites. None have that tree-like habit of growth in miniature which the Balsam shows; none are so easily raised from seed, and in so short a time none give less trouble; and perhaps it is for some of these reasons that the Balsam is now less grown in gardens than it was many years ago. Happily, whatsoever the nature of appreciation exhibited for the flower, at least it has not entirely stood still in its development. We never had finer or more varied Balsams than we have now, and plants that, if well grown, have sturdier habit and bloom so profusely. The Balsam gradually developed doubleness as well as compact sturdiness from out of single flowers and a loose habit of growth, through semi-double flowers that seem to those who recollect them as poor indeed compared with the splendid double flowers that present good strains produce. Whatsoever may be the taste for single flowers of various kinds as compared with double ones, at least no one ventures to contend that single-flowered Balsams are either meritorious or beautiful. We have them now so double flowered, that it is doubtful whether they can ever be excelled in that respect, especially that for our stocks we must ever be dependent upon seed, and the intensely double flowers are rarely fertile, the seed pods being generally produced from smaller flowers of the same plants. The terms Camellia-flowered and Rose-flowered as applied to Balsams practically differ only in name. They are intended to indicate one large double character of the flowers of any fine strain, and these certainly do bear close resemblance, if not quite in size, at least in appearance, to good double Camellia blooms, or, as some may think, to Roses. Balsams have three distinctive characters in colours or markings. There are the pure selfs, the stripes or flakes, and the spots or blotches. Why these spots or blotches should come is a feature which probably can only be determined by a close study of Balsam physiology, but it is not

at all a common feature in flowers. Stripes or flakes, on the other hand, are common enough, though, perhaps, in Carnations more than in any other flowers. I might have included an intermediate speckled section of which a variety from France, once known as Solferino, is a good example, but these forms are combinations of the striped and spotted forms after all. None are more beautiful than the selfs, especially the fine whites, carmines, scarlets, crimsons, mauves, violets, &c. Next in beauty are the purple, scarlet and carmine grounds much spotted with white. The others of striped or speckled forms are pleasing, just as fancy tints may be liked otherwise. Still, a dozen of the best colours and markings give enough to satisfy anyone, and a good selection is best ensured by purchasing seed in ever such small quantities in separate colours. Usually the continuation of a good variety is maintained by saving seed from the best forms separately, for it is found that Balsams sport very little and generally reproduce their kind with constancy. When Balsams are grown for ordinary greenhouse decoration, there is perhaps less of importance in variety than there is if grown for the production of exhibition plants or for bedding. Not every gardener understands the value of Balsams as bedding plants, and yet in their season, if well done, they are very beautiful. They do not require a soil that is too rich, and they like it to be tolerably firm. If a raised bed be planted and not too stiffly or regularly, there should be a carpet of some dwarf plant, such as a blue Viola, which would afford a good contrasting base to the more bizarre colours of the Balsams. I have found after many years' experience of growing Balsams outdoors that it was better to dibble the plants out, so as to somewhat at the first restrict the roots, than to first pot them singly, and to turn them out from the pots into the ground with all their roots in full activity. Plants so treated, and especially in rather fine loose soil that was manured, would develop excessive growth, especially of side shoots, and in fact do anything but bloom well, hiding what flowers were produced in an excess of leafage. When that form of growth happens, it is well to lift the plants from the soil with a fork, so as to check root-action and to replant again at the same time, severely thinning the side shoots. But it is better still to prevent that growth by transplanting direct from the seed-pans, the plants being first well-seasoned by exposure, into the open ground, and when bloom begins there is little fear of too much short growth resulting. In any case a little pinching or thinning will soon set all right. I have often found much reason to admire the exceeding beauty of a fine mixed strain of Balsams so grown, and have wondered that they have not been widely utilised for bedding. Even if only dibbled out singly or in trebles into ordinary mixed plant borders, they are beautiful also. Balsams are in their early or seedling stages very much injured by being kept in close places, and are thus drawn out of natural form just when ample light and air are so essential to the production of a stout, sturdy childhood. From the moment the plants are 2 inches in height they need ample light, and should also be kept as near to the glass, whether in a house or frame, as is possible. When pricked off singly into pots, as of course they must be if intended for pot culture, the stems should always be kept somewhat buried in the soil, and that has to be done at every fresh potting, for not only does it tend to keep the plants dwarfer, but the stems emit roots, which help also to sustain the plants in their later growth. Balsams do not require excessive pot-room, and the best of plants, of good height and breadth and in profuse bloom, may finally be had from pots not more than 8 inches across the top. When the soil is of the right sort—a mixture of three-fourths strong turfy loam and the rest of cow manure and leaf soil—it is surprising how it will sustain the plants, and being gross feeders, they can when fully rooted be well sustained by frequent waterings of liquid manure. I have found a couple of bushels of clean horse droppings put into a coarse

bag and placed in a tub containing twenty gallons of water to furnish capital liquid manure for Balsams, and it is of a kind that can be oft-repeated when the first bagful of manure is exhausted. A little soot may also be advantageously mixed with the liquid. Really good exhibition Balsams should be about 30 inches in height and 24 inches through, each plant carrying a dozen at least of stout branches all covered with large double flowers and good leafage. Such plants are not temporarily beautiful. They give at least from eight to ten weeks of beauty, and that is not at all a bad product for tender annuals whose ordinary lives rarely exceed six months. A. D.

**Monochætum tenellum (M. M.).**—This is the name of your flower, and not *Osteckia virgata*. Both belong to the same family. The specimen sent is easily grown into a handsome plant. The flowers, although not suitable for cutting, as the petals soon drop, form elegant objects when grown in the cool stove. It should be potted in about equal parts of peat, loam and leaf-mould made sandy. The plant is a native of Guatemala.—W. H. G.

**Heteranthera limosa (J. Butler).**—This is the name of the pretty blue-flowered plant you sent me, and I should much like to see it more frequently in collections. Anyone having a stove or warm greenhouse can grow it by standing the pot in which it is growing in a tank or tub of water. As the plant seeds freely, there need be no fear of losing it; the leaves are bright green, and the flowers are of a bright blue, almost violet. Loam is the best soil to grow it in.—W. H. G.

**Peperomia argyrea (D. J. B.).**—This is the name of the leaf sent, and it is a plant which should be more grown than it is; its peltate leaves are supported upon deep red petioles, which are some 8 inches or 9 inches long, often less; the blade is some 4 inches or 5 inches across, thick and fleshy in texture, bright green, with broad bands of metallic white between the nerves. This plant makes an elegant little specimen, and should be grown by everyone having a stove.—W. H. G.

**Diplacus glutinosus.**—This native of California is a very useful plant for the greenhouse during the summer, as it will bloom continuously for months together, and its cultural requirements are of the simplest. There are several varieties in cultivation, all of which have the free-growing, free-flowering character of the type, but in some of them at least the blossoms are more brightly coloured than in the ordinary form. The most notable in this respect are to be met with under the names of *aurantiacus*, *puniceus*, and *Sunbeam*, while where seedlings are raised some individuals paler than the normal form often make their appearance, and occasionally a plant with nearly white blossoms may be obtained. Cuttings can be readily struck at almost any period of the year, and those propagated in this way early in the spring will make neat flowering plants during the summer, while for larger specimens older plants may be employed. The genus *Diplacus* is now included in that of *Mimulus*, but it is so generally known under the first mentioned name that it is not likely to be superseded in ordinary use. Though spoken of as a greenhouse plant, the *Diplacus* is hardy in some especially favoured districts, while where such is not the case it will both grow and flower well planted in the open border, and so treated the flowers are a good deal richer in colour than they are when produced under glass.—H. P.

**Zephyranthes carinata.**—The Scarborough Lily (*Vallota purpurea*) is well known as a beautiful bulbous plant that may be flowered in pots year after year, and when in bloom is very useful for many purposes. Besides this there are other plants somewhat in the same way to which similar treatment can be applied, among which may be mentioned some species of *Cyrtanthus* and *Gastromema*, as well as this *Zephyranthes*, which blooms about July, at about the same time, there-



fore, as the earliest specimens of *Vallota*. *Z. carinata* should be grown several bulbs together in a pot 6 inches in diameter, or, if needed, larger sizes may be employed. In this way it forms a tuft of recurved grass-like foliage about 6 inches in height, while the flowers, which well overtop the leaves, are 3 inches or thereabouts in diameter and of a pleasing rosy red colour. Its general appearance is admirably shown by means of a coloured plate in *THE GARDEN* for January 7, 1888, where it is, however, named *Z. A'amasco*, a totally different plant with white blossoms. *Z. carinata* needs to be protected from frost during the winter, but no great amount of heat is necessary for its well-doing; indeed some of the best examples of it that have ever come under my notice were planted out in an ordinary cold frame without any artificial heat whatever, a covering of mats and litter being the only protection that was afforded them. In this frame facing the south they used to grow and increase, and at this time of the year flower beautifully.—H. P.

#### HYBRID STREPTOCARPI AT MESSRS. VEITCH AND SONS'.

UPON a recent inspection of these sterling novelties I was much pleased to see that a still further and most marked improvement had been effected by the patient and observant labours of the hybridiser. The colours are becoming more marked and decided, while there is also a noteworthy improvement in the form and size of the blooms. This has all been effected without any diminution in the profusion of flowering, which was from the first a prominent feature; indeed, I am disposed to think that this characteristic has, on the other hand, been further improved. Upon some plants as many as twelve, fourteen and sixteen flowers can be counted to the one spike. The habit of the plants is as dwarf and compact as anyone could desire. Some plants which flowered early, and were shown at the Temple show in May, after a slight rest are now throwing up flower-spikes in profusion. The finest batch of young plants is that from seed sown in December last, a long season being thus obtained; these are now flowering well. The varieties with a white ground are very pure in colour; these vary from quite pure white selfs to those with a good amount of colour in the tube. Some of these have dark maroon blotches, others with the same shade, but more in stripes. This same marking runs through those wherein the ground colour is lavender, blue, rosy-purple, magenta, lilac, deep blue and other shades. The most distinct break is to be seen in the flowers with a rosy-pink shade, some with darker, others with lighter throats. It appears to be only a question of time before we shall have some with scarlet flowers.

These hybrid *Streptocarpus* can be grown in a much cooler temperature than *Gloxinias* and other plants of like character. Many growers have, no doubt, committed the mistake of retaining them in warm houses too long after they are once well established as seedlings; whereas they would be better in a warm greenhouse. A somewhat shaded spot suits them well. Again, they should not be quite dried off in the winter, sufficient water being given to keep the foliage fresh. I have noted particularly what a length of time the individual flowers will retain their freshness and beauty; some have kept quite good for three weeks or more. The plants look very well intermixed with Maiden-hair Ferns or as borderings to stages. The fernery would, I think, suit them well, but I have had no opportunity of trying them in such a position. Care is necessary not to break the foliage, which is very handsome in well-grown plants. We shall no doubt see another variation before long in erect flowers. I have noted one departure already in this direction, the flower quite erect. If this can be perpetuated in the seedlings, additional interest will be given them. Having used the flowers of the old *Streptocarpus biflorus* some years ago in a cut state, and found them to stand well, I consider these hybrids may be advantage-

ously employed in this manner, particularly if a little gum be put upon the base of the tubes on the outside. No wiring or any artificial support is at all needed. J. H.

#### CALADIUMS GROWN COOL.

IT is not uncommon to meet with well-grown *Caladiums*, but in a general way the plants seem to be grown in a too hot and moist atmosphere. Heat and moisture to a certain extent they certainly need, especially through the spring months, when growth is in progress; but if the plants are to be used for room and conservatory decoration, a purpose for which their lovely leaf tints and graceful habit admirably fit them, they should, from the commencement of the growing season, get no more artificial heat than is absolutely necessary. A temperature of 60° will be found high enough to keep the plants healthily moving, and even if it drops several degrees lower at night no harm will ensue. Under this treatment the plants will not come to such large dimensions as when some 10° more artificial warmth is given them, but they will be more sturdy and compact of habit, and the foliage will be much harder and capable of resisting for a longer period the dry atmosphere of the conservatory or living-room. I have seen *Caladiums* which had to be removed for decoration from the house in which they were grown so weak in the stem as to render staking imperative. This cannot be right even when removal is not practised, and certainly indicates that the temperature has been too high with an enervating atmosphere. Anyone who has had the opportunity of seeing how the French grow *Caladiums* will, I think, agree with me that there is a marked difference in the appearance of their plants and those commonly seen in this country. The fact is the French plant growers generally do not care for things that demand strong heat with a stifling atmosphere, and *Caladiums* would not be so popular with them if they could not be grown without it. Not only do they grow them much cooler through the earlier part of the season, but they quite drop artificial warmth after May. There may be exceptions, but this is the rule in French gardens. Naturally, the outside temperature ranges rather higher, even in the northern part of France, than with us; but for all that the amount of heat the plants get through the summer is considerably less than English growers make a point of giving them. With less artificial warmth and a drier atmosphere, the plants will bear a freer admission of air and much more sunshine—important factors in building up the strength necessary to enable them to withstand adverse conditions when used for decoration. Having at various times grown *Caladiums* on this plan, I know that it will succeed if fairly tried, and the plants will not sustain any loss of vitality if not allowed to remain too long in the conservatory or dwelling. By frequently changing them they may be kept in a fresh condition all through the summer. If *Caladiums* were more often thus treated they would be more popular than is now the case.

J. C. B.

**Pelargonium Rollisson's Unique.**—Some years ago this *Pelargonium*, with others of its class, was to be met with in most gardens, but at the present day it is almost discarded; why, it is difficult to say, for it will bloom nearly throughout the year, while the flowers are very brightly coloured and the foliage agreeably scented. It is a hybrid variety in all probability, claiming parentage from *Pelargonium capitatum*, and forms a plant of a loose rambling habit of growth, which, if given liberal treatment, will soon cover a considerable space. The bright green of the pleasantly fragrant foliage is also another point in its favour. The flowers of this variety are of a rich crimson-purple, but beside this we have two other forms, viz., the lilac and scarlet, that differ only in the colour of their blossoms. For cutting, the flowers are very useful, as the trusses are of a neat, compact size, and being borne on long sturdy stems,

they can be arranged much more readily than those of many other *Pelargoniums*. Plants of the Unique class may be grown as large specimens secured to a trellis or tied to a few sticks, but whichever method is followed they must not be fastened too stiffly, otherwise they will present at best an artificial appearance. As a roof or pillar plant, *Pelargoniums* of this section are just at home, or for furnishing the end of a greenhouse or any similar light position they are with proper treatment sure to give satisfaction. Scented-leaved *Pelargoniums* of all kinds are at the present time under a cloud, caused, no doubt, to a certain extent by the fact that the old-fashioned nosegay in which fragrance was a necessary feature is now superseded by the more artificial bouquets, often with little, if any, foliage whatever.—H. P.

## GARDEN FLORA.

### PLATE 870.

#### ZYGOPETALUMS.

(WITH A COLOURED PLATE OF *Z. CRINITUM*.)

THIS genus, established by Hooker, contains many beautiful species and varieties, all of which are natives of Tropical America. Many different genera are from time to time passed into this one by persons who apparently do not know where else to put them; hence we have *Batemannia*, *Pescatorea*, *Huntleya*, *Promeneæ*, *Warszewiczella*, &c., all figuring as *Zygopetalums* from time to time. The flowers of *Zygopetalums* are very characteristic, having green, white, brown and blue distributed over them. Nearly all the kinds make stout pseudobulbs and large distichous leaves, so that the plants will live when growth is completed without much water to their roots. Nevertheless, as the majority of these plants are winter bloomers, I think it will be found conducive to their health, and to sending up strong flower-spikes, and to the longevity of the flowers, to rest them cool and not dry them very much, although very much less water will be necessary in winter than is given in the summer and the growing season. The majority of the kinds succeed well in pots, but there are one or two exceptions to this rule. The pots should be somewhat larger than those used for similar-sized plants of other genera, because they make numerous large and fleshy roots. Drain the pots well, using as soil good upland brown peat fibre from which all the fine soil has been beaten out, mixing with it about an equal proportion of chopped *Sphagnum Moss*. The plant should be slightly elevated above the rim of the pot and the soil pressed down very firmly. The *Cattleya* house suits these plants admirably during the season of growth. At the beginning of the autumn the plants should be removed to the warm end of the *Odontoglossum* house, and only just sufficient water given them to keep the pseudobulbs and leaves in a plump condition. As the flower-spikes begin to show, the plants must be removed to a slightly warmer atmosphere and water given more freely. The following are a few of the species and varieties which flower freely and serve to keep the houses gay through the winter and early spring months:—

*Z. CRINITUM* is said by some to be only a variety of *Z. Mackayi*, but it is a very beautiful plant, which bloomed first in the collection of the Messrs. Loddiges, of Hackney. It is very free-flowering, and its large blooms serve to keep the houses gay through the dull days of winter. There are two colour varieties, one named *Z. crinitum*

\* Drawn for *THE GARDEN* by Champion Jones in Mr. Sander's nursery, St. Albans, April 2, 1892. Lithographed and printed by Guillaume Severens.











coruleum having the veins of a deep bright blue, and another having lines of rosy red or reddish pink, and which take the place of the blue. Both sometimes flower in the winter and at others in the spring and even early summer. It comes from Brazil.

**Z. BURKEI.**—This species has long been known, but it is only about ten years ago since it first came into cultivation. The Messrs. Veitch and Sons, after whose collector it was named by Reichenbach fils, imported it from Demerara. It is a very distinct and pretty plant, but not a large-flowered species. It has oblong, furrowed pseudo-bulbs, which bear a pair of narrow, somewhat leathery leaves and an erect radical scape bearing a raceme of about five flowers, each being about 2 inches across. The sepals and petals are green, marked with longitudinal lines of rich deep brown; the lip pure white, having a plaited frill of crimson at the base. It blooms in autumn and winter.

**Z. BRACHYPETALUM.**—This old species, now not seen very frequently, produces its flowers usually about the beginning of the year. Its scape, longer than the leaves, bears a raceme of many flowers; the sepals and petals are green, banded and marbled with rich brown; the lip is white, having lines of rich blue running through, and the frill at the base is streaked with deep blue. It comes from Brazil.

**Z. CLAYI.**—A garden hybrid of great beauty, raised by Colonel Clay, of Birkenhead. It varies much in its colour in different seedling plants. It is a cross between *Z. crinitum* and *Z. maxillare*, and thus it comes very near to *Z. Sedeni*, which is a hybrid obtained between *Z. Mackayi* and *Z. maxillare*. In the best forms of *Clayi* the scape bears a raceme of five or six flowers, each upwards of 3 inches across, purplish brown, with a marginal border of green, and some narrow transverse lines of the same colour; the lip large and showy, deep violet-purple, veined with a deeper shade, the frill at the base being deep violet. This represents the best form, but there are many having the colours less intense.

**Z. MACKAYI.**—This plant was named by Hooker in honour of the late Dr. Mackay, of the Trinity College Gardens, Dublin. It is a strong-growing handsome plant, which produces its large and long spikes of bloom during the winter months. It is very much like *Z. crinitum*, but the lip is much larger, white, streaked all over with purplish blue, but destitute of the hairy veins shown in the figure. The finest variety I have ever seen of this plant is that named *Measuresianum*. This I have always seen flowering in the summer months.

**Z. MAXILLARE** is a very fine species, which does best on a living Tree Fern. It is a profuse bloomer and its flowers are very handsome, individually about 3 inches across; the sepals and petals are green, much streaked and marbled with dark chocolate; the lip is of a very dark blue, the large basal frill being dark bluish purple. It requires more warmth and moisture to grow it well than the other kinds. It is found in various warm parts of South America.

**Z. ROSTRATUM.**—This species is scarcer than those previously noticed. I used to see this grown well and flowered most freely by Mr. Osborne when in charge of the late Mr. Buchan's collection at Southampton. It has a creeping rhizome, and does well on a living Tree Fern stem, but it requires to be an *Alsophila* or some species from a warm climate, because this plant requires more heat and moisture than any other in the whole genus. The flowers are produced from the young bulb mostly in pairs. The sepals and petals are ivory white, suffused with light green; the lip large and flat, pure ivory white, having a frill of lilac at the base, and from this radiate several short lines of the same colour. It blooms in May and June, and frequently again in the autumn. Native of Demerara.

WM. HUGH GOWER.

**Bamboos and botanists.**—No doubt the botanists can justify the names they use, but I imagine nowhere outside of botanical establish-

ments such as Kew will Bamboos be called by any other name. *B. Metake* is a name we have grown accustomed to, therefore why call it *Arundinaria*? Then again we have *Bambusa Quilloi*, *B. nigra*, *B. viridis glaucescens*, and *B. virescens*, all of which we are familiar with as Bamboos, but the Kew authorities class them under *Phyllostachys*, thus adding names that are not needed and only causing confusion.—A. H.

## THE WEEK'S WORK

### ORCHIDS.

THE weather during the last few weeks cannot be said to have been unfavourable to the growth of Orchids, having been warm at night and not too hot by day. There has not been over-much sunshine in our district, but we have been obliged to shade occasionally when the plants were likely to be scalded. The Orchids which stand the greatest degree of sunshine are the Mexican *Lælias*, *L. majalis*, *L. autumnalis*, *L. furfuracea* and the pretty little *L. albida*. The *Barkerias* like similar treatment—to be near the sunlight and close to the glass roof. They require a good deal of water and warmth when making their growth, and to be kept dry and well on the cool side in winter. The *Lælias* may be grown in pots in good fibrous peat with a small portion of Sphagnum Moss and ample drainage. The *Barkerias* seem to do best when they are fixed to blocks, to which some Moss and tough fibrous peat have also been fixed. They may all be syringed overhead, and if a moist atmosphere is kept up, it is probably better that no shading whatever be given. Ventilate the house freely in hot, close weather and leave the ventilators open at night a little. It is not well to have the ventilators closed in these houses. *Vanda teres* would do well in a similar position. The plants should be encouraged to grow with plenty of moisture and heat, and exposure to the sun causes a flowering growth to be formed. Should it be necessary to shade the plants, see that the blind is drawn up whenever it is not needed, and even in bright sunshine the blinds should be removed early to let the plants have the benefit of the light. In the old-fashioned houses with the sash-bars rather close together and small panes of glass, these plants would not need to be shaded at all. If the *Mormodes* and *Cynoches* have passed out of bloom, they may now be placed in the Mexican house with the above plants. They require light and heat to ripen their growth, and in watering them care must be taken not to allow water to lodge at the base of the pseudo-bulbs; indeed, they do not need a very large supply of water now that they are making their growth, and by-and-by water may be withheld, giving enough merely to prevent the bulbs shrivelling. Some of the *Cynoches* produce their flowers in July and will sometimes carry them into August. *C. chlorochilon* is an easily-grown species, more remarkable for the quaint form of its flowers than for any striking peculiarity of colour. The *Cynoches* form a good addition to our Orchids blooming at this season, their sober-tinted flowers being a contrast to those of the more brilliant *Cattleyas* and *Lælias*. *Mormodes luxatum* also produces its distinctly fragrant flowers at this season; it is not so beautiful as the variety *eburneum*, which has ivory-tinted instead of pale yellow flowers. The variety *punctatum* is rather uncommon, but is very pretty, the flowers being covered with red dots on a white ground. The bright yellow *M. pardinum* is also very pretty. There is likewise an unspotted form of it grown under the name of *unicolor*. All such plants now completing their growth must have all the sunlight they will bear. They might do well in the house where *Dendrobiums* are finishing up their growth. These also require attention at this season, for even plants of the same species will not ripen their growths at the same time, and when growth is completed the plants will often start into growth again if they are not taken into a house with a lower tempera-

ture and a drier atmosphere. *D. Wardianum* seems to be more liable to do this than any other species. We do not want them to start into growth again at this season and watching the plants carefully, with the object of removing them at the right time, is the only way to prevent it. The last species to finish up its growth is the stately *D. Dalhousianum*. The seasons are never too long for this species. We had our plants in a high temperature last year until November, when they were removed to the *Cattleya* house, and I never saw a better display of bloom. One large plant had twenty-seven fine spikes of bloom upon it, most of the growths producing three spikes of flowers upon each. The *Cœlogynes* now in full growth must be kept steadily growing until the pseudo-bulbs are quite formed. The most useful are the various forms of *C. cristata*, and they are also the most easily managed. These plants succeed better on the shady side of the house; they now require a plentiful supply of water, and we are also giving our plants occasional doses of weak liquid manure. *C. barbata* requires similar treatment and is rather pretty when well grown and flowered, but it is not to be depended upon. *C. Dayana* is a summer-blooming species, and very charming when well flowered. The large specimen exhibited in Baron Schröder's collection in the Temple Gardens at the Orchid show in May last was a sight never to be forgotten. The numerous pendulous spikes were most elegant. *C. Massangeana*, also with pendulous spikes, grows freely and flowers twice in a year. *C. Gardneriana* is a handsome plant and requires much the same treatment as *C. cristata*. It has a fault, for the flowers when at their best look as if they were half opened, and the leaves are very liable to be attacked by red spider.

The work to be done now in all the houses is to see that the plants in growth receive no check from any cause; a chill will do it, or allowing them to become over-dry at the roots; and worse than either is an attack of thrips or red spider. Plants that have made their growth will need more light and air, as well as a more sparing supply of water. When the weather continues hot and dry let plenty of water be sprinkled about upon the stages, walls and flooring of all the houses; ventilate freely by day, and leave the wall ventilators open at night. It is well not to have the houses at saturation point night and day, as it is more in accordance with the natural order of things that the houses should become dry once a day. The temperatures ought to be at the highest point now.

J. DOUGLAS.

### FRUIT HOUSES.

**FRUIT TREES IN POTS.**—Confining the roots in pots has a sure tendency to promote a very productive habit of growth, and more often than not the trees are most injuriously over-cropped. As a consequence of this, much of the fruit produced does not attain perfection and the trees are badly enfeebled. It is not yet too late to lighten the crops on the trees of late Peaches, Nectarines and Plums, while the mid-season and late Pears should, if need be, also have their crops considerably lightened. Care should be taken in each and every case to remove the malformed fruit first, and the least that can be done is to separate the clusters generally. All will require abundance of water and liquid manure at the roots, two and in many cases three times a day being none too often, the pots being crowded with hungry roots. Allowing them to root out into borders underneath doubtless affords temporary assistance to the tree, also saving the watering-pot considerably, but it is a mistake to permit this all the same. When the time comes round to turn the trees out of doors, and the possibility of doing this is usually considered an advantage rather than otherwise, having to destroy all those outside roots must greatly injure the trees and next season's prospects, and in the end the cultivator would have every cause to regret such a slovenly method of culture. Keep the pots on slates or tiles, and turn round frequently with a view to giving all sides of the tree a good opportunity of ripening both its crops and young



wood properly, also feeding and top-dressing liberally. According as the trees of early varieties are cleared of fruit turn them out into the open and let the rest have more room, the fruit colouring much better accordingly. On no account neglect those placed outside, or they will flower very indifferently next season. The pots may be roughly protected from strong sunshine, and abundance of water, liquid manure also being beneficial, should be given. Keep down red spider either by overhead syringing every morning and evening, ceasing when the fruit is nearly ripe, or else by well coating the foliage of those cleared of fruit with sulphur. This can easily be done by squeezing a handful of flour of sulphur through a muslin bag into a 3-gallon can of syringing water, two or three overhead syringings with this effectually coating both the upper and lower sides of the leaves with the sulphur. Not till the wood is well matured, the buds properly formed, and the foliage changing colour should repotting take place.

**POT VINES.**—It rarely pays to fruit Vines in pots a second time, especially if they have been heavily cropped. Should, however, it be deemed advisable to make the attempt, something must be done to re-invigorate the Vines. If only in 11-inch or slightly larger pots, a shift into pots or tubs three or four sizes larger may well be given directly the crops are cut. Should the Vines be already in large pots or tubs, a shift being impossible, they will yet need a change of soil, and this can be accomplished by rather severely reducing the old ball of soil and roots prior to returning to the same pots they were in before or into others of much the same size. In each and every case see that the old balls of soil and roots are in a thoroughly moist state before they are disturbed, and be not chary in or nervous about cutting away a portion of the old roots and soil and loosening some of the rest. Repot firmly in a fairly rich loamy compost to which half-inch bones and bone-meal have been freely added. Keep under glass for some time after repotting, shading lightly if flagging takes place, also syringing overhead frequently, and keeping the house somewhat close for about a fortnight. Thus treated, the foliage will be preserved in a fresh state, and the new soil be quickly occupied by active roots. When this has taken place, give abundance of air with a view to bringing about an early rest, but on no account neglect watering, as pot Vines ought never to become dry at the roots. Strong young canes in fruiting pots should now be sufficiently matured to turn out against a sunny wall. Fasten securely to stakes or the wall, damaging as few leaves as possible, cover the pots with litter or ashes, and keep well supplied with water. Some provision for excluding worms from the pots ought to be made, a good bed of coarse ashes answering the purpose as well as anything that can be named.

**STRAWBERRIES FOR FORCING.**—In very many gardens the requisite number of plants will have been already layered into either fruiting or small pots, but it is not yet too late to adopt the former practice. Layering direct into the fruiting pots is the quickest method for getting a lot of strong plants quickly established, and is perhaps the least laborious plan. The 6-inch pot is the size most generally used, but it need not be strictly adhered to, the stronger growing varieties doing remarkably well in pots a size larger; while any to be forced extra early may be given the 5-inch size. Only clean pots should be used, and these ought to be well, though not heavily drained. A sprinkling of quarter-inch bones may well be disposed over the crocks, and seeing that worms are very liable to find their way in, clogging the drainage and souring the soil, these should be kept out by means of soot placed over the drainage. Strawberries are not very fastidious as to soil, but a compost consisting of three parts of good fibrous loam to one of flaky manure, and not less than a 7-inch potful of bone-meal to every bushel of soil, suits them well. Ram this down firmly, leaving fully the depth of the rim for watering. Strong runners from young plants are to be preferred. Set the pots as level as possible, and fix the run-

ners with rather large stones or pebbles. Only enough water should be given at the outset to keep the soil just moist, a too free application of water serving to sour it; but when well rooted they will require it very freely. After these young plants are once well rooted, the sooner they are detached from the parent plants the better, the latter in time robbing their offspring rather than *vice versa*. Therefore remove them early and set in a sunny position on beds of ashes. Any layered either into small pots or a stratum of fresh soil ought now to be either shifted into their fruiting pots or dug up and potted into the same. They ought to be in a moist state at the time and potted very firmly, the sizes of pots to be used, compost and arrangements in beds in all respects corresponding with the advice already given with respect to those layered direct into fruiting pots. Water carefully at first, taking care, however, that the old ball of soil and roots does not become injuriously dry.

PRACTICAL.

### THE KITCHEN GARDEN.

**RUNNER BEANS.**—Runner Beans growing on light land will quickly fail if they are not duly supplied with water at the roots, the flowers also failing to set from the same cause. This being the case, they must receive close attention in this respect. Not only clear water, but liquid manure may also be applied with advantage. On dry soils it is better to give a watering with clear water before applying the liquid, as thus the roots are better enabled to receive the food placed within their reach. If the weather should prove dry throughout the present month, a mulching of littery manure placed along each side of the rows will assist them greatly. The pods should also be kept closely picked off, as by leaving them after being fit for use they prevent others from being formed. By keeping the roots well supplied with moisture if the weather should prove dry, and also closely picking off the pods, they will remain in bearing until cut off by frost. Where it is intended to save seed the first formed pods are the best, and a row should be set apart for the purpose.

**WINTER SPINACH.**—The time has now arrived for making the sowing of winter Spinach. On some soils the roots are apt to be attacked by grub, whole breadths being cleared off wholesale. Where precautions, however, have been taken to get the soil into a well-pulverised condition beforehand, the evil may be averted. Previous to sowing, a dressing of soot and wood ashes will prove indispensable, and prove valuable in stimulating growth. If the soil is at all loose it should be lightly trodden over previous to sowing, a firm root-hold being what this crop needs. The time for sowing varies in different localities, for if sown too early it is apt to run to seed before winter, and by sowing too late there is not sufficient time for the plants to grow to a fair size before cold weather arrives. In the south the middle of the month up to the 20th of August will be found a suitable date, a week earlier in the later localities being allowed. The drills should be drawn quite 18 inches apart, so as to allow a circulation of air to play about the plants. The seeds should be sown thinly, and directly the young plants appear a free use of the hoe will assist in causing the plants to make a healthy growth.

**WINTER GREENS.**—The various kinds of winter vegetables, or at least the green kinds, are now becoming established in their respective positions, and to ensure a satisfactory growth and such as will withstand the inclemencies of the weather later on, all ordinary precautions should be taken to keep the various subjects free from weeds, which are so apt to grow apace at this season of the year. A free use of the hoe is what these crops require. It is not yet too late to set out any plants which may have been left over from the main planting, these often proving very serviceable. The small Savoy and Coleworts may well be set out now, and as vacant ground is now becoming more plentiful, it is better to plant freely

than to be short of green vegetables during the early spring months. Plants that are set out between rows of Potatoes, especially of the stronger growing kinds, must have these latter kept clear of them by pushing back the haulm. If this precaution is not taken the plants are apt to become so weakened in the stems, as to suffer greatly during the winter.

**LIFTING EARLY POTATOES.**—The practice of allowing the early Potatoes to remain in the ground until the tops are withered being now looked upon as a very unwise proceeding, no time should be lost in lifting them. The past week has been very favourable for lifting, large crops quite free from disease having been secured. A fine day having been selected for the work, the tubers should, after being dug, remain on the ground for an hour or two to allow the skins to dry. Advantage should also be taken to sort the tubers over for their various purposes, the larger for use, those of medium size for seed. By selecting for the latter purpose thus early, a sufficient quantity for the purpose may be secured. The Ashleaves are still the best for quality for general summer use, and instead of only retaining sufficient for a small border, they should constitute the main summer supply. These early Ashleaves quickly becoming green by exposure, care must be taken that they are placed in a perfectly dark shed, and by laying them out rather thinly, the quality is better retained than when huddled together in a mass, and also perhaps closely covered. A. YOUNG.

### PLANT HOUSES.

**WINTER-FLOWERING PLANTS.—GENERAL.**—These should have every possible care and attention bestowed upon them now, so as to enable the growth to be well matured. It is useless to endeavour to make large plants of anything from late-struck cuttings or seedlings. On the other hand, it is much better to be contented with plants of medium size with the pots well filled with roots. These will stand a much better chance of wintering in safety as compared with any stock that is over-potted. The latter will later on lose their roots, whilst the growth will almost invariably be of a sappy character. Speaking generally, all potting of winter-flowering plants should be completed by the middle of August. The last shift then given ought not in any case to be a large one, nor the soil too rich so as to be conducive to an over-luxuriant growth. It is quite possible that by the latter means the plants may for a time look better, the foliage being of a deeper green, but this will not resist the inclemency of the wintry season, except in the most favoured localities and in the best of houses. I would rather see the winter stock with a harder look upon it even if the foliage does not appear so luxuriant or of so deep a shade of green on the whole.

**BOUVARDIAS IN POTS.**—Only those plants which are quite pot-bound should now be shifted, these only being given a bare shift, at the same time being potted in a firm manner. The stock should not now be grown too freely; it is much better to entirely expose them to the open air than keep them close. Under pot culture there is sometimes a tendency to an attack of spider at this season, but by ordinary precautions it can be subdued. The period of flowering can be considerably modified by stopping. In most cases it will be quite safe to pinch the plants once more; they will then be in flower by the end of September or the first week in October. If they are required earlier than this, then do not stop them again.

**BOUVARDIAS PLANTED OUT.**—These should by this time have made a good growth. Our stock has done so without being at all sappy. The plants are planted out in moderately good soil, but quite shallow so as to stop deep rooting, which is always an incentive to an over-strong growth, whilst the plants never lift so well. The last stopping has now been given them; this will allow time enough for them to break afresh before they are taken up for potting. These plants are being syringed daily during this warm and dry weather



whilst they are also well cared for at the root. In cases where any planted-out stock is growing too luxuriantly, the plants after being pinched should be partially checked at the root either by means of a fork thrust under the ball and then given a steady lift, or by cutting around each one with a spade.

**SOLANUMS IN POTS AND PLANTED OUT.**—In the case of the former, where a good crop of berries has been secured and is now swelling off kindly, a liberal supply of manure water will be found decidedly beneficial where the plants have filled their pots with roots; this will be far better than again potting them. The points of the shoots should also be stopped to further assist in an early development of the berries. The plants should be fully exposed in a light place, being partially plunged in coalashes or cocoa fibre. Where the plants are in the open ground a strong growth must now be guarded against. If the plants are bearing a good crop of berries it will not be at all difficult to direct their energies in that direction by stopping the plants all over, and by serving them as recommended for the Bouvardias. No manurial stimulant will in an ordinary way be needed for these plants. If they look starved and are still bearing a good crop, it will be advisable to water them if at all dry, but any incentive to a vigorous growth should be checked.

**CALLAS** planted out should be well supplied with water, and where the growth is fairly advanced, some support will soon be required as a safeguard against windy weather. Where the plants are in pots and these have been laid on their sides to rest the plants, no time should now be lost in shaking out partially and repotting; the larger plants will be the best for breaking up to further increase the stock. Where this potting has been attended to, the plants should still be kept in the open. Those who are growing the yellow variety (*Calla Elliottiana*) will do well to keep it under cover, either in a pit or a greenhouse, until thoroughly well established. It may prove to be quite as hardy as the common variety, but until this has been fully confirmed, it is better to be on the safe side. It must not be inferred from this that I would recommend coddling; far from it. I am, however, disposed to think it requires rather careful treatment.

**WINTER-FLOWERING TREE AND DWARF CARNATIONS.**—All potting ought now to be finished, specially guarding against any excessive shifts. The plants should be kept well exposed to light and air. Where there is a tendency on the part of dwarf kinds, as *Winter Cheer* and *Miss Joliffe*, to run up too tall the leader should be stopped. All necessary staking of the tall or Tree varieties should be seen to in good time, allowing of course for future growth. The increase by layering should be immediately completed, otherwise there will not be sufficient time to obtain young plants well rooted for autumn potting up. *Marguerite Carnations* in pots come in very useful for September and October. Where these are now being grown the flower-spikes will soon be appearing. As soon as the flowers show colour it will be better to get the plants under glass.

**CYCLAMENS.**—The last potting of these to obtain good-sized plants must have early attention. The plants should then be placed as near to the glass as possible, being lightly shaded and kept moderately moist. Seed for next year's stock ought to be sown in a few weeks if not attended to at once. Any time lost in making a fair start cannot be well caught up later on.

**CINERARIAS**—Where these are now sturdy and stocky plants in 3-inch pots another potting will be found of essential service. It will not now push the plants into such a leafy growth, a most undesirable feature in *Cineraria* culture. I am no advocate for a close treatment of these plants in a cold frame. I would rather have them standing out than adopt such a method. Sometimes they are at this season kept under the shaded side of a north wall. This is entirely unnecessary, being an evil rather than any real advantage in the long run. By exposing the plants the growth and progress may

not be so free, but it will eventually be found to produce the best results.

**CHINESE PRIMULAS**, like *Cinerarias*, are far more satisfactory when freely exposed as soon as they are well established. The leaves may not look so healthy, but later on they will be found to stand all the longer. Any needful potting should have attention. J. HUDSON.

## KITCHEN GARDEN.

### NOTES ON CUCUMBER CULTURE.

It is not my intention to enter fully into the details of the cultivation of Cucumbers, but rather to make a few remarks in connection therewith, as I find there are differences of opinion upon various points. Amongst these the question of ventilation *versus* non-ventilation may require some explanation, as I find that people, especially those who are young growers, are apt to rush to extremes. To guard against extremes, and as a safe practice, it has been advised not to ventilate at all, but to allow the temperature to rise as high as it likes from sun-heat, this being counteracted by the temperature being continually kept at saturation point through abundance of moisture in the atmosphere and also over the foliage. During the heat of summer the rays of the sun are slightly broken by a light shade, such, for instance, as a little flour and water syringed over the roof. I do not dispute that plenty of Cucumbers have not been produced under this non-ventilation system, but I prefer to take the testimony of one of the largest market growers in the county, that the system is not worthy of imitation, as abundance of Cucumbers may be produced under the ventilation system when used judiciously. For private use I am certain that ventilation, when applied judiciously, is the best system to pursue, so as to keep up a steady supply of fruit. We do not want Cucumbers by the score, and then a falling off to almost *nil*, but sufficient to meet the daily wants. Ventilation is often sadly misused during the winter or even early spring months. The time-honoured chink of air I am no believer in, merely for the sake of putting it on for a change of air, whether the external conditions are suitable or not. The best guide at this unseasonable time is to put on ventilation whenever conditions are favourable. Any person when acquainted with the structure can tell directly he enters whether ventilation is needed or not. During mild weather from spring onwards during the summer months I like to put on a little ventilation at the apex of the roof at 6 a.m. At this time there is not such a vast difference between the inside and outside temperature, and air put on at this time keeps the temperature from reaching unduly high. It is certainly very misguided practice to allow the temperature to rise considerably before putting on air, but this is often done. Whatever ventilation is now put on will not counteract the evil; consequently the foliage very quickly has a parched appearance. With the ventilation early applied such an unsatisfactory state of things would be avoided. In some structures not so fully exposed as others such ill effects may not be noted, but in those facing due south they certainly happen.

Next to ventilation, I think the stopping and thinning out of the shoots are the most abused. During the most seasonable weather growth takes place very rapidly, and if thinning is not taken in hand, the crowded growths are almost impenetrable, mildew under such circumstances often asserting itself. It is the same with Cu-

cumbers as other fruit-bearing subjects: direct light is needed to form a solidified and fruitful growth. Often certainly Cucumbers form freely, but instead of coming to maturity they all damp off. The stopping of the shoots must have early and frequent attention when once the framework of the plant is laid. With some people at this stage it is the practice to stop at the second leaf, or what is termed a joint beyond the fruit. I hold that such a course of procedure fills up the space with a lot of useless growth, and that it is far better to stop the shoots at every leaf throughout the spring and summer months. It is also a good practice to remove the larger leaves by degrees, laying in younger growths to fill up the space, as by this means the plants are kept more under control and are not so likely to quickly become exhausted.

One of the main causes of exhaustion is over-cropping. For private use where only a steady supply is needed, it is a mistake to allow all the fruits which form to remain. The wisest course will be to cut off all except what are needed for the crop, leaving them in various stages, as by working on this system the plants keep longer in bearing. The market grower, again, directly it is seen that the supply is failing, clears out the plants and makes a fresh start. In a private garden this mode of procedure is not very convenient.

Coming to what I may term "feeding" the plants, this is the sheet anchor, as it were. Unless this is rigidly adhered to, the plants cannot be expected to carry presentable fruit or to remain in health very long, for most surely insects innumerable will attack them, besides mildew, and the fruits will turn yellow at the ends instead of swelling away freely. I have often heard growers complaining of the fruit turning yellow, and most surely the source has been traced to either dryness or want of fertility in the soil. Often over-dryness may be attributed to the action of bottom-heat pipes through the soil being placed in almost close contact, excepting, perhaps, a few brick ends between. My practice is to place a layer of well-worked fermenting material, to the depth of about a foot after it has been beaten firmly, over the bricks and before placing on the soil. This counteracts the dryness which is likely to accrue were such material not present, while it also forms a very congenial bottom for the roots. Whenever water is applied, sufficient should be given to soak the whole mass, mere surface dribbles being of no use whatever. Neither should other than tepid water be given, as obviously the roots would be in danger of being chilled if cold water was used. One of the main points in the cultivation of Cucumbers is to encourage surface feeders, and this is best done by giving an occasional surface-dressing of rich compost. This, if kept moist, will encourage surface roots. For what I may term regular feeding, I am very partial to manure water made from fresh cow manure and soot. This must be applied in a diluted and clear state. This latter is a particular point to take note of, for if applied too freely the rooting medium would become soured and the plants would very quickly have a sickly look. When the structure is closed in the evening of fine days, it will also be an advantage to damp the floor with liquid, this proving of marked benefit by charging the atmosphere with ammonia. A. Y. A.

**Sharpe's Victor Potato.**—Few sorts of early Potatoes have kept up their reputation like this. The demand last spring for early planting, both under glass and in the open, was unusually great and the price was very high, considering that it



cannot be termed a novelty. I have grown it for several years, and every year the demand increases—one of the best of tests as to its genuine character. We have had the usual share of climatic difficulties to contend with during the past year, and no better proof of the earliness of this kind need be given than that I dug and stored this variety for seed on July 25, a really splendid crop. The seed I planted was too small to pass muster for sale, being about the size of pigeon's eggs. They were carefully stored on the floor of a frost-proof loft, and were nicely sprouted when planted in April. They were planted on freshly broken up meadow land, drills being drawn and the small sets laid along like Broad Beans, and as they pushed through the soil in May, soil was drawn over them to ward off the severe night frosts, and by the end of June a good crop was fit for lifting. The small amount of haulm made has quite died off, and although this variety, from the exceedingly short time it takes to make its growth, would hardly be the kind to grow for the greatest weight per acre, I can safely say that under favourable circumstances it will hold its own even with late sorts, while the chance of any loss from disease is reduced to a minimum, as the crop may be stored and the ground planted again before the dread disease usually makes its appearance.—JAMES GROOM, *Gosport*.

#### FEEDING ASPARAGUS.

THIS vegetable is often left too long without attention after the crop is secured. I am fully aware in many gardens it cannot be avoided owing to so much work requiring attention. The cutting often goes on too long, thus weakening the next season's growth. This latter is not so injurious if the roots are well supplied with nutriment during the growing period. Asparagus should always get a liberal supply of salt to assist the roots in forming strong crowns. I do not think there is much gained by dressing Asparagus beds early in the season, that is, in March or April, with salt; indeed, I believe it retards growth, especially on heavy land, or if the situation is cold or exposed. I prefer to dress later, and not to use so much salt as formerly, but fish manure. I need not enter into details as to applying this, as I sent a note to THE GARDEN in May as to the value of fish manure applied in May. My object now is to point out the benefit of keeping the roots in an active state, so as to obtain good crowns for next season's work. Asparagus in light soil needs every encouragement now to perfect its growth, especially if the beds are raised above the surface, as the roots drain the soil so quickly that when there is rain much of it is thrown off by the heavy tops, and the soil being very dry it runs away quickly. Those who can irrigate their beds will be better able to secure a stout succulent growth, as I believe there is no better system than that of applying abundant supplies of liquid when the plant is making its growth at this season of the year. Those who force Asparagus adopt this system, and find they get the best results. Another equally important point is to feed when the roots can absorb the manure instead of placing a large body of it over them after the growing season when the plant is at rest. I have great faith in giving a liberal dressing of cow manure on light soils just as the cutting is discontinued; this retains moisture, and is washed down by rains to the roots, also keeping the latter cool during the growing season. We force a certain number of beds annually, and dress with cow manure as soon as the beds are allowed a free growth, that is, when the permanent beds in the open come in. The beds, though old, give us fine grass, our soil being very light and absorbing a lot of moisture. If salt is used as a dressing, an excellent time to dress the beds is just as the cutting is over, well washing the salt into the soil, either doing the work in wet weather or using a hose. Frequent dressings during the growing period, that is, as long as the roots push up new growths, are far better than one heavy dressing. I prefer to dress with fish manure several times during the season.

Such manures as guano, nitrate of soda, or other good fertiliser may be used. Guano and salt mixed and the beds flooded afterwards is an excellent manure for the purpose. As I have previously stated, there is nothing better than abundance of liquid manure from the cow yard, applying it every two or three weeks. It is excellent for late beds, that is, where Asparagus is wanted in July, or even later. I daresay many will say Asparagus is not required when Peas are plentiful, but in many establishments it is now required much longer, as the gardener of the present day must not only get vegetables in season, but out of season and in quantity, the Asparagus being always in demand for soups and flavouring. With a late bed or two there is no difficulty in prolonging the supply. To get late beds they should have ample room to allow the tops to develop. The rows should not be less than 2 feet apart, and much better when 3 feet, this allowing moisture to reach the roots. With late Asparagus moisture is the most important factor after the making of the beds. It will often be found that the roots of Asparagus planted on a prepared bed resting on clay have gone down into the clay in search of moisture, and when dressings of liquid or other manures cannot be obtained, much assistance will be derived from water applied liberally during the growing season. As good fertilisers are reasonable in price, a top-dressing previous to applying the moisture will be beneficial and promote a strong growth. Many persons think the difference in size and quality of their Asparagus is owing altogether to variety, but such is not the case; it is often a question of good culture. The best Asparagus I ever saw was on a farm regularly irrigated. The Asparagus was grown on the flat and planted 3 feet apart between the rows, there being an extra foot between every third row to allow room to water and clean the ground. Another point often neglected in Asparagus culture is that of leaving the growths bearing seed berries to ripen and drop on the soil; these berries do much harm when left, as they seed and cover the surface of the bed, robbing the permanent plants of light and moisture. It is best to cut them as soon as fully coloured, as by that time the growth will have ceased and no injury follow by removal. The cutting of all the shoots early in the season I do not think a good system, as if the weak ones are left they do no harm, but strengthen the root. Protecting the tops from wind and storms is necessary, as once the shoots are twisted they cease growing. It will often be found that the growth of strong shoots is wide of the stool. To give support there is nothing better than some bushy sticks placed between the rows. I have also used small stakes and twine down the rows, but the bushy stakes are the best.

G. WYTHES.

**Winter Parsley.**—In severe winters there is generally a great scarcity of Parsley. The weather is not altogether the cause, the chief reason being that the herb has been so much improved in appearance by the beautiful curl in the leaf that its hardness is affected, as the tiny cups or hollows formed by the upturned edges are receptacles for water, and as a result the foliage is very dry, and frost therefore acts on it with double or greater force than it otherwise would. For garnishing, this beautiful Parsley is of great value, and cooks like to have a supply of it for ornamenting different dishes, but for flavouring, the old or single kind is just as good, and far harder for the reasons already mentioned. This being so, it is always advisable to have a bed or row, according to the demand. The row or bed should be in a dry sheltered spot, as then the Parsley is sure to stand and afford a supply when wanted for use. Close up against a sunny wall is a very good place, or alongside of a fence, or in front of a hedge, dryness and plenty of air being the safeguards. Parsley for winter use should never be sown early, there being time even yet. In cases where rows are intended to stand it is a good plan to top half or a part of the plants about the end of August, and the other portion a month later, so as to get rid of

the old leaves and harden the crowns by exposure. The soil, too, should be deeply hoed and stirred, and if heavy have a dressing of road scrapings, sand, or ashes, which prevents damp and helps to keep the plants healthy.—S. D.

#### MOULDING UP VEGETABLES.

It is my belief gardeners, as a rule, scarcely realise the fact that moulding up the rows of several kinds of vegetables acts in a most beneficial manner. Not only does it steady them considerably, but it serves to keep them moister at the roots and also to protect the stems from severe frosts. A common, I may say the most common, system of double cropping consists in planting Broccoli, Brussels Sprouts, and Borecole between rows of Potatoes, and this answers well, provided it is carried out in a sensible manner. Too often, however, the Potato haulm grows more strongly than anticipated, and the poor plants put out between the ridges fare badly. Only the short-topped early-maturing varieties of Potatoes ought to be planted where it is intended to crop between, and these can be cleared off before the successional crops want all the space. Our Brussels Sprouts are invariably planted between Ash-leaf Potatoes, the rows of the latter being 3 feet apart. According as the Potatoes are lifted the soil is worked up to the stems of the Brussels Sprouts, so as to form a fairly large ridge, and the difference in the appearance of the rows of those that have been moulded up several weeks and those only quite recently similarly treated is most striking. The rainfall has been very light hereabouts, and the plants only quite recently moulded up present a semi-starved appearance; whereas those first treated nearly cover the ground and are growing luxuriantly enough for anything. Even when Brussels Sprouts have a clear course from the first, that is to say, are planted out on ground solely devoted to the crop, they require to be moulded up. Left to themselves they are apt to fall about the rows; whereas if heavily moulded up, or to the same extent as Potatoes are treated, they usually keep erect and grow and crop most satisfactorily.

Broccoli when put out between Potatoes stand in even greater need of a ridge of soil to support them. They are more liable to become leggy than are Brussels Sprouts, and are far less hardy. Their naked stems are the first to be injured by frosts; hence the need for either protecting them or keeping them as sturdy as possible. Unless planted on firm ground and given good room, sturdiness is simply out of the question, and what suits Potatoes will not produce the hardiest Broccoli. If in spite of repeated warnings Broccoli is planted between rows of Potatoes, something must be done towards protecting the much-drawn stems. All early and most second early Potatoes ought now to be fit for lifting and storing, there being no necessity for or wisdom in waiting for the haulm to die down, as this may mean a great loss by disease and no improvement in the quality of the portion of the crop saved. Directly they are cleared off, heavily mould up the Broccoli between them, and this may be the means of saving them from destructive frosts. Any planted on loose, rich ground and not too far advanced to operate on may also be moulded up with advantage. The same remarks apply to Borecole, and even Savoy as these have long stems would well repay for a little extra attention in the shape of a ridge of soil drawn up to the stems. Planted before they become badly drawn in the seed-bed and on an open piece of ground, Savoy and also



Chou de Burghley retain a very sturdy habit of growth, and could not well be moulded up at this late period without the lower leaves being much damaged. Those late planted, and which are usually somewhat leggy, are often sunk deeper into the ground than is good for them, and they would thrive better if the roots were kept nearer the surface and the stems soiled up.

Winter and spring Cabbages ought especially to be moulded up. Having the soil drawn up to the stems from midway between the rows not only seems to favour a strong, yet hardy growth,



Chicory, blanched.

but the furrows thus formed render it a very easy matter to feed them with strong liquid manure. Strong sewage water, house-slops and diluted drainings from farmyards may be poured down the furrows with great advantage, these reaching most of the feeding roots and promoting a rapid growth of heart. Private gardeners are not called upon to supply extra large Cabbages, as these are rarely so tender and mild in flavour as desirable. What is expected of them are quickly grown, tender young hearts, and which cannot be had from impoverished ground. Cauliflowers also ought to be well fed at the roots if superior hearts are desired, and if freely and early moulded up, the furrows will be just the place for pouring down strong liquid manures, waste being out of the question unless the position is on the side of a hill. Even in the latter case this difficulty can be easily got over by means of ridges and furrows formed across the slope. Peas and Beans are usually moulded up, and they pay well for this little trouble, and even such root crops as Carrots, Onions and Beet are sometimes greatly benefited by similar treatment, though in a somewhat lighter fashion. I. M. H.

**Asparagus.**—In exposed gardens it is difficult to prevent Asparagus from being blown over and broken, as at this season, and even before, the heads become heavy and more than the stems can fairly support. To have them knocked down causes great injury to the plants, as cutting generally goes on too long for their welfare, and every top now is of consequence and highly necessary to develop and strengthen the crowns. This being so, they should have support of some kind, the best way being, if done earlier, to thrust in a few Pea sticks into the beds or plantations and let the Asparagus grow up

through and between them, and it must be a very strong wind that will seriously damage them then. As the tops are rather too forward to be thus treated now, single stakes to each strong stem and a tie will be found the readiest means of holding them up, or if the Asparagus is in straight rows, a couple of lines of stout string may be strained from end to end and the stems tied to them. I always like to mulch the beds immediately cutting is over and to top-dress with a mixture of salt, nitrate of soda, guano or kainit, with some soot, and if liquid or sewage can be applied now it will do a great deal of good.—J. SHEPARD.

#### WINTER SALADS.

THE advantage of having plenty of the above cannot be over-estimated, and though there is little difficulty in getting salad in abundance in the early autumn, there is often a scarcity in the winter and early spring. Of late years there has been more choice of subjects for the salad bowl owing to the taste for Tomatoes and the greater quantity of Cucumbers that are now grown. In this note I will only refer to such salads as can be grown with ordinary care and at moderate cost. To get winter salads in quantity it is necessary to make preparation during this month, and in cold late districts the earlier the better, as by sowing various seeds at this date, such as Lettuce, Endive and such like, there is no loss if they are sown a little early. If not sown too thickly they may be thinned out to make room for those that are to stand the winter. Many sow earlier than advised, but to do this requires plenty of room to winter the plants. When sown too early the autumn frosts are most destructive to full-grown Lettuces, whilst others much smaller are rarely injured. Again, varieties have much to do with hardiness, as some are much more tender than others. Of late years we have had several new varieties introduced that were to withstand our winters, but they are no better than older kinds.

#### LETTUCE.

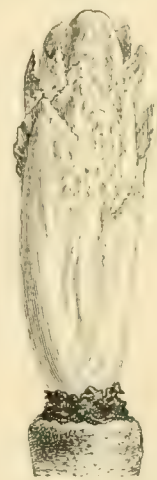
As this is always in demand for salads, I will give a few words as to its culture in the winter, and those who require it in quantity would do well to depend upon two sowings; some make more, especially those who require plenty of large Lettuces early in the autumn. To get a regular supply through the winter, beginning in October, I prefer to sow at the end of July or early in August, and again the third week in August, and for a quantity of young plants to put out in the early spring, two or three weeks later. To get Lettuces through the winter, seed should be sown on a dry sloping position sheltered from the east and north, as it is the winds that play such havoc with the plants when on the move after a long winter's rest. The earlier sowings—that is, those sown at this date—will furnish nice heads early in October, and as we rarely get severe frosts to do much injury till the end of September, they should then be covered on frosty nights. If there has been delay in sowing for this supply, a little time will be gained by immediate sowing on a warm border in drills 1 foot apart, using the thinnings for a succession, planting on a warm rich border. Good ground is necessary for this sowing, as a quick growth is required. When these Lettuces are large, if covering is objected to they may be lifted with a good ball and transferred to cold frames or under shelter, placing thickly together. By sowing in drills, there is no delay or check by transplanting. The second sowing in August will prolong the supply through the winter and will require protection or lifting. We generally plant these out of the

seed-bed much closer than usual, 6 inches apart each way on a warm border, and this is covered with temporary frames, a few lights placed over them, and some boards round the sides. This planting does not give large, full-hearted blanched Lettuces, but nice sized heads, as it will be found large plants decay in the winter months. With a little extra covering in severe weather in the way of mats this lot comes in about the middle of December and lasts some time. To continue the supply through the early spring some of the largest plants from the late sowing are planted thickly in frames, and these commence to grow very early and are large enough for salad, Cabbage Lettuces being the earliest to come in. In a mild autumn those sown now often continue the supply till nearly Christmas and with little protection. The varieties used for sowing for winter are often a matter of opinion, as some growers prefer Cos to Cabbage, but I advise both. I like Brown Cos (Hick's Hardy Cos to sow early in August), using the Brown or Bath for the later sowing and to stand the winter. Of Cabbage varieties there are no better for winter than Hardy Hammersmith, Victoria, and Stanstead Park. I like the Cabbage varieties to sow late for early spring use, as they come in sooner than the Cos. For the late sowing to remain in the seed-beds or to prick out thickly into frames, the Hammersmith and Stanstead Park are good. After housing or lifting the winter supply, it is necessary to air freely and keep free of decayed foliage. Even those who do not possess frame protection may have good Lettuces till late in the year when covered with mats or canvas. I often utilise dressed covers for this work or rough wood supports, unrolling the canvas night and morning, and if a late lot of plants is secured on a protected border, these give a much earlier supply in the spring than plants raised in heat, and when a few can be planted early in the year in boxes or on warm

leaves, they soon come in. Many shifts can be adopted to raise material for the salad bowl, as if short of Lettuces, a few pans or boxes sown in mild heat every few weeks and cut over like Mustard and Cress furnish nice salad at little cost, a quick growing variety being used for the purpose. Last spring I found Golden Queen and Harbinger very good for the purpose.

#### ENDIVE.

I have devoted more space to Lettuces on account of their being liked by nearly everyone. Endive is not so popular, but a useful



Chicory, Witloof.

salad and next in importance to Lettuce, being readily grown and sheltered through the winter. Much the same treatment is required, except that it is not wanted when there is plenty of Lettuces; but, growing freely in the late autumn, it is most useful. To get it large requires early sowing, that is early in July or earlier, but large Endive does not winter well. It is necessary to lift as advised for Lettuces, so that a large quantity early in the autumn requires a lot of room for shelter. I prefer to sow now and to get medium-sized plants by October; these will then stand a certain amount of frost, and may be lifted later to eke out the



supply of Lettuces. If a quantity is required, a sowing early in July is essential. These may be wintered in frames, lifting as advised for Lettuces, or they may be protected on the open border by covering. I usually plant a good quantity rather close and protect with litter or mats, and if not too large they do well. Protection may also be afforded by tying up the plants and placing litter between them. There is no gain by sowing Endive too early, as it often runs to seed, and for plants to remain in the open not lifted, the Round-leaved Batavian is the best, very hardy, a compact grower, and readily blanched in the winter if placed in a Mushroom house. The Green Curled varieties, though more showy, are not nearly so hardy. For an early autumn supply the Green and Moss Curled are nice, but the latter will not stand frost. I consider the Green Curled and Round-leaved Batavian the best of all, using the first for the early lot and the latter for mid-winter use.

#### CORN SALAD

is not used so much as it deserves, it being a valuable adjunct to the salad bowl and easily grown. I prefer to make two sowings, a large one early in July and one (a smaller) first week in August, this latter on good land and sheltered and well supplied with moisture, during severe weather throwing a little dry litter over the bed. In the summer this variety is not required with plenty of choice subjects, but in winter it is useful and of easy culture, the Broad-leaved Italian being the best variety. Chicory, a useful plant and easily grown, should be sown early in June and the roots stored and forced in the winter months. It will give a lot of cutting, and half a dozen roots placed in a Mushroom house fortnightly will give a good supply. When sown too early, especially on light soils, the plant runs badly. The large-leaved or Witloof is the best variety. Dandelion requires the same culture and to be forced, and is valuable for the salad bowl during the winter; indeed, with plenty of Dandelion, Endive is not missed. The value of Beet-root is too well known to need any remarks, and as the last named requires attention earlier in the season to get the roots large enough, I merely note its value as a winter salad. I would point out the value of small Beet for this purpose, and if Dell's Crimson is sown in June, it is of a useful size by the autumn and keeps good a long time. I do not like a coarse Beet mixed with green salads. Celery is equally useful in the salad bowl as in a plain state, and when the blanched tops are used they give a nice flavour, besides eking out the material in the spring when short of green salad. Mustard and Cress should be sown every fortnight. Watercress may be had all through the winter by sowing seed in pans or boxes and growing in frames, or it may be sown broadcast in frames and well supplied with water. I have also grown it in pots, pricking off a few seedlings into 4½-inch pots and growing close together near the glass in a temperature of 55° to 60°, watering freely in bright weather. Early in the year the last-named plan is useful to get early Watercress, and when cut over it continues growing and may finally be planted out in a shady place for a summer supply.

G. WYTHES.

**Cucumbers in non-ventilated houses.**—“W. L.” in his “Tomato Notes,” points to a case where a strong dry heat has cured the Tomato disease. It may be interesting to him and others who are troubled with Tomato and Cucumber disease if I state that for the two seasons

previous to this our Cucumbers were very badly diseased, and nothing I could do had any effect. This year I made up my mind to grow them on the non-ventilating system, and no ventilator has been opened this season. The result is all that I could desire. There is no disease, the plants have kept in rampant growth, the Cucumbers grow quickly and produce as many as the plants can carry. Where a house is set apart for Cucumbers, there is no doubt the non-ventilating system is the best.—J. B. O.

#### Veitch's Autumn Giant Cauliflower.

The value of this Cauliflower when sown early in spring for use during September, October, and November cannot be over-estimated; neither does it need any praise from me to extend its culture, for this is well-nigh universal. My object in referring to it now is to point out its value as a summer Cauliflower for use from the middle of July until the spring-raised plants turn in. I have for the past few weeks been cutting heads of this Cauliflower faultless in every respect, being solid, heavy and white, and I can safely say I know of no other variety that will produce equal results. With the accommodation of glass which in most places has been extended of late, there has been a tendency on the part of some gardeners to give up autumn-sown Cauliflowers and depend upon those raised under glass in spring and also using earlier varieties; but if the ground is not extra good, these very early sorts do not come large enough to make solid heads, so as to compare favourably with the autumn-sown stock. I would strongly advise those who have not yet tried Veitch's Autumn Giant when sown from the 10th to the 20th of August, and again a week later, to do so. This ensures there being one batch at least in a suitable state to prick into hand-lights to stand the winter, where they should be treated as the other varieties, such as Early London, to which they will form a capital succession.—C. WARDEN, Clarendon.

## ORCHIDS.

### TRICHOCENTRUMS.

THIS is a small genus of stemless plants belonging to the Vandaæ. All are natives of America, principally the central parts. Some of the species produce flowers of great beauty well worthy of a place in any collection, whilst others again have small and dingy blooms which have nothing in them to induce anyone to grow them. I am led to make a few remarks upon some of the species of this genus through having received a flower of one of them from “J. B.” of Liverpool. This I take to be *T. albo-purpureum*, but the flower was quite withered before it reached me, and I hope “J. B.” if he has another flower to spare, will let me see it while fresh. These plants require the warmth of the Cattleya house to grow them successfully. The *Odontoglossum* or cool house I have found not to be sufficiently warm to force growth, and it leaves them in the autumn immature and unable to withstand the winter; they thrive well upon a block of wood. As I have found the leaves to turn yellow and fall away through getting too dry, I have adopted small earthenware pans, which must be thoroughly drained. *Trichocentrum*s do not like a great quantity of soil about their roots. In potting them use the fibre of good brown upland peat from which nearly all the fine soil has been beaten out, to which may be added about an equal part of living *Sphagnum Moss*, which should be chopped up small, as in this condition it mixes more easily with the peat fibre. This should be pressed down firmly, and the plant be left slightly elevated above the rim of the pot. These plants have no pseudo-bulbs, and they require careful watering, and at no time in the

year should they be allowed to become dry. During the summer months a liberal quantity of water should be given, but during winter much less will be necessary, and the temperature may fall to about 55°. The baskets containing the plants should be hung up near the glass exposed to the sun and light. The plants will require shading during the brightest part of the day. The following are all sterling novelties, well deserving of the attention of Orchid growers, whilst from their size they may be easily accommodated.

**T. ALBO-PURPUREUM.**—This is a very beautiful species and a very free bloomer. The leaves are some 6 inches long, thick and fleshy in texture, and soft shiny green in colour; the flowers are produced singly on a peduncle which springs from the base of the leaf, and are each about 2 inches across, the sepals and petals being about equal and of a rich cinnamon-brown; the lip is white in the front part, with streaks of purple, and the base is of a rich bright purple. These flowers last a long time in full perfection. It is said to come from Northern Brazil.

**T. ORTHOPLECTRON** is a somewhat similar plant, but I think it has stouter leaves, and these are distinctly keeled at the back; it blooms in a similar manner, and the peduncle bears but a single flower, which is similar in size to that of the last named, the sepals and petals being light cinnamon, the large lip wholly deep magenta-purple, which becomes paler towards the margin; the disc yellow.

**T. PFAU.**—This plant, although similar in its growth, is somewhat smaller and its flowers also more diminutive. Each peduncle usually produces two blooms, which are white, stained with light chestnut-brown at the base of the sepals and petals, where they are also dotted with purple: the broad lip is white, bearing a blotch of rosy purple at its base. It comes from Central America.

**T. PORPHYRIO.**—This does not differ much from the others in its growth, but its flowers are large and extremely handsome, the sepals and petals being rich brown, tipped with tawny yellow; the large lip flat, spreading, and of a rich deep purple, which becomes paler towards the margin, and with a patch of primrose-yellow on the disc.

**T. TIGRINUM.**—This is a novelty. The leaves are somewhat narrower than in the other species, and they are more or less dotted with bright brown; the peduncle bears two very large flowers, which are extremely handsome; the sepals and petals are greenish yellow, profusely marked with spots and dots of brownish purple; the lip large, pure white, with a yellow crest on each side of which is a purple blotch. This plant is said to come from Ecuador.

Some dozen other species and varieties of this genus are known, most of which have been in cultivation, but as most of these have little or no beauty I have omitted them here.

WM. HUGH GOWER.

**Miltonia Moreliana.**—Some very fine dark flowers of this plant come to me from Mr. Marsh asking what I think of them. For depth and richness of colour I have rarely seen them equalled, but there are many varieties with larger flowers. The flowers may improve as the plant becomes established. I should like to see them again another season.—W. H. G.

**Scuticaria Steeli.**—C. Johnstone sends a beautiful flower of this fragrant plant. He says it was received from Demerara, through a friend who sent it home on the wood it was growing on in a state of nature. He has kept it in his warmest stove and is now delighted with its curious flowers, and he sends it for an opinion. The flower is of good size and very bright in colour, the ground colour being rich primrose-yellow, spotted and barred with chestnut-brown. The leaves of this plant are some 3 feet or 4 feet long and deep green, thus necessitating its being grown in an elevated position. A block of wood suits it best of



all. Some Sphagnum Moss should be packed round the base of the plant, which should always be kept moist. You have done quite right to keep it in the warmest house.—W. H. G.

**Grammatophyllum Ellisi** (W. B.).—This used to be exceedingly rare; indeed thirty years ago there was not a living plant in the country. Soon after it was introduced in a living state from Madagascar by the late Rev. Mr. Ellis. For some time it remained scarce, until the Messrs. Low, of Clapton, imported it in quantity. At the present time fine plants may be found in most Orchid collections. The variety sent is not an exceptionally good one, for I have seen flowers much brighter in colour and more distinctly marked. The ground colour of the sepals and petals is of a tawny yellow thickly freckled with reddish brown, the lip being of the same colour.—W. H. G.

**Phalænopsis Stuartiana**.—"G. T." sends me a remarkably fine flower of this, and which I certainly put down as the variety nobilis, so named by Reichenbach some few years since. The sepals and petals are broader, making up a grand flower, pure white saving the lower half of the lateral sepals, which is thickly spotted with large blotches of dark red upon a yellow ground, the lip being marked in a similar manner. This plant was discovered by Boxall while collecting Orchids for the Messrs. Low, of Clapton. It is now over eleven years since it was first found. The young leaves are marbled and blotched in the way of those of *P. Schilleriana*, these markings fading out with age. It looks like a natural hybrid between *P. Aphrodite* and *P. Schilleriana*. The *Phalænopsis* like a warm atmosphere with plenty of air. Another thing I should advise the use of, and that is plenty of sea-weed under the stages. This is specially useful; Mr. Sander, of St. Albans, used to use this, but he has now given it up.—W. H. G.

**Dendrobium Phalænopsis Schröderianum**.—From Mr. G. W. Marsh, Arle Court Gardens, Cheltenham, come flowers of a lovely variety of this. These are large, with broad sepals and petals of a rosy mauve, the lip being dark. It really is a charming flower. I cannot say how many blooms were on this spike, as only the top was sent, bearing four flowers. Of the same species, I am in receipt of a very dark form from G. Edwards in South Wales. It is exceptionally dark and rich in its colour, but it is not, as Mr. Edwards hoped, the new form named in honour of Mr. Lee, of Manchester. Of this I can speak quite confidently, because I was in Mr. Sander's establishment when the plant was in bloom, and although in growth it somewhat resembles *D. Phalænopsis*, the flowers are totally different. You may rest assured that you possess one of the superb dark forms of this species, which is as variable as it is delightful; moreover, it does not appear to be difficult to grow and flower. Those having a good Croton house have just the place that will suit it. Yet another form comes from "C. B.," and in this instance it is a very delicately coloured one. The flowers are large and of good substance. This, I think, is the same variety as was shown before the committee of the Royal Horticultural Society this season under the name of *delicatum*, and such I should call it. It is useless multiplying names when we know the variety to have been already named.—W. H. G.

**Knife v. shears for pruning**.—Would any Rose grower give me the benefit of his experience as to the effect produced upon Rose trees by the use of garden scissors instead of a knife? I had recently gone carefully over my Rose trees, cutting out all the dead wood with a pair of garden scissors, and some days afterwards my gardener called my attention to the fact that wherever the scissors had been used the stems for some distance below the cut had turned brown, and were evidently dying; whereas wherever a sharp knife had been used no such appearance could be detected. His theory is that the compression of the outer skin or cuticle of the stem causes a congestion of the sap, and produces an effect analogous to that

of a bruise upon the human body; whereas a sharp knife has no such effect upon the sap, the flow of which is not interrupted. I am not convinced of the soundness of this theory, and shall be glad to know if it can be confirmed by the experience of any of your readers who are Rose growers.—TYRO.

## ROSE GARDEN.

### THE ORANGE RUST ON SMOOTH-LEAVED ROSES.

It is a fact, as "D. T. F." remarks on p. 85, that red rust rarely attacks the foliage of Tea Roses, and thus they are the most valuable of all, because they are not consequently prematurely defoliated and for the rest of the season permanently disfigured. But I doubt very much if this immunity from the worst of Rose pests is secured by and through the smoothness of leaf surface which characterises the Tea-scented kinds. The smooth-leaved H.P.'s apparently refute the supposition, and it seems to me that the nature and texture of the leaf surface are of small consideration in regard to attacks of this disease. Unlike all other pests, we have been powerless to prevent it, because it is alone in its methods of attack. It is a breaking out of an internal disease if we accept the opinions of those who have specially studied it, and are therefore qualified to give an opinion upon the point. This, however, is all they tell us, and is in some degree rather vague. Is it present in the sap of the plant and diffused through its tissues? We know it bursts out through the bark of the wood as well as through leaf surfaces, and that these have little to do with the nature or severity of the attacks is, I think, proved at least by my experience of one or two of the Hybrid Teas. In some of these we have the glossy foliage and continuous blooming merits of the true Teas, but from the other source they seem to have inherited a liability to attack from the worst of pests in its most malignant form. From inquiries since made I find my experience of Viscountess Folkestone has been singular. A friend, who is a large trade grower, has never known it have red rust or orange fungus, for they are one and the same thing. Yet in a garden of Tea Roses this kind and two others, Hybrid Teas, though growing hundreds of yards away from any source of infection, were attacked and defoliated so thoroughly, that the autumnal bloom was a perfect failure. This happened last year. If the disease spread to any of the many Teas around, its presence was not apparent in the form of injury, and since then these kinds have been removed to the border of Hybrid Perpetuals, and now in common with all these are again affected. All who know Viscountess Folkestone are familiar with its smooth shining leafage, and instances of such Roses falling a prey to the foe may doubtless be multiplied. We must go right back to the beginning, and then we shall discover that the original parents are at fault, and their faults have been perpetuated and will be through endless generations. We have only to grow a small selection of single Roses—the true species—and we shall find some defying, others succumbing to the various pests that we are compelled to combat at the present day. Now the blooms of the best Roses practically show the highest state of possible perfection, might we not with advantage, profiting by experience, go to work to improve some of the other wild types that are hardy and vigorous, and exempt

from both red rust and mildew? The Damask Rose, one of the parents of the great Hybrid Perpetual race, has handed down to its most recent offspring the liability, I might almost say certainty, of attack by mildew. The Tea Roses of to-day, though so far removed from the original *Rosa indica*, retain the precious quality of exemption from red rust. Surely then we are not wrong in assuming that disease-proof garden Roses can be raised by starting from a pure and healthy source. A. H.

### POLYANTHA ROSES.

ONE of the most interesting facts connected with the development and improvement of Roses is the origin of the fast-increasing race or family that we now call Polyantha Roses. Of late years R. Polyantha has been continually under notice, in the first place because a distinguished Rose grower has highly recommended it as a stock for Tea Roses. It would be interesting to hear if any of our Rose nurserymen have tested its merits in this respect. Secondly, and coincident with the extra regard that has been manifested for the single-flowered kinds, R. Polyantha has been found to possess merits of a high order, and some who have planted it where it can ramble at will over trees and shrubs have been delighted with the exceeding profusion and delicate, but all-pervading scent. But the most astonishing fact of all is that this tremendous climber crossed with a Tea Rose should give us a race of pigmy kinds which should be quite unlike any other Roses. They surpass the few miniature kinds that existed, for these (*De Meaux* is a good example) flower once and are done for the season, but the little Polyanthas go on through summer and autumn. They have the many-flowered truss of one parent and some of its fragrance, and from the Tea Rose they have inherited that inestimable quality of persistent blooming. These charms combined with habit distinctly their own render them of great value for garden and house decoration. Although it is generally known and believed that these dwarf Polyanthas originated as here stated, I do not remember ever to have seen any notice as to whether the cross was accidental or purposely performed. It matters little, but still there are many who would like the actual origin fully confirmed.

To M. J. B. Guillot, who has given us so many fine Tea Roses, we are likewise indebted for the first of these Polyantha Roses and for several succeeding first-rate kinds. *Ma Paquerette* is the kind that Guillot sent out in 1875, and though others have come in varied colours, this represents the characteristics of the race. In growth of wood and leaf, shape of bud, and cluster of flowers, it represents typically its progenitor, but whilst we measure the stature of one by feet, that of the other must be by inches. Upon a sturdy shoot often not a foot in height is borne a many-flowered erect truss of pure white and perfectly double flowers. This kind, however, did not attract much attention even when succeeded by two more—*Anna Marie de Montravel* in 1879, and *Cecile Brunner* in 1880. Both of these are very pretty, the former having small flowers of a pure white colour, full and double, and freely produced. *Cecile Brunner* is of a rosy colour with yellow shading in the centre, the flowers prettily shaped and sweetly scented. *Mignonette* was sent out by Guillot in 1881, and the advent of this kind drew attention to the race. It may be described as *Ma Paquerette* reproduced with pink flowers. The colour quite took the popular fancy, especially as the kind was grown and shown in pots at many of the London exhibitions. The flowers are rosy-pink, and borne in immense clusters. Later on in 1887 the same noted raiser gave us what many consider the loveliest kind of all, namely, *Gloire des Polyanthas*. It was raised from *Mignonette*, and surpasses its parent in loveliness, being brighter and fresher in colour, a little larger in the size of the flowers, which are full and most abundantly produced. The smallest selection should include this kind. *Perle d'Or* is very charming, its flowers being nankeen-yellow with orange



centres, and the buds are prettily shaped. Etoile d'Or is of a citron-yellow colour and very good. Miss R Schultheis is a pure and lovely white kind, with just a faint salmon shading in the centre. The flowers are very full and thickly clustered. Little Dot is one of the late Mr. Bennett's productions, and is of a soft pale pink colour, with deeper tints upon the edges of the outer petals. Minutifolia alba, from the same source, is all that the name implies, and perhaps rather too minute, even in this family of dwarfs. Its flowers are like little double Daisies, pretty and lasting. Clotilde Soupert is acceptable, but it is to be hoped that there will not be many additions with flowers so large as those of this kind; otherwise they may not prove acceptable because too large, and will hardly be placed in other classes where they would be regarded as too small. The flowers of this kind are two or three times the size of those of the others, but they are very pretty, full and double, sweetly scented, variable in colour, usually pearly white externally, with glowing rosy red centres. Sometimes flowers entirely red or white appear upon the same plant. The Pet is a charming kind of great freedom, looking like our vigorous old climbing friend Félicité-Perpétue in miniature. Golden Fairy, which was sent out by Mr. Bennett in 1888, is in the way of Perle d'Or, but distinct and good, with buff-coloured flowers, shading to a lighter tint at the edges of the petals. Blanche Rebatel appeared in the same year, and it was eagerly looked for, as it had been announced as a red Polyantha. It truly marks a great variation in colour, but its hue is dull and contains too much magenta or purple to win it many admirers. If red kinds are to be popular, their colours must be clear and bright.

These little gems will doubtless attract more attention in the future now that they are becoming fairly numerous, and they will assuredly be grown by those who like to have the best Roses from all sections in their gardens. They must not be planted, however, where there is any risk of being over-run by vigorous kinds, but they would associate admirably with many of the best Tea Roses either in small groups or as edgings to the margins of beds and borders. A. H.

**Rose Luciole.**—It is unfortunate if this lovely Rose has proved a weak grower with "D. T. F." or anyone else. I have had it since it was first sent out, and although it has not got the vigour of Marie van Houtte, it certainly grows freely. It is naturally very dwarf and sparsely leaved; hence its usual naked appearance. A group of plants is now again beginning to make a second grand display, the flowers more numerous than at the first, but, of course, not quite so large nor so rich in colour. Few Tea Roses have such exquisite and many-tinted buds as this.—A. H.

#### OLD ROSES STILL IN CULTIVATION.

I READ the notes by "E. H." in THE GARDEN of July 30 (p. 85) with much interest, and I noticed that out of the Roses "E. H." named (twenty-four H.P.'s and seventeen Teas), only seven H.P.'s and only three Teas are frequently seen at our exhibitions, many and much better Roses having been introduced which have superseded the others. In order that there should be no doubt as to my meaning, I enumerate them. Seven H.P.'s frequently seen: Alfred Colomb, Baroness Rothschild, Charles Lefebvre, La France and Marie Baumann are seen most frequently; in fact, at all shows in ordinary seasons; Beauty of Waltham and Camille de Rohan are less frequently seen. In the Teas mentioned, the only exhibition varieties now used frequently are Niphetos, Rubens and Souvenir d'un Ami; one or two of the others, such as Willermoz and Adam, are at times available, but on few occasions are they of exhibition standard. I much regret to say we can hardly ever get a good Devonensis, and it is a matter of regret, as its scent is almost matchless and its appearance most chaste. I am afraid I must enter a protest against the likelihood of Ulrich Brunner being a twentieth

century Rose; it is already fast disappearing from exhibition boxes, being a very coarse bloomer and seldom having good form; its colour also quickly goes off to the ugly bluish tinge, so common to many red Roses. Gustave Piganeau may turn out a permanent success, but it is rather early to be certain. I know I have not yet had a satisfactory bloom of it, although I have seen superb specimens staged by professionals; in fact, so far it is by professionals that I may say Gustave Piganeau has alone been well shown. The question naturally arises, How many hundred plants have they grown from which to cut a few specimens?

Croydon.

CHARLES J. GRAHAME.

**Rose Mrs. W. J. Grant.**—In reply to the note of Mr. C. Grahame (p. 85) respecting this

teristics of both of these good Roses. Mrs. W. J. Grant did not seem to me to be nearly so bright and La France-like at Chester as it did at the metropolitan show. I have no hesitation in saying I could distinguish a much greater difference between this Rose and Jeannie Dickson than there is between many more of the varieties that are never mentioned as being in the least similar to one another, or, in Rose parlance, too much alike. It would be very interesting to know how the raisers describe it.—RIDGEWOOD.

#### ARRANGING CUT FLOWERS.

AT several of the exhibitions of the Royal Horticultural and Botanic Societies various groups of cut flowers, arranged on a new principle, have attracted much attention. These



Water Lilies and other flowers arranged in a tubular flower stand.

promising new Rose, I am glad that he seems to have noticed its apparent variations of colour. I took careful note of this Rose both at the Crystal Palace and at Chester, and was much impressed with it at both places. On looking over my notes again I find I put it down at the Crystal Palace as a rather bright La France. At Chester I described it on my notes as a combination of Mme. Cusin and Mlle. M. Finger. Its colour also partook somewhat of these varieties. I am under the impression that this variety is a cross between Lady M. Fitzwilliam and La France. I was given to understand so by some gentlemen who professed to know, and I look upon the Rose as bearing some of the charac-

groups are in the form of a cone or pyramid, the only evidence of a containing vessel being the edges of a flat plate, which appear here and there where not concealed by the border leaves of the group. It is clear that, except by the use of soft plastic clay, it would not be possible to produce these effects in any ordinary vessel. But as clay is not without its inconveniences, a special kind of vessel has been invented by Mr. March in the form of a solid dome or hemisphere, in which are sunk numerous tubular orifices, upright in the centre and gradually diverging outwards till they approach the



horizontal. This vessel rests on a separate plate of glass, terra-cotta, &c., of wide diameter and nearly flat, but capable of holding sufficient water to refresh the border leaves of the group, which form a distinct feature in this kind of decoration. The plate is sometimes placed on a flat circle of dark Utrecht velvet. Flowers and leaves inserted in the tubes take the exact inclination desired, and the design can thus, as it were, be sketched out and studied as the work proceeds. This system gives the power of forming artistic groups, in which characteristic foliage takes a far greater part than is usually assigned to it in floral arrangements. In the case of wild flowers, for instance, Primroses, Bluebells, Digitalis, Campanulas, and others, according to season, are intermingled with Grasses, Ferns, Bramble, and other beautiful foliage which can be found in every hedge-row. For an aquatic group, Water Lilies are appropriately mixed with Forget-me-nots, Rushes, Arrowhead (see illustration), and other leaves of water plants, while stove and greenhouse flowers are appropriately treated with foliage which thrives in a warm temperature.

The smaller domes are best adapted to table decoration, as the flowers do not rise to an inconvenient height, but some of the tubular holders are made of large size for the display of massive subjects, such as Sunflowers, Pæonies, Hollyhocks, Hydrangeas, branches of flowering trees and shrubs, large Ferns, Rushes, and Pampas Grass. These are not easily arranged in ordinary vases, but placed in the wide and deep tubes of such flower-stands, they form striking decorative objects, having all the better effect for irregularity of outline, which gives a bold character to the grouping.

The main and commendable idea of the invention is to avoid overcrowding, and to give to each spray of leaf or flower its separate and distinct meaning.

## SOCIETIES AND EXHIBITIONS.

### ROYAL HORTICULTURAL SOCIETY.

AUGUST 9.

NOT many exhibits were before the committee, no doubt owing to the holiday season, though some good things were shown. Orchids were shown in considerable numbers, Messrs. Sander & Co. staging a nice group. Carnations were shown in variety. A fine collection of Streptocarpus hybrids was shown by Messrs. Veitch, the same firm contributing several other novelties in the way of Rhododendrons and hardy shrubs. From the Swanley Nurseries came a grand collection of cut flowers of double Begonias, and Mr. Ware sent a fine collection of cut Carnations. A large group of well-grown Campanula pyramidalis from Syon House was sent by M. Wythes. Fruit was shown in quantity, and an excellent collection of Figs came from the society's gardens, many of the varieties being unknown to the ordinary Fig grower who relies on one or two kinds. Marrows were also shown in quantity from the same source. Collections of Peas were sent by Messrs. Sutton and Sons. Messrs. Burton, of Bexley Heath, sent a grand lot of Peaches and Nectarines of the large kinds, chiefly of American introduction. These were shown as sent to market in flat boxes.

#### Orchid Committee.

First-class certificates were awarded to—

**LÆLIO-CATTLEYA INGRAMI.**—This was the most remarkable hybrid exhibited on Tuesday last. It is the outcome of crossing *Lælia pumila* Dayana and *Cattleya aurea*, two species of distinct character. Unfortunately, we get a curious mixture in the hybrid, the finer points of the parents being little revealed. We may trace the effect of the

first named parent in the dwarf growth of the plant and in the sepals and petals, which are of a rose-coloured shade, but there is a want of compactness and form. The chief feature is the lip, in which the influence of *C. aurea* is plainly marked. It is deprived of the golden streaks that give such beauty to the species; but the form is similar and the colouring is intense velvety crimson, almost black, made more sombre by the deep-coloured lines or stripes that run into the widely expanded throat. Several interesting hybrids have appeared in the collection of Mr. Ingram, and this is one of the most curious, but cannot be regarded as beautiful. The plant shown, however, was small, and we may therefore get in larger, more vigorous specimens a bolder bloom. Exhibited by Mr. T. W. Bond, gardener to Mr. C. L. Ingram, Elstead House, Godalming.

**CYPRIPEDIUM CAUDATUM** (Luxembourg variety).—This may be regarded as the finest variety of *C. caudatum*, the flowers not only larger than those of the type, but much richer in colour, and bearing a likeness to those of Wallisi. The plant exhibited was in robust health, showing that as regards constitution it is in every way satisfactory, and the flower, apart from its size, has strongly marked characters. The petals are of about the same length as those of the type and rich brown in colour, but in the dorsal sepal and lip we get the distinctive and effective colouring. The upper sepal is quite 3 inches in length, narrowing to a point, the colour intense yellow with a trace of orange in it, the basal half enriched with veins of green, whilst the lower sepal is also of very large size, similar in colouring, the ground white. The lip is self green, very dark in colour, with a few crimson blotches on the margin of the finely-formed pouch, this being set off by an interior of spotless white—a beautiful and distinctive contrast. Exhibited by M. Godefroy-Lebeuf, Rue d'Edimbourg, Paris.

Awards of merit were given to—

**LÆLIA CRISPA SUPERBA.**—A delightful variety of *L. crispa*. The plant exhibited was in full bloom, bearing three spikes, one bearing eight flowers. It is well named *superba*, the flowers much finer than those of the type; the sepals and petals of a purer white and the lip larger, richer in colour and more fully expanded, showing the intense richness of colour on the front lobe. The contrast of pure white and intense purple or lake colour, with the lighter-tinted fringe to the lip, is peculiarly distinct and beautiful. This variety is one of the finest forms of *L. crispa*, and should be made good note of by orchidists. From Mr. T. Statter, Stand Hall, Manchester.

**ONCIDIUM MACRANTHUM NANUM.**—A very charming variety of this popular species; the spikes are not of great length, and the flowers are produced more closely together; thus we get the full richness of their intense colouring. They are compact in form, quite rounded, the sepals flushed with the brownish colour noticeable in the type, and the petals deep self yellow—a fine contrast. It is a showy and useful Orchid. Exhibited by Messrs. Charlesworth, Shuttleworth, and Co., Heaton, Bradford, and Clapham.

**CALANTHE SANDERIANA.**—A distinct species of peculiar colouring. The sepals and petals are of a purplish colour, the lip much darker, also the side lobes, which are even more intense. From Messrs. Sander and Co.

**LÆLIA OWENIANA.**—This was one of the most interesting crosses exhibited on Tuesday last. It is the result of crossing *Lælia Dayana* with *L. xanthina*, two very distinct parents, yet in the hybrid very little trace of *L. xanthina* is seen. The flower is of about the same size as that of *L. Dayana*, but without its rich colouring, the only coloured portion being the lip, which is rich purple, except in the centre of the middle lobe, where appears a large blotch of milky white, the same colour as the sepals and petals. As regards form it is not conspicuous for beauty, the sepals narrow, and the petals broader, but not composing such a compact bloom as in the typical *L. Dayana*. Exhibited by Messrs. Sander and Co., St. Albans.

An interesting group was that from Messrs. Sander & Co., St. Albans. Several plants were shown, amongst them seedling *Cypripediums*, the most conspicuous being *C. Macfarlanei*, a cross between *C. calophyllum* and *C. Spicerianum*, *C. radium* (Sander's variety), and *C. Ashburtoniae expansum*. *Cattleya Schofieldiana* was represented by an exceptionally fine variety, the flowers large and freely spotted. When a good variety is secured there are few Orchids of greater interest. *C. Gaskelliana* was bright in colour, also *C. gigas*, especially the variety *Sanderiana*, conspicuous for its large and richly coloured lip. *Vanda Sanderiana* was finely shown, the plant in full flower and representing an excellent variety. *Saccolabium Hendersoni*, its reddish-coloured flowers very bright and attractive; *Cypripedium Wallisi*; *Odontoglossum Schroederianum*, a deep brown-coloured variety, and *Oncidium tigrinum* made up this interesting group (silver medal). The principal plant from Messrs. H. Low and Co., Upper Clapton, was *Vanda coerulesa*, a very good variety, the sepals and petals of excellent shape, the colour pronounced blue, the lip deeper. It is not often that one sees a really well coloured variety of this species. *Cypripedium leucochilum*, a cross between *C. Godefroye* and *C. Regnieri*, the flowers like those of the former somewhat in shape, but not so fine in form, the colour yellow, freely blotched with crimson, the lip quite self, was also shown. The contributions from the Stand Hall collection of Mr. Statter included several very interesting species and varieties. *Lælia Amesiana* is of refined colouring, the sepals and petals tinted with lilac, and the lip crimson-purple, fringed, and yellow at the entrance to the throat. The variety of *L. elegans* named Blunti is very rich, the sepals and petals suffused with purple, the lip crimson-purple. Mr. Ingram had another hybrid *Cypripedium* named *C. Elsteadianum*, a cross between *C. conchiferum* and *C. grande*, the flowers of quite a greenish colour, very distinct. Messrs. Charlesworth, Shuttleworth and Co. showed the curious *Bifrenaria Charlesworthi*, the flowers produced in a short raceme, which comes from the base of the pseudo-bulbs, the sepals and petals of a greenish colour, striped with crimson-purple. *Anguloa Turneri* is conspicuous for its very clear pink flowers, which are not large, but distinct and pretty from the soft tone. *Miltonia Moreliana atro-rubens* is a very deeply coloured variety, but we have seen better forms than the one exhibited; and *Zygopetalum Walesianum* is waxy white, the lip purple in the centre, and the flower small. Mr. Young, gardener to Mr. F. Wigan, Clare Lawn, East Sheen, exhibited the white-lipped *Angraecum caudatum* and *Lycaste tetragona*. Other exhibits brought before this committee comprised *Cypripedium Astræa*, a hybrid between *C. Spicerianum* and *C. lævigatum*, the flowers having the *C. Spicerianum* character very strongly marked. There were several other hybrid *Cypripediums*, but none to call for separate description. It is impossible to take note of every hybrid *Lady's Slipper*, especially those raised from such as *C. Spicerianum* and *C. venustum*. The result is a dead colour, uninteresting and certainly unattractive.

#### Floral Committee.

A first-class certificate was awarded to—

**SARRACENIA FARNHAM.**—The strong interest once manifested in *Sarracenas* seems to have in great part died out, but with the arrival of such beautiful forms as *S. Farnham* an awakening will assuredly follow. This is remarkable for its rich colouring, the erect, robust, and handsome pitchers very distinct in colour, the major portion green. Within an inch or two of the apex occurs crimson colouring, variegated with silver, the lid similarly coloured and marked with green, crimson and silver—a richly attractive and distinct form. From Mr. E. Farnham, Loughborough.

Awards of merit were given to—

**CARNATION THE MOUCHER.**—Plants and cut blooms of this were exhibited from the open border. The colour is a beautiful canary, somewhat



like that of *C. Germania*. The flower is full and of good substance. From Mr. Spurling, Blackheath.

**CARNATION ACME.**—A mottled or striped variety with yellow ground, of good size and shape. This should prove a valuable garden variety, being very free-blooming. Messrs. Pearson, Chilwell.

**CARNATION KING OF SCARLETS.**—A beautiful scarlet, somewhat after *Winter Cheer*, but larger and very bright. The flowers are very full, petals large and thick; an excellent variety in every way. From Mr. C. Turner.

**CARNATION SALAMANDER.**—A rose self, of good size, full centre. From Mr. C. Turner.

**PICOTEE NELLIE BATH.**—A heavy crimson-edged variety with yellow ground and beautiful markings, quite distinct in colour and a valuable addition to the Picotees. From Mr. C. Turner.

**PICOTEE OLD COIN.**—A fancy variety of great merit. It is distinct in colour, being striped with crimson and pink and of good proportions. From Mr. C. Turner.

**PICOTEE DUCHESS OF SUTHERLAND.**—A heavy rose edge of a beautiful shade, large flowers striped with white, a very compact bloom with deep large petals. Mr. C. Turner.

**PICOTEE MRS. ARTHUR BARRETT.**—A heavy red edge with yellow ground striped with red, the edge being beautifully marked. Mr. Turner.

**ANTIRRHINUM GEORGE FINDLAY.**—A distinct variety beautifully marked and spotted on a yellow ground, flower large and of good shape, plant 18 inches high. Mr. R. Dean, Ealing.

**DAHLIA MRS. KEITH.**—A fine large flower of the decorative class of a salmon shade, with yellow ground. The bloom is of a beautiful shape and of a pleasing colour. Messrs. Cannell.

**CAMPANULA PYRAMIDALIS COMPACTA** (*Syon House* var.).—This is a distinct gain, the plant being dwarfer than the old form, with deeper blue flowers with more substance. The spikes of bloom are also very compact. From Mr. Wythes, *Syon House* Gardens.

Mr. T. S. Ware sent a grand collection of cut blooms of Carnations comprising all the best and newer varieties—*Comtesse de Paris*, very fine; *Princess Alice*, *Miss Florence*, *Lord Beaconsfield*, *Pride of Penshurst*, *Mrs. R. Hole*, *Fireman*, *Ketton Rose*, *James Cragg*, *General Stewart*, a beautiful dark flower, and others being very fine (*silver Banksian* medal). Carnations also came from Mr. Greenfield, *Leamington*, named *The Speaker* and *Lord R. Churchill*. A beautiful lot of *Ketton Rose* was shown by Mr. Divers, *Ketton Hall*, *Stamford*. Seedling Carnations were sent by Mr. F. Bull, *Colchester*. In addition to the *Antirrhinum*, which received an award of merit, Mr. R. Dean also sent a fine lot of seedlings. Messrs. Veitch, *Chelsea*, sent cut spikes of *Robinia Pseudacacia semperflorens*, a variety that continues to bloom a long time; the beautiful *Pavia macrostachya*, with its long racemes of bloom; the newer *Eucryphia pinnatifolia*, a remarkably handsome shrub with Rose-like foliage and large white flowers, a recent introduction from *Chili* and quite hardy, the flowers having four white, spreading petals with a lot of stamens, resembling a *Stuartia* in shape. Messrs. Veitch also sent cut blooms of the hybrid *Rhododendron javanicum* in many beautiful colours, a remarkable collection of *Streptocarpus* hybrids, and a new *Vallota purpurea* var. *amabilis*, flesh colour, the blooms of good size (*silver Banksian* medal). From *Syon House*, Mr. Wythes sent a fine group of *Campanula pyramidalis* in various shades of colour, the new compacta being freely mixed with the older form. These plants are charming for cool house decoration, and deserve extended cultivation. At the base of the group was the dwarf *C. carpatica* (*silver Banksian* medal). Double *Begonias* were contributed by Messrs. Cannell, *Swanley*, some thirty-six varieties being staged, the flowers of great size—*Hon. Mrs. Goschen*, *Miss Nicholson*, and *Leopold Rothschild*, a dark red, being very fine. *Cactus Dahlias*, a new *Canna*, and *Stapelias* in variety were also exhibited, the whole group being awarded a *silver Banksian* medal.

From the Society's gardens came twenty-four varieties of Sweet Peas (*Eckford's* strain); these

were a charming lot, *Mrs. Eckford*, *Igneas*, *Dorothy Tennant*, *Orange Prince*, *Apple Blossom*, *Imperial Blue*, and *Countess of Radnor* being very fine and distinct in colour. Mr. R. Dean contributed *Lathyrus delicatus*, a beautiful pale pink *Everlasting Pea*. Mr. Clark, *Dover*, also sent *Lathyrus latifolius* var., a pleasing novelty. Cut blooms (double pink with white centre) of a tuberous *Begonia* were sent by Mr. Holman, *Bishop's Waltham*. A new seedling yellow *Begonia* of good habit was shown by Mr. H. Wasburton, *Claverhouse*, *Ascot*. A nice box of new Roses was sent by Messrs. Paul and Son, *Cheshunt*, the varieties being *T. B. Haywood*, *Charles Gater*, *J. D. Pawle*, *Gustave Regis*, and the beautiful *Tea Waban*, the whole being very fresh and of great merit. Mr. W. C. Leach, gardener to the Duke of Northumberland, *Albury Park*, contributed his new *Mignonette* named *Her Majesty*, a very strong, free-blooming red-tipped variety, an excellent winter kind with large spikes, and a free grower; also good examples of white and crimson Stocks and very fine double Zinnias. Lily of the Valley in bloom was sent by Mr. J. Jannoch, *Lily Nurseries*, *Dersingham*, *Norfolk*, but with such a wealth of other flowers it looked poor in comparison at this season of the year. The beautiful *Lilium Parkmani* came from Mr. A. Waterer, *Knap Hill*, *Woking*, very fine blooms, deeply coloured. A new *Chrysanthemum* named *Rose Wells* was sent by Mr. Wells, *Earlswood*. It is a dark pink, medium-sized flower, the plant of dwarf habit. *Aloe Gortoniana*, from Mr. McArthur, *Maida Vale*, has spotted foliage, the plant being of dwarf habit.

#### Fruit Committee.

First-class certificates were awarded to—

**CHERRY EMPEROR FRANCIS.**—A very large late Cherry of excellent quality with great depth of flesh, and somewhat like a dark *Bigarreau*; fruits red and very firm with a fine flavour. From Messrs. Rivers and Son.

**PLUM LATE TRANSPARENT GAGE.**—A new late Gage raised by Messrs. Rivers. It is a beautiful round fruit of fine flavour, and an excellent addition to dessert Plums. It is stated to be a heavy cropper. Messrs. Rivers and Son.

**FIG NEBIAN.**—Fruit very large, skin deep green, flesh bright red, very rich and luscious, free bearing; a late variety of great merit. *Royal Horticultural Society*.

**FIG BOURJASSOTE GRISE.**—A medium-sized fruit, roundish and flattened, skin dull brown or tawny, flesh deep red, rich. It is a sure cropper. R. H. S.

**FIG GOURAUD NOIR.**—Fruit of medium size, oblong, skin dark purple, flesh red, sweet, and richly flavoured, a distinct variety of great merit. R. H. S.

**FIG VIOLETTE SEFOR.**—A large green fruit of great merit, and of a sweet rich flavour. *Royal Horticultural Society*.

**FIG MONACO BIANCO.**—Fruit of medium size, roundish, green, flesh deep red, exceedingly rich and juicy. A first-class Fig for pot culture, and a variety that bears freely. R. H. S.

There were several lots of seedling Melons, but none sufficiently good to obtain awards. These came from Mr. T. Statter, *Stand Hall*, *Manchester*; Mr. J. Barkham, *Longford House*, *Ryde*; Mr. Wythes, *Syon House*; and Mr. W. Bullivant, *Home-wood*, *Beckenham*. Seedling Tomatoes of the *Perfection* type were also sent by the last named. A Tomato named *Swanson's Eclipse* came from Messrs. Pearson, *Chilwell*, *Notts*. Mr. W. C. Leach, *Albury Park*, and Mr. W. A. South, *Neasdon House*, *N.W.*, also sent Tomatoes. Messrs. Burton sent a fine collection of *Rivers' Orange Nectarine*, four large cases being shown, also the same number of *Peaches*. These were very fine fruit, the *Peaches* being *Sea Eagle*, *Princess of Wales*, and *Gladstone*. A *silver Banksian* medal was awarded. From the Society's gardens thirty-six varieties of Figs were sent, among them being such well-known kinds as *Brunswick*, *Black Ischia*, *White Ischia*, *Green Ischia*, *Brown Turkey*, *Negro Largo*. The newer kinds worth notice were *Hirte du Japon*, black and very distinct, *Black Douro*, *Royal Vineyard*,

*Martinique*, *Negronne*, *Violette de Bordeaux*, *Nebian*, *Trifer* and *Poulette*. From *Chiswick* also came an interesting collection of Vegetable Marrows, sixteen varieties being shown, the best being *Prolific*, very early, *Pen-y-byd*, *Large Green*, *Hibberd's Prolific*, and *Orange shaped*. Messrs. Sutton & Sons, *Reading*, sent a fine collection of Peas. *New Marrowfat*, a variety of great merit for field culture, is 3 feet high; *Windsor Castle Marrowfat*, 3 feet high and a heavy bearer, and *Perfection Marrowfat*, a large dark green Pea with long dark pods, are also very suitable for field culture. The collection sent had been grown in the open field without sticks. A cultural commendation was awarded, and the committee desired them to be sent to *Chiswick* for trial. A collection of Peas was also sent by Messrs. W. W. Johnson and Sons, *Boston*, *Lincoln*. These comprised *Ne Plus Ultra*, *The Queen*, *Stanley*, *Telephone*, *Stratagem*, *Duke of Albany*, *Early Marrowfat*, *Oracle*, *Duchesse*, *Leeds' Rival*, *President Garfield*, *Dr. McLean*, and others. A cultural commendation was awarded. W. C. Leach, *Albury*, sent *Runner Bean Sutton's Invincible*, to show its early and free-fruited qualities.

The Rev. W. Wilks in the absence of Mr. Fry read the lecture on Fuchsias. Mr. Fry in the course of his lecture stated that the *Fuchsia* was introduced into this country a century ago, having been sent from *Chili* by a sailor to his widowed mother who resided in *Limehouse*. It attracted the attention of a gentleman interested in horticulture, who described it as a wonderful plant to the Messrs. Lee, of *Hammersmith*, who endeavoured to purchase it for £20, which was refused. Messrs. Lee gave £80 for it, naming it *coccinea*. From *F. coccinea* numerous seedlings were raised, and in 1830, *F. globosa*, one of the handsomest and hardiest *Fuchsias*, was raised near *Edinburgh*. This was followed by *F. fulgens*, a distinct type, Messrs. Lee sending out this and many others. In 1839 new seedling *Fuchsias* were offered for sale in catalogues, and Mr. T. Crisp sent out some beautiful seedlings, one with a white corolla being sold at a high price. At that time the *Fuchsia* engaged much attention, many being engaged in hybridising. Up to the introduction of the white variety there had been no double-flowered varieties, but these were raised in abundance in after years. Mr. Bank, of *Deal*, sent out many good varieties. Messrs. Henderson, of *Maida Vale*, annually sent out great quantities of seedlings, and of late years Messrs. Cannell, of *Swanley*, have carried on the work. Of late the introduction of other new plants—notably the *Chrysanthemum*—has destroyed a lot of the interest the *Fuchsia* possessed. In 1843 he had an old conservatory in which he grew his plants 14 feet high, and these gave a successional lot of blooms for months. The house was partly shaded, with plenty of ventilation. Scorching by the sun was more detrimental to *Fuchsias* than anything else. He also grew very large plants for terrace decoration in the summer months, and they are beautiful for the work. The *Fuchsia* now does not hold the same place in garden decoration as in those days, but he hoped to see it made more use of. It could be treated as an annual and beautiful plants raised in a few months, it being one of the most readily grown plants when properly attended to. Many good varieties had been obtained by insect or bee fertilisation; indeed, he got the best variety he had raised in this way. In raising new varieties the habit of the parent should be studied, a weak drooping variety often being benefited by being crossed with a strong grower. In saving seed, it was important to keep the varieties fertilised isolated. The seed when ripe should be carefully gathered and stored till early in the season, though some growers advised sowing as soon as ripe. The seed should be sown in pans or pots in a light compost with plenty of drainage, covering with paper till germination takes place. The seedlings when ready to handle should be pricked off into pans or small pots, repotting again later into small pots and growing on, repotting as required. Some bloom very early. He had for years tried to get a va-



riety with pure white corolla and petals, and though he had obtained many light varieties, it fell to the lot of Messrs. Cocker, of Aberdeen, to give them the first pure white in Countess of Aberdeen. Propagation is now so easily carried on in our improved propagating pits, that thousands can be propagated in a few days. Cuttings like a light mould, and root readily in decomposed cocoa fibre, adding some sharp sand. Small plants when rooted delight in a free use of leaf soil in the compost, with great attention to watering and shading, repotting before they are too much pot-bound. For large plants old Mushroom or dried cow manure is beneficial, carefully using the water-pot after shifting. If the loam is clayey, the addition of peat will be beneficial. Stopping should receive daily attention, and the best temperature for the Fuchsia is from 50° to 75°, according to the age and growth. Shading should always be movable, and when high colour in the flowers is desired, the plants should be stood under a north wall. Few very large plants are now seen at exhibitions as in years gone by. No doubt this is owing to the room they occupy, but they are easily wintered under stages, and those who have large houses may have no difficulty in this respect. On the other hand, much more could be done to encourage a greater love for autumn and spring-struck plants for decoration. Fuchsias, like Ericas, are not so much grown as they deserve, and they give far less trouble than monster specimens of other plants. The older varieties used to be grown more extensively out of doors, and no plant was more graceful. They seldom required protection other than by covering the roots with ashes or soil. He liked to see mixed beds of Fuchsias with an edging of some dwarf plant. Manure in his early days could only be obtained from the farmyard, and well it answered its purpose.

Mr. Bunyard (chairman) said he had listened with great interest to Mr. Fry's paper. The dates he gave were full of interest to growers of this beautiful plant. He thought some of the new varieties had a bad habit. Some of the old forms, such as Rose of Castile, were still favourites. His grandfather raised Duchess of Kent many years ago. This was a chance seedling, and the man who attended to it some forty-five years ago was still in his employ. Mr. Laing had also raised some fine seedlings from *F. fulgens*. We now relied on the foreigner chiefly for new Fuchsias. Of late years more attention had been given to varieties with variegated foliage, such as Sunray.

#### MIDLAND COUNTIES CARNATION AND PICOTEE SOCIETY.

THE second annual exhibition was held at the Birmingham Botanic Gardens on Saturday, the 6th inst., and was most successful, the classes being well filled and strongly contested. In the class for twelve Carnations, dissimilar, Mr. Robert Sydenham, was first. For six dissimilar Carnations, Mr. A. R. Brown, Wandsworth, was first. A grand lot of Picotees was staged, Mr. Charles Turner being first with a superb lot of blooms. For six Picotees, Mr. N. W. Jones, Handsworth, was an excellent first. The yellow ground and fancy varieties were strongly represented and some grand blooms staged. For twelve dissimilar, Mr. C. Turner was again first; Mr. Dodwell, second; Messrs. Thomson, third; Mr. John Walker, fourth; and Mr. Anstiss, Brill, fifth. For six varieties of yellow grounds or fancies, Mr. George Chaundy, Oxford, was first. A grand lot of self-coloured Carnations was also staged, and for twelve varieties Mr. C. Turner was again first with a superb lot; Mr. Dodwell, second; Mr. Sydenham, third; Messrs. Thomson, fourth; Mr. G. Chaundy, fifth; and Mr. Anstiss, sixth—a strong body of competitors. There were also six prize-winners for the six fancies. The single bloom classes were well filled, a grand lot of flowers being staged in the seventeen classes for them. Border varieties were well shown and were an interesting feature. In the class for twelve varieties, dissimilar, Mr. S. Rogers, florist, Whittlesey, near Peterboro', was first.

Two liberal prizes were offered for six bunches of distinct border Carnations, not less than twelve stems in each bunch, to be shown as grown, not thinned nor dressed in any way, and to have been grown out of doors. The society supplemented this offer by third and fourth prizes. All and an extra one were well won. First, Mr. W. H. Divers, Ketton Hall Gardens, Stamford; second, Mr. F. Perkins, Leamington; third, Mr. Hooper, Bath; fourth, Mr. S. Rogers; extra, Mr. S. Beal. They were a fine lot, and all staged in one size of bottle. Several new kinds of Carnations and Picotees were staged, several that were certificated being of great merit. Several also of Benary's recently introduced kinds were prominent, and seedlings from the Oxford raisers were in great force, some of them obtaining especial notice as superb exhibition varieties, and many as beautiful border kinds of all shades of colour. A large number of honorary exhibits were staged, to which silver medals were awarded, notably to Mr. H. Eckford for a collection of new Sweet Peas; Mr. Davis, Yeovil, for a fine display of Begonia blooms; Messrs. Dobbie and Co. for a large exhibit of their specialties; Mr. A. Bailey, Sunderland, for a large collection of Pansy and other blooms; Messrs. Hewitt and Co. for a beautiful group of Begonias and other plants; Mr. William Sydenham for Pansies; Mr. J. Forbes, Hawick, for a large display of cut flowers; Dickson's (Limited), Chester, for Roses and herbaceous blooms. Bronze medals were also awarded to other exhibitors, the *Gardeners' Magazine* silver medal being given to Mr. C. Turner for general excellence of exhibits.

#### THE SILVER WEDDING OF MR. AND MRS. HARRY J. VEITCH.

THIS auspicious event has been made the occasion of testifying to the high esteem in which Mr. Veitch is held by gardeners and the horticultural world in general by presenting to him and Mrs. Veitch many handsome marks of their esteem.

Within the short space of one week the gardeners of the United Kingdom have spontaneously, to the number of over 600, subscribed in sums from one shilling to one guinea a sufficient amount to enable the committee appointed to carry out the arrangements to purchase a most handsome solid silver dessert service, together with cases of two dozen dessert knives and forks and fish knives and forks to match, both also in solid silver. This gift is to be further enhanced by a portrait in oils of Mr. Veitch, to be presented specially to Mrs. Veitch. An address upon vellum accompanies these presentations embracing the name of each subscriber. The presentation was made on Saturday last by the sub-committee appointed to carry out the arrangements, viz., Mr. Owen Thomas, chairman and treasurer; Messrs. Wright and Wynne, secretaries; and Messrs. T. Baines and James Hudson, as representing the committee.

The staff of the nursery at Chelsea and the branches presented Mr. and Mrs. Veitch with a massive silver tray and tea and coffee service, kettle and stand, together with an address engrossed upon vellum, including the names of all who subscribed. This presentation is also an extremely handsome one; it has, furthermore, one most noteworthy and pleasing feature, inasmuch that some dozen or more of the subscribers were also amongst those who presented Mr. Veitch with a wedding present in 1867, having been ever since in the employ of the firm; the address then presented and that of the present occasion are framed to match each other. The trade friends of the firm have also been alive to the opportunity by tendering their quota in the form of a noble silver epergne of fine proportions, together with an address, and also a silver-mounted toilet service for Mrs. Veitch.

The French and Belgian horticulturists have contributed very handsome presents and addresses, whilst the committee of the Gardeners' Royal Benevolent Institution, of which Mr. Veitch has for some years been the treasurer, has presented him with a very handsome drawing-room clock

and ornaments to match to testify their appreciation of the great interest he has always taken in the affairs connected therewith. Other presents from personal friends are too numerous to mention, but two more should be recorded. One is that from the Lackland Mission Hall, Chelsea, which belongs to Mr. Veitch, and in the work carried on at which he takes great interest. This acknowledgment of the esteem of those who attend the hall is presented in the form of a superbly bound bible (in Russian leather), together with an address, whilst the clergy, committee of management, and teachers of the Park Chapel National Schools, of which Mr. Veitch was for years treasurer, sent a beautiful silver inkstand accompanied by a suitable address.

For the information of subscribers to the present from the gardeners of the United Kingdom, and others who have participated in and may be desirous of seeing these presents, we may add that it is proposed to have them on view at the Chelsea Nursery at no distant date.

#### PUBLIC GARDENS.

**Lincoln's Inn Fields.**—On the recommendation of the Parliamentary Committee, it was resolved to apply for compulsory powers to acquire Lincoln's Inn Fields Gardens.

**Gray's Inn Gardens.**—The Benchers of Gray's Inn have again resolved that from Aug. 1 until Sept. 30, inclusive, children (boys over ten years of age excepted) be admitted to the gardens without orders, between six p.m. and eight p.m., wet days excepted. The gardens have for years past been practically open to the public, inasmuch as Benchers' orders have been liberally given. This order, which has been passed annually since 1889, is intended to benefit children of the very poorest class.

**Music in the parks.**—The Parks and Open Spaces Committee reported that they had made all arrangements for the provision of bands at parks and open spaces during the present season out of the sum of £4000 voted by the Council for the purpose. This amount was the very least with which they could supply sufficient music. They had found the engagement of existing bands most unsatisfactory. On the other hand, they had no present intention whatever of forming a municipal band to compete out of season with bands formed by private enterprise, but they had under consideration a scheme whereby the Council should itself engage and pay musicians for the three summer months and no longer each year. Meantime they recommended that the Council authorise the committee to incur an expenditure of £4000 for the provision of music in parks and open spaces during the next year. The recommendation was adopted, as was also a proposal that the Parliamentary Committee consider the propriety of providing music in open spaces other than those under the control of the Council.

**Making kitchen garden.**—Being about to form a new kitchen garden, and orchard at the side of it, out of the grass park adjoining my house, kindly advise me how to proceed. Should the top spit with turf be buried on the top of the lower spit, which is of clay, and the soil which comes between the turf and the lower spit be thrown on the top? And as to orchard, should it be all trenched, or will pits dug 18 inches deep be enough in which to plant the young fruit trees?—OLD READER.

**Names of plants.**—*J. W.*—Apparently *Stanhopea insignis*.—*Elm.*—1, *Adiantum formosum*; 2, *Asplenium flaccidum*; 3, *Platyloma Brownii*.—*J. N.*—Impressible to be quite certain as to name unless we see the wood.—*J. Huet*.—*Sarcolla squamosa*.—*R. Davies*.—*Chamostoma hispidum*, a South African herb.—*R. Kelly*.—Purple Loosestrife (*Lythrum salicaria*).—*R. Draper*.—Rose not recognized.

#### BOOKS RECEIVED.

Bulletin of Miscellaneous Information (Nos. 65 and 66), Royal Gardens, Kew.

Part 3 of "Dictionnaire pratique Horticulture et de Jardinage."



## WOODS AND FORESTS.

## FORESTRY NOTES.

NURSERY work will still be to the front, the dripping, close weather being unusually favourable to the growth of weeds. After these have been hoed up the best way is to rake them cleanly from off the ground and convey at once to the rubbish heap. The weeding of seed beds should be carried out in damp weather, as the weeds are then not only more easily withdrawn, but the act of pulling out and consequent loosening of the ground around the young plants are not nearly so injurious as at any other time. Look out for such insects as are injurious to young nursery stock, and if these are not too abundant, hand-picking and burning should at once be resorted to. Grafts in the nursery will require attention in the way of loosening ligatures and breaking off any shoots that may make an appearance on the stock. The remaining Elm seeds should be sown at once on well-pulverised beds of light sandy soil, these being made 3 feet wide with an alley or path 1 foot wide between each. Seedling Yews, Holly, Portugal Laurel, Rhododendrons and Azaleas may now be planted out, taking good care that a small portion of earth is retained with each plant on being lifted from the seed bed. Cuttings of last year may also be lined out, the present damp weather being unusually favourable for such work. Look over beds of hard-wooded trees and correct rival leading shoots, prune short ungainly side branches, and generally look to the welfare of the stock. The procuring of neatly-shaped straight trees should not be neglected by the nurseryman, and if this work is well attended to whilst under his charge the necessity for after pruning will be greatly minimised.

Cuttings of the rarer conifers that are placed under glass must on no account be allowed to get drawn and weakly by too great heat and close confinement, the frames being left entirely open during the summer weather. These remarks apply to seedling plants in frames as well. Attention to fences around woodlands, to tree guards in the park, and rabbit-proof netting must not be relaxed, for the tempting sweet mouthful of Grass oft causes farm stock to break through even fairly good fences. Before turning horses into paddocks from which hay has recently been removed, all tree guards should be examined and made secure against the gnawing and barking propensities of these animals. In the case of clean stemmed standard trees, a piece of wire netting placed tightly around the stem and united with wire will oftentimes prevent horses and cattle from barking and otherwise destroying the specimens, and thus the necessity of a pound or fence around each tree is greatly minimised.

Roads and walks will require attention. Ruts should be levelled and rolled down with a heavy two-horse roller, and all heaps of drift cleared from culverts, gratings, and open water-courses. It is wise policy to pass a heavy roller over park roads once every week, and after a night of rain if possible. Woodland paths and green drives will require frequent mowing and sweeping, and the overhanging branches cut back and out of the reach of pedestrians. For 1 foot at least along the margins of roads and paths it is well to cut back the Grass, this not only preventing the shedding of seed, but allowing foot-passengers to escape the wet.

Material for the winter repairing of roads should now be carted to some convenient spot where repairs are known to be required. The

trimming of hedges may now be commenced, but heavy cutting back should be deferred till early spring or just before growth commences. Young fences must be lightly dealt with, and no trimming back of the upward or top growth allowed until the hedge has attained to the height required. In the hands of a skilful workman the switching or pruning knife is to be preferred for hedging purposes, a clean upward cut being all that is wanted, combined with a keen eye and wise discrimination as to the amount that is required to be cut away. The cleaning and manuring of old and spent hedges, as also of those on poor and light soils, may still be pursued, good well-decomposed farmyard manure being the best of all applications. In working at the bottom of a hedge the roots should not be cut or interfered with, a light fork being all that is necessary for taking out the weeds and loosening the soil.

Ground-work operations—soiling, turfing, &c.—may now be commenced, but dull, dripping weather should be chosen if possible, and, failing this, artificial watering should be resorted to. Shrubberies will require to be looked to and all dead wood and rampant growths cut back, while overhanging branches of neighbouring trees may require foreshortening. Bind up faggots and cart home for winter consumption such of these as are dry, as also firewood, stacking the latter so as to run off the rain as much as possible. Charcoal-making during the summer is to be recommended, particularly when the good old method of pile burning is that pursued. Cut rank weeds and Grass from amongst recently planted trees, and at the same time see that none of these are suffering from wind-shaking or too tight tying and staking.

A. D. W.

## RABBITS AND TREES.

SIR RALPH PAYNE-GALLWEY, Bart., in his remarks on rabbits in a recent issue of the *Field* says: Shoot your rabbits, or kill them by means of ferrets, before the frosts set in, or else when the Grass is bare; if you have any trees or shrubs they can attack, they will soon destroy them. You cannot kill rabbits with the gun in covert till the beginning of November, as there will be too many leaves on the undergrowth before then to see to shoot them. By the end of November all the rabbits should be thinned down in places where they can cause damage. You will find in the case of young growing trees that the time when they are most injured by rabbits is in March, when the sap is rising in the stems. A cartload of Mangolds and some bundles of hay, scattered about for your surviving rabbits to feed on in the winter and early spring, will save, in the case of young plantations, hundreds of trees, and eventually recoup you many times over for the food you artificially supply. The rabbits are bound to eat something to support life, and if you do not give it them, or they cannot obtain it, they will resort to trees, whether old or young, in order to escape starvation; and under these conditions it is appalling the amount of injury a few rabbits can do. I have seen a young covert of fifteen acres ruined in a month of frost and snow, almost every tree in it being cut to pieces and killed. As the covert in question was surrounded with wire netting in a way that made it impossible for a rabbit to climb in or out, a careful count was taken of every rabbit the wood contained when they were killed; but, instead of the hundred or two we all expected to find, there were only twenty-three. In this case the rabbits when quite small had squeezed through the mesh of the netting and afterwards remained inside the covert.

I have often been told of certain trees and shrubs that are supposed to be safe from the attacks of rabbits, and I have tried, I believe, all of them, but my experience is, that, rather than starve, rab-

bids will, in severe wintry weather, eat anything they can find. The last tree, in my experience, that rabbits will attack, and then only when they are reduced to desperate straits of hunger, is the Alder; and as the Alder shoots up faster than any tree we have, will grow in dry or wet soil, makes fairly good cover, and is a very saleable timber to fill up a wood with, it is well worth planting. In the exceptionally severe frost of 1889-90 not a single Alder of many thousand young ones was barked by rabbits in a wood in which I had just planted these trees, though every other young tree with which the Alders were intermixed was nibbled or killed by the rabbits. Young plantations will often require to be protected with wire netting to save them from the attacks of rabbits; and it is false economy not to do this thoroughly, for £5 saved in wire may easily mean £20 lost in the destruction of trees in a very short time. Wire netting is seldom erected in efficient style; it is nearly always too low or too large in the mesh. Nothing lower than 4 feet can be depended on to keep out rabbits from any ground you wish to protect. I have myself very often seen rabbits crawl up and jump over 3-foot wire. Besides the 4 feet above ground you require 1 foot sunk below the soil to check the rabbits from burrowing underneath; that is to say, your wire will have to be of a total width of 5 feet. The usual sized mesh for wire netting that is employed to protect young plantations from rabbits is  $1\frac{1}{2}$  inches. This is too large, as the tiny rabbits will squeeze through this size, and after what we used to call at school "a good tuck out" be so increased in bulk that they cannot return. They then remain and thrive and multiply on the wrong side of your fence. For this reason 1 inch is the largest mesh you should fix up to shut out rabbits, though you need only have it of this size for 1 foot above ground, as the very small rabbits will not climb or jump like the old ones, and when a few weeks old cannot push through a mesh of  $1\frac{1}{2}$  inch diameter, and of which the upper portion of your fence can be constructed.

**Willows.**—What untoward results may sometimes follow from inconsiderate action have been well—indeed, too well exemplified in a portion of the new promenade gardens formed on the north side of the town of Kingston-on-Thames. Some very rough marshy land that used to be nearly all the winter under water, and is situated close beside the river, has been gradually filled up with all sorts of refuse, and thus formed into attractive garden promenades. On the east side of this ground runs a long row of pollarded Willows growing literally in a broad ditch or swamp. To raise this hollow up to the level of the other portion of the promenade, all the town refuse was shot to a depth of some 5 feet, creating a dense mass. This was filled in about the stems of the Willows, with a result little looked for. Now a large number of these fine Willows have lost every leaf, and many, it is feared, are dead. This has been produced either by the great body of refuse about them containing much that was poisonous to the roots, or else—and this latter theory is more generally accepted—the refuse heated so considerably as to in that way destroy the roots or check the flow of sap in the stems. In any case the bald, bare appearance of the trees tells its own tale, and it will be a matter for surprise should they recover. A mishap of this kind might have been avoided had the promenade committee taken good advice ere they proceeded so far.—A. D.

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"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—*Shakespeare*.

## TREES AND SHRUBS.

## HARDY AUSTRALIAN PLANTS.

EVERY gardener knows that very few Australian plants, whether shrubby or herbaceous, are hardy in this country, except in such favoured districts as the southern coasts of Cornwall and Devon, Guernsey, or the Scilly Islands. But I am inclined to believe that this want of hardiness depends on the circumstances under which the greater number of Australian plants reached this country, and that there would be now no difficulty in obtaining representatives of all the more characteristic and interesting groups of these plants which would be perfectly hardy over a large part of the south and west of England, Scotland and Ireland.

If we look for the chief genera of Australian plants in Johnson's "Gardeners' Dictionary" or Loudon's "Encyclopædia of Plants," both of which give the date of introduction of each species, we shall find that almost all the *Acacias*, *Correas*, *Bossieas*, *Kennedias*, *Epacris*, *Bankias*, *Grevilleas*, *Brachycomas*, *Pimeleas* and scores of other Australian plants which once decorated our greenhouses were introduced in the early part of this century, a large number before 1820 and almost all by 1840 or 1850; but at that time the only settled country was in the coast districts. Victoria only began to be settled in 1835, and Mount Kosciusko with the alpine region around it was only discovered in 1840. Hence it happened that all the Australian plants brought to England for cultivation were obtained in the low-lying and warm districts near the coast, and were therefore all tender greenhouse plants, the attempt to grow which in the open air is hardly ever successful. Then, at a later period, when Orchids and bedding-out came into fashion, there was less demand for Australian plants, and many of the species once so valued went out of cultivation, and probably no attempt has ever been made to obtain plants from the cold uplands for cultivation in this country. The present time, however, seems very favourable for making the attempt. There is now an enormous demand in this country for new and beautiful forms of hardy plants for outdoor culture, while the extension of railways to all the mining districts of Australia, and the settlement of many of the higher plateaux for dairy farming, render it comparatively easy to obtain seeds and plants from suitable localities. In the south-eastern corner of Australia there is a tract of mountainous country covering about 15,000 square miles, all at an elevation of more than 3000 feet above the sea level. In a central position is the mining town of Kiandra, 4640 feet above the sea, and surrounded by mountains from 5000 feet to 7000 feet elevation. At Kiandra snow often lies on the ground for weeks, and the thermometer not unfrequently falls below zero (Fahrenheit), so that there can be little doubt that the plants growing in the country around it, and at still greater elevations, would be quite hardy. In Tasmania nearly one-third of the whole area is above 3000 feet elevation, while there are extensive plains and mountain slopes up to 4000 feet where the climate is still more severe than at Kiandra.

Now the peculiar vegetation of Australia is sure to be represented at these altitudes by alpine and sub-alpine species or varieties, and our gardens might thus be adorned by species of the numerous genera which have so long been favourites in our greenhouses, as well as by many others which are altogether peculiar to the sub-alpine and alpine regions. Collectors might no doubt be obtained in Australia itself, and these lines are written in the hope of inducing either one of our nurserymen or some wealthy amateur to obtain their services for the purpose of stocking English gardens with hardy Australian plants.

ALFRED R. WALLACE.

***Pavia macrostachya*.**—The name of *Æsculus parviflora*, which has to a considerable extent superseded the older title of *Pavia macrostachya*, though it may be botanically correct, scarcely does justice to this beautiful flowering shrub, which is quite distinct from anything else in our gardens, and flowers too at a time when hardy shrubs in bloom are but few. In a cool, fairly moist soil this *Pavia* is one of the most beautiful shrubs we possess for planting as a single specimen on a lawn, as it will then form a large hemispherical mass, clothed with deep green foliage, against which the spikes of white flowers stand out very conspicuous. The long protruding stamens form the prominent feature of the inflorescence, and as the flowers are arranged in a cylindrical manner, the entire spike has a good deal of the Bottle-brush character.—T.

***Genista ætnensis*.**—In several parts of the arboretum at Kew specimens of this beautiful shrub are just now very conspicuous by reason of the numerous bright yellow flowers they bear. Although from a distance its effect in the landscape is very similar to that of *G. virgata*, a species which was at its best five or six weeks ago, and was noted in THE GARDEN at p. 6, it is, on closer inspection, quite distinct. It makes a tall, somewhat meagrely furnished shrub or small tree 10 feet or more in height, with narrow, terete and semi-pendulous branches. In its style of growth and almost entire absence of leaves it has some resemblance to the greenhouse species, *Cytisus filipes*. The flowers individually are about half as large as those of the common Broom, and they are entirely of a clear yellow. The species is well worth growing, especially in a shrubbery where its base could be hidden by other things in front, making a useful succession plant to *G. virgata*. It likes a fairly open, sunny position and may be easily increased by seeds. The name *ætnensis* refers to its existence in a natural state on Mount Etna, but it is also found in several other localities in the Mediterranean region.

**Hardy Periwinkles.**—There are very few gardens where a place cannot be found for some of the Periwinkles, for among their other desirable qualities is that of thriving in situations where few plants of a shrubby nature can be induced to flourish, and from their low growing character, combined with the fact that the foliage is retained throughout the winter, they are bright and cheerful at all seasons, and are very useful for clothing spots where little else but the Ivy will thrive. For covering sloping banks or positions such as this the different Periwinkles are well suited, and they (the minor kind especially) will carpet the ground with a dense mass of slender twigs, clothed with ovate deep green leaves, among which the pretty blue, white, or violet-coloured blossoms may be found nestling for months together, as a succession of blooms is kept up for a considerable period. The two variegated varieties with respectively white and yellow marked leaves are also very pretty, and when interspersed to a limited extent among plants of the normal hue the variegated portions stand out markedly by contrast with their surroundings. The larger Periwinkle (major) will cover a given space in much less time than its smaller relative, and is suitable for planting under much the same

conditions as that is. Where there is a bank too steep for plants to be grown on the sides thereof, the larger Periwinkle is one of those that may be planted along the top, and allowed to hang over and furnish what might otherwise be a bare and unsightly spot. Of course the shoots of some of the more vigorous climbing plants will depend for a much greater distance than even the strongest Periwinkles, but these last afford a pleasing variety, as well as being suited for shady spots. The variegated form of this has the leaves irregularly, but clearly marked with white, and taken altogether it is one of the very best of low-growing hardy plants with variegated foliage. I once saw a sunken walk through a shady part of the garden flanked on either side by the different Periwinkles, and a very pretty effect was produced thereby, the walk being about a couple of feet below the level of the surrounding ground.—T.

**The Venetian Sumach** (*Rhus Cotinus*).—An old-fashioned, but none the less handsome shrub is this *Rhus*, which, ornamental at all seasons, is especially so when crowned with its feathery inflorescence towards the latter part of the summer, in which stage it remains for some time, and again in the autumn by reason of the vivid tints assumed by the leaves before they drop. The colour acquired by the decaying foliage will depend to a considerable extent upon the position of the plant, as if in a somewhat dry and exposed spot, the leaves are much more richly coloured than is the case where the plant is in a situation more conducive to rapid growth. Few if any shrubs are more suited to plant as an isolated specimen on Grass than this, as it will form a well-balanced bush, totally devoid of any stiffness or formality, and the lowermost branches will extend for some little distance from the parent plant, not far it is true, but quite sufficient to form a desirable edging to the central mass. I was never so much struck with the beauty of this *Rhus* as on one occasion when I unexpectedly came upon a fine specimen just at its best, whose bright red, wig-like masses of inflorescence were lit up by the rays of the declining sun and formed a beautiful summer picture.—H. P.

## GOLDEN-LEAVED TREES.

WHATEVER may be said to the contrary, there can be no doubt that when planted with discretion and in well-chosen positions, trees with golden foliage are capable of producing some of the most pleasing and varied effects in the landscape, that without their use it would be almost impossible to bring about. I am not now referring to the many sickly, parti-coloured trees and shrubs that are now so widely cultivated, but to the more healthy and vigorous-growing section, where fine, sturdy specimens on their own roots are to be found.

The effect produced by clumps of the golden Elder, jutting out here and there with bigger masses of some of the more pendent branched Willows in an old-fashioned garden in the south of England will not be easily forgotten, for the thought at once occurred to me what pleasing and charming combinations we are capable of bringing about by wise discrimination in the use of golden-leaved trees and shrubs. A well-developed specimen of say the variegated-leaved Sycamore when suitably planted is capable of imparting a particular line of beauty to the position in which it is growing. Then there are some of the silvery-leaved Maples, that are curiously beautiful if happily placed with regard to their surroundings.

But to return to the golden conifers, which constitute a distinct branch of trees and shrubs with parti-coloured foliage; we have several that are full of interest and of great value for the contrast they afford to the general run of our green-leaved kinds. The golden variety of the Chinese Juniper (*Juniperus chinensis aurea*) has, perhaps, no rival amongst trees of its kind, the depth of tint, which only seems to be augmented by the heat of summer, being pronounced and pleasing. Then *Retinospora plumosa aurea*, *R. obtusa aurea*, and *R. piserifera aurea* are all worthy of cultivation, the colour



of foliage being rich and constant. *Thuja occidentalis aurea* and *Cupressus Lawsoniana lutea* are also well worthy of note, and when well placed they are distinct and effective. Even the golden-leaved form of the Highland Pine (*Pinus sylvestris aurea*) has a charm of its own, and is always a welcome tree when growing in the shrubbery or woodland. Of our common Spruce Fir there is a very pretty and distinct golden variety in *Abies excelsa aurea*, the bright bronzy yellow of the young growths rendering it a tree of surpassing beauty.

These, with the golden Yew (*Taxus baccata aurea*), are about the best of the conifers that come under the class now being noticed, and when they are judiciously planted and have formed fairly sized specimens, their beauty is certainly very unusual and not to be despised. A. D. W.

#### SOME OF THE SUMMER FLOWERS OF MY GARDEN.\*

THERE is no flower during the whole circle of the year which awakens sadder reflections in my mind than does *Anemone rivularis*, and the reason is this: It for the most part says to me that the spring flowers have all passed away, and that a new succession has come. *Narcissus patellaris* gave a warning note, but *Anemone rivularis* is like a funeral knell. I cannot say that I care for summer flowers so much as those of spring. Extreme delicacy both of colour and form are characteristic of the latter, and with some exceptions, such, for instance, as that of *Omphalodes Luciliae*, we look in vain for them in the others. But what we do find in summer flowers, I think, is vivid colouring, stateliness of form, and a general lusciousness which would have been altogether out of place if it had come earlier in the year. In great measure insect fertilisation has play, and insects affect blossoms of some very gaudy hue or some marked design, or those from which a strong fragrance is emitted. Nor is this general brightness inharmonious to ourselves. The summer-time is that of restful quiet enjoyment rather than that of tender new-born hope, and we should, I think, say that a more pronounced colouring is acceptable to us in June than would have been the case in February or March. A gardener has nothing to do when the year has come to its zenith beyond keeping things as they are. He has no need to look forward, he has no preparations to think about, and a *carpe diem* sort of feeling best expresses the mood in which he finds himself living. And his flowers answer to this. They are productive of present enjoyment, rather than symbolical of some future delights. In my own garden I never go in for effects; there is not room for it, even if I had any wish of the sort, and all I think about is to try to make individual plants do well in my hands as best I can; in fact, I am quite contented with these, and at midsummer I am glad if I have a sufficient number of striking beauty and worth to show to my friends. I shall confine myself (as I am told to do) in the following remarks to hardy summer perennials, and I suppose that covers the time when the last of spring flowers has faded away till signs of autumn appear. Between the departure of *Scillas* and *Narcissi* towards the end of May, and the commencement of the long reign of composite flowers in August, lies the period of the year with which I am concerned.

All I can attempt to do is to give a few running notes or memoranda of what has occurred under my own eyes, for it is

utterly beyond my power to offer anything new to the members of the Royal Horticultural Society, and with which they are not already familiar. Of very striking plants, then, which blossom at midsummer or thereabouts, I should give high rank to

#### EREMURI.

I have often wondered why they are so seldom seen in our gardens. In my judgment they have only one fault which cannot be obviated. They flower up the stalk, and one part of the spike is clothed with the very highest possible beauty, while the other part of it is in a dying-off state. Of course, this cannot be helped; but take an *Eremurus* at its best—*Eremurus Bungei*, for instance—when it is sufficiently out, and before any part of it has begun to fade away, and I doubt if anything more arresting to the eye can be oftentimes met with. The clear bright yellow colour is so very good, and it stands up so well in the border, and the foliage befits it so nicely, that it would be difficult to say where a more beautiful picture could be found in all of Flora's domains.

I remember once returning home after the absence of a year, and the first thing that caught my eye after I had passed through the garden gate was the unlooked-for spectacle of *Eremurus robustus*, which was more than 12 feet high. It quite took away my breath for a moment, and I saw that till then I never had the slightest idea of what an *Eremurus* could do. There are, of course, many species of it, and they come into flower one after the other in a most convenient way. A specimen which I have, without a name, from the Sairem Sea usually leads the van, and the rear is made up by *Eremurus Olgae*, which flowers latest of all some weeks afterwards. Pink, yellow, a sort of brick-dust red, white—these are the colours which the *Eremuri* seem to affect. The yellow is of the very clearest sort, and the white is white beyond all suspicion, and very pleasant to look on. I suppose that *Eremurus himalaicus*, which is the white sort to which I refer, would be considered one of the best of them. It certainly seems to be one of the strongest, but it takes several years before it makes up its mind to blossom, and a good deal of waiting is called for on this account. It has quite lately flowered with me, and I have been very much pleased with it. Max Leichtlin has a form which he calls *Eremurus robustus nobilis*, or something of that sort, and I am told that it is greatly superior to the plant which we are accustomed to meet with. But when I use the word "accustomed," I think it must be done with some mental reservation. What surprises me most of all is that these very splendid acquisitions of Central Asia, Siberia and the Caucasus are so very little grown. I cannot imagine anything that would set off the grounds of some lordly mansion or humble vicarage garden more than these *Eremuri* would do. But for the most part they are conspicuous by their absence, and one well-known garden near Cambridge is the principal exception I can think of to the above remarks. What then are the causes why this comparative failure obtains? I do not profess to know; but the following considerations occur to my mind. They are supposed to be much more difficult to manage than is really the case, and this bars them at the outset. Next, if they are occasionally tried, they are sometimes planted in the midst of other things, and they do not succeed well in that way; thirdly, they come up too soon in the year and the flowering spike is at once seriously injured. I have suffered from the latter inconvenience very often indeed; but as

a rule I find that an *Eremurus* will stand many degrees of frost before it is injured, and I am told that if the plant is taken out of the ground as soon as it has flowered and kept dry for a few weeks, its growth will be sufficiently retarded to free it from the danger I have named. I have not yet tried this plan, but I am intending to try it as soon as I can. I am sure that the *Eremuri* like a well-worked, rather rich soil, and the roots should be able to spread out in their starfish-like manner as much as they like. Whenever I have gone against this and have planted an *Eremurus* carelessly among shrubs, or anywhere else, I have found that it very soon resents the inattention, and we are likely to part company altogether. The best thing I can suggest for them is that they should have sufficient space allotted to them by themselves in a well-prepared border, and if the above precautions are followed I think they will do well.

Of stately plants which blossom in the summer in my garden, *Centaurea babylonica*, *Ferula tingitana*, and *Acanthus latifolius* are as good examples as could be named, but they are known to everybody. I like *Campanula latifolia* very much, and in moister spots than any which I have it soon becomes very ornamental indeed. *Melanthus major*, from the Cape of Good Hope, has very handsome and distinct pinnate leaves, but then it cannot be called quite hardy in every locality.

#### IRISES

are the pride of my garden during the bright days of summer, and what can be more beautiful, and even stately too, than *Iris pallida*, *Iris ochroleuca*, *Iris aurea*, and several others that might be named? But it is not of these that I would especially say a word now. They can be grown anywhere, and my especial delight is in those which are much more difficult to manage, and even more commendable. I refer to the members of the *Oncocyclus* group, which form the *ne plus ultra* of gardening, and which should be cultivated with the greatest possible care wheresoever there is a chance of their doing well. These *Oncocyclus* Irises begin, of course, to blossom in May; but they run on into June, and sometimes even into July. I know that they have been specially dealt with by such experts as Professor Foster and Herr Max Leichtlin, of Baden-Baden, to both of whom my deepest obligations are owed; but in a review of my best summer flowers it is impossible for me to make no allusion at all to their crown and their glory. I may say at once that they cost me a great deal of trouble and a great many mistakes, and some time and money, before I could at last aver that I have these Irises in my hands, and now nothing in my garden affords greater satisfaction to me than they do. I have at last been able to pilot nearly thirty specimens through a difficult autumn and a very horrible winter indeed without a single loss, and I may, therefore, I think, say that I know how to grow them at last. My list includes the best among the best, viz., *I. susiana*, *I. Gatesi*, *I. paradoxa*, *I. Korolkowi*, &c., and I can now almost guarantee the life of any member of this group that may be named. But this measure of success has not been arrived at all at once. Disappointment after disappointment had to be met and battled with from time to time. In a much-esteemed gardening quarter the word of direction ran thus: "The non-bulbous Irises like rich soil full of decomposed vegetable matter," and similar advice has been given by writers in the gardening periodicals more than once. This brought failure on my efforts for some three or four years, and I do not know how long I should have gone on

\* Paper read by the Rev. H. Ewbank, M.A., before the Royal Horticultural Society.



with it if Professor Foster had not paid me a visit one spring, and he told me that they must be treated to no decomposed matter, either animal or vegetable. I tried good loam and roadside grit the very next autumn, and the difference has been immense. Of course all my *Iris*es of the *Oncocyclus* group are dried off for seven or eight weeks in July and August. I put lights over their heads so that no rain can come near them at all, and they are literally baked. But there is one thing more which they meet with in my hands, and which I suspect they do not find anywhere else. It may seem to be a little thing, but on little things great consequences often turn, either of weal or of woe. It is sometimes the little rift within the lover's lute by which great mischief is done. When the bright days of summer are over and the winter rains have begun, I fix a small piece of glass securely over the rhizome of an *Oncocyclus Iris* so as just to cover it and not to do any more. The influence of this is, I am sure, beneficial in the extreme; it does not interfere with growth, nor does it prevent sufficient moisture being drawn in by capillary attraction for the roots, but it just covers the plant itself. Until lately, I never knew how it could be secured over a plant; there is now no difficulty about this of any kind, and it answers completely. I am sure that *Iris* paradoxa and several others can seldom live through the winter if they are quite unprotected by any covering at all, but in this manner they seem to be satisfied, and they reward me handsomely for my trouble. I need not say it would not do at all to use garden-lights in the place of these glasses, nor to use these glasses when the lights are desirable. Of course, as spring comes on, the leaves of some *Iris*es, *e.g.*, *I. Korolkowi*, are very much crumpled up under a bit of glass; but they do not seem to mind that at all, and when the winter is over they straighten themselves at once. For a very long time indeed Kämpfer's *Iris*es have mocked me, and they have laughed all my efforts to scorn. Their wants may be summed up very briefly in this way: They need both sunshine and moisture, and so do a great many other things besides Kämpfer's *Iris*es. The problem of problems is how to accommodate them the best. If you can supply them with one it does not follow that you can accommodate them with the other, and that by itself will not do. I have had buckets of water poured over their heads, and it all ran through my porous soil and very soon disappeared. The border has been very deeply mulched without any return for it, and Kämpfer's *Iris*es in my hot and arid garden have been a snare and a delusion. But at last they are happy. They declare themselves to be so in that unmistakable way in which plants say "All right."

I have a bed of 30 feet by 7 feet, excavated to the depth of 3 feet, and the whole of the sides and bottom plastered over with thick heavy clay about 6 inches deep. This has made all the difference in the world. The bed is now quite sufficiently retentive of moisture to be of great use, and *Venus* and *Othello* and *Ida* and *Rutherford Alcock*, &c., are growing as they have never done before. It is a very simple way of adding moisture to sunshine, but it makes the greatest possible difference. How beautiful these Kämpfer's *Iris*es are, and how seldom they are seen! The colours range from the purest white to a sort of violet-purple. They are sometimes beautifully veined and mottled and picked out with yellow, and when all the six petals are of nearly equal size (three not being suppressed, as is sometimes the case), and the flowers are 6 inches, or even 7 inches,

in diameter, they are objects worthy of the highest admiration as they lie flatly open to the summer sun and drink in its blessed influence on their lives.

Another plant which I would especially like to notice, as adding great beauty to my garden during the summer months, is that singular Californian Poppywort which is found on the borders of streams near San Diego. In a rather recently published and interesting American work by Ellwanger, to which Mr. Wolley Dod has given his imprimatur by writing the preface, the following passage occurs: "There is no flower that combines so many good qualities—such fragrance, beauty, and general effect—as this plant does;" but then he very considerably detracts from its usefulness by saying: "Unfortunately it will not survive our rigorous climate, and I believe it has failed to establish itself in most gardens where it has been tried in England." This is a very formidable detraction indeed, and Mr. Ellwanger seems to take away with one hand what has been given by the other; but I cannot think there is any justification for such a sweeping indictment. It is true I live in the Isle of Wight, and that is supposed to be one of the most favoured spots in the kingdom; but I can only say that *Romneya Coulteri* gives me no trouble at all. It has grown to such a large size that I do not attempt to protect it, and last winter it stood in a little border in front of my greenhouse and braved all the frosts of the hardest winter we have known. Perhaps it only proves that, salubrious as California is, the Isle of Wight is even more salubrious. There is, however, one thing I always do for this plant, which I find to be of the greatest use to it. I cut it down to the ground every spring. This seems to give it renewed energy at once, and it makes wonderful shoots. It certainly deserves the encomium which Mr. Ellwanger has given it. The very large crumpled white flowers appear at the end of the branches, and also the lateral shoots, and they are set off by the very pretty glaucous foliage, which is produced in abundance. Perhaps the only fault that can be noted is that they come too intermittently. They do not begin very early in the summer, and with me they go on in a desultory sort of way till late autumn has come to them. I can sometimes increase it by taking off a side-shoot in the spring with a bit of root to it; but this is not a certain operation at all, and it is best propagated by seed. Wherever *Romneya Coulteri* can be made to succeed, there I am sure it should be tried.

As I am not writing a book, but only a paper, which should be of moderate length, I must confine myself to very short notes in what remains for me to say. I cannot attempt to give an exhaustive list of my summer plants, but I will make just a few remarks on some of the best of them. Of very gorgeous flowers, *Papaver orientale* and *P. bracteatum* may be perhaps placed at the head. Of flowers which are of the most brilliant red colour, there is nothing which is superior to *Tropæolum speciosum*. I cannot admit that there is any difficulty at all in growing this splendid climber. It is quite as much at home in the southern counties of England as it is said to be in Scotland. *Capparis spinosa* does very well in my rockery; it loves a horizontal position, and is quite as happy there as if it were growing on the shore of the Lago di Como. The large white petals form a beautiful cup, and this, with the parti-coloured stamens, commands great admiration. The ovary is borne on a long stalk, so as to be level with the purplish anthers. *Cypripedium spectabile* should never be forgotten; it will grow

either in sun or in shade, but it takes the latter for choice. I imagine that the secret of success with a great many Lilies is to give them a border quite exposed to the south, and yet to prevent its being ever dried up. *Lilium auratum* would, I think, do better in such a position than anywhere else, and it would be a great advantage to it if the bed in which it is planted has a concreted bottom (it keeps in the moisture), and which is a little inclined, so as to prevent any chance of stagnant water settling on it. One of the most imposing plants at any time of the year is, after all, the old familiar cottage garden *Lilium candidum*, and it seems with me to have no special requirements at all. *Lilium giganteum* must be grown in the shade, and the great point is to keep it from flowering too soon, if that can be managed. But Lilies are a study by themselves, and there is no room for it here. My midsummer garden is not quite innocent of Roses, though I only have representatives of some few interesting species, and do not grow Hybrid Perpetuals at all. I have been very much pleased with the manner in which Fortune's Yellow Rose got through the ordeal of last winter in my hands. It is a very nice thing, but in England it is, I fancy, for the most part kept in a greenhouse, and can never attain to any large size. I believe it to be much more hardy than it is generally supposed to be, and it is certainly worth trying in other places besides the Isle of Wight. *Rosa rugosa*, *R. bracteata*, *R. rubrifolia*, *R. indica*, and *R. lucida* are, of course, great favourites with me. *Rosa berberidifolia* was once considered to be an intractable, impossible creature. Dr. Lindley gave it a bad name, for which it has suffered a good deal. Mr. Watson, however, manages it with conspicuous success in a greenhouse at Kew, and I have had it for several years in my garden. Unfortunately, it was only a grafted plant, and so after a time it wore out. The only difficulty that I know about it is to get hold of a specimen on its own roots, and then it is bound to succeed. This, however, has at last been promised to me, and I set very great store on the promise. From some reason or another, whenever suckers come up with this Rose—and also with some other things—they are quite sure to be hardy. I believe it can stand many degrees of frost, but I did not think so once.

The rest of my summer favourites must be little more than mere names with me on this occasion. There is just one, however, that I cannot altogether pass by, because, though I must confess it cannot be called a hardy plant, it is very closely connected in my mind with an old friend who was to have spoken to you to-day if he had not been called away from us, to our very great regret—I allude to the late Mr. Rawson. I have had the most minute directions from him as to the manner in which *Clianthus Dampieri* must be grown. Suffice it to say, on the old lines one must almost have lived for *Clianthus Dampieri* if it was to do well at all. The game was not worth the candle, but now there is no trouble with it at all. Grafted upon *C. puniceus*, this most gorgeous of all Australian plants, and I suppose inferior in point of splendour to very few things on the face of the earth, will live and grow and blossom to the astonishment of all beholders, and be a sight to see which is not easily forgotten. It does well either in greenhouse or in open ground during the summer months, and is very much admired by those who have met with it. *Ranunculus Lyalli* I have in two or three places, and it quite responds to my treatment of it, which is of the simplest description. *Ostrowskya magnifica*, according to Max Leichtlin, should be dried off in summer.



I manage it in that way. *Paeonia Wittmaniana* should never be absent from any garden, however small it may be, so very grand is its display. *Mandevilla suaveolens*, *Poinciana Gilliesi*, and *Fremontia californica* are all hardy here; but I am sure I have now said enough, and more than enough, about the summer flowers of my garden. I have by no manner of means exhausted their number. I only fear that I have exhausted your patience and time. The *Pæonies* for the most part, the *Delphiniums* altogether, the *Dianthus*, the *Funkias*, the *Anthericums*, the *Ranondias*, and I wot not what else besides, must bear to be passed over by me in silence on the present occasion. I would only add one short word in concluding. There are some plants which not infrequently obtain a foothold among us which, in my judgment, should never have a place at all in a good collection of flowers. I refer more than anything else to summer *Chrysanthemums*, which are now very frequently grown where one would least have expected it. *Chrysanthemums* are all very well in their way and at their own dark, dreary season of the year. Then they do serve to gladden us by the bright and varied colours which they display; but why should we go out of our way to make the year go faster than it needs to go? A reminder of October is no pleasure to me in the glorious sunshine of July and August, and who can say that the flowers which properly belong to those months have been used up, so that something else must be introduced? I would sooner fall back again on yellow *Calceolarias* and red *Geraniums* if I had to take my choice between them and summer *Chrysanthemums*; and yet I know of a garden—a very delightful garden—in which many good things are to be found, where this antedating of autumn invariably takes place, and I expect that others resemble it. The best and most interesting collection of plants which I have ever seen in late summer is that of Mr. Wolley Dod at Edge Hall. There both variety and colour have indeed a full run, and one could never be tired of looking at the multitudinous specimens of fine herbaceous plants which abound on every side. In a garden such as that, and in many like it, a bright glorious summer day brings its own especial delights. If spring is the tender harbinger of hope, summer speaks of fruition—which has really come; and when insect life is everywhere on the wing, and flowers are throwing back their petals to the sun, one cannot but feel that we live in a happy world after all. I defy anyone to be a pessimist in such a scene and under such circumstances as these, and I for my part subscribe *ex animo* to the well-known words of the poet:—

'Tis my faith that every flower  
Enjoys the air it breathes.

## NOTES OF THE WEEK.

**Tree Tomato** (*Cyphomandra betacea*).—Could any reader of THE GARDEN kindly give me information on the above? I have a large plant of it which has never shown a fruit. Is it of any value when you get it, and if so, what is the best treatment to make it productive? It is only an encumbrance with me, and I shall be very grateful for any advice.—SANGUINEA.

**Roses by the sea.**—In reply to "Caledonicus" (p. 115) respecting my note on the Cloth of Gold and other Roses by the sea (p. 42), the distance from the sea would be about a quarter of a mile. This would in no way interfere with the destructive effect on the blooms caused by a sea fog. Although out of reach of the sea spray, which of course

would do a great deal more harm to Rose blooms than the fog, a sea fog ever so slight will affect the opening buds. Especially have I noticed that a night fog does more harm than a fog by day—I should think owing to the lower temperature and dampness.—F. HAND.

**A Daisy sport.**—Mr. Inchbald's Daisy sport is not new. I found the same variety four or five years ago near here and sent a specimen to THE GARDEN. I still have the plant. A few days since I saw in a neighbouring garden the same form in an Aster. Although a large plant and covered with flowers (if such a freak can be called so), every one of them consisted of little more than the disc; the rays were barely visible.—J. M., *Charmouth, Dorset*.

**Nymphæa Marliacea Chromatella.**—The Canary Water Lily is the most striking feature in the Lily pond this week. It has been late in coming into bloom, but now promises to make amends by sending up fine flowers in quantity. Several flowers of great size are floating among rich marbled leaves. They are of the palest yellow colour with a rich orange centre. This is without doubt one of the best hardy Water Lilies in cultivation.

**Nymphæa odorata sulphurea.**—This has been the last kind to bloom, and it has the marbled foliage characteristic of the Canary Water Lily. Its flowers are all that the name implies, and rather more yellow than those of the Canary kind, whilst in other respects they are even more distinct. They are very large considering this Lily belongs to the odorata type, the petals numerous, long and narrow, the outer ones reflexing to such an extent as to make the flowers spherical and look larger and more double than they really are.

**Early Apples.**—The three best early Apples, and which ought to be planted in moderate quantities as bushes and standards, are Beauty of Bath, extra good and early; tree a good free grower and bearer on Crab stocks which have been moved once or twice. Irish Peach, very handsome and prolific, bearing on the extremities of the shoots; hence special pruning necessary, not quite so early as Beauty of Bath, and tree of slender growth with unshapely habit. Duchess of Oldenbury is also handsome and a free cropper, of good quality for an extra early kind. The trio above named will dispense with doubtful sorts.—W. CRUMP.

**Azalea amœna hybrids.**—The article on the different varieties of amœna is very interesting, yet "T." apparently does not know some very nice varieties of M. van Houtte's raising. Allow me to send a list of them, viz., M. Max Singer, Celine van Eckhaute, Hermann Seidel, C. M. Adamson, R. S. Angus, James Backhouse, A. Baker, Mrs. G. W. Blois, and Hermine van Eckhaute. The crosses between A. Hexe and linearifolia promise to become very useful. They sometimes have trusses of from eight to ten flowers, and are really very agreeably scented. I also hope to get crosses from Rhododendron Aucklandi with Jenkinsi and several hybrid Rhododendrons.—O. FORSTER, *Lechenhof*.

**Dianella aspera.**—*Dianella* is a genus of liliaceous plants found in Australia and Tasmania, and although scarcely known in this country outside botanic gardens, it contains several species of much beauty. Whilst some of these are desirable for the beauty of their flowers, the attractiveness of others depends on their fruit, and it is to the latter group that *D. aspera* belongs. In the temperate house at Kew there is a plant 5 feet to 6 feet high now bearing a plentiful crop of berries. These berries are crowded in erect panicles a foot long, and are about the size of large Peas; when ripe they acquire an intensely blue colour, rendering the plant at once striking and very ornamental. The stems of this plant are slender, like those of all the *Dianellas*, and bear a tuft of leaves at the top, the panicle being terminal. Of the other species of *Dianella*, the one named *cœrulea* is perhaps the best. It makes a very graceful plant, with narrow arching leaves, and produces an abundance of light, elegant panicles of flowers in spring. All the species may

be grown in a cool greenhouse, and are seen at their best when planted out in a border of rich, loamy soil and kept moist at all times. In a natural state these plants are said to prefer shady positions in woods.

**A Siberian Crab.**—On one of the lawns at Swanmore Park there stands a remarkably fine tree of the Siberian Crab, and whilst it is easy to realise how beautiful an object it must have been when in bloom, it is less easy to comprehend the beauty such a tree will display when in full fruit. I found the diameter of this fine tree to be about 30 feet and proportionably high. Every branch is heavily laden with fruit, and as this pulls them down into a pendulous form, the tree is indeed handsome. What a picture it will be about the middle of September. There are many other Crab Apples which merit cultivation if but for ornament, but the fruits of the finer sorts have commercial value, and whilst liked by some for dessert are delicious when properly preserved.—A. D.

**Aster diplostephioides.**—Mr. Thompson, of Ipswich, writing to me in 1891 regarding this plant says:—

I had some seed of *Aster diplostephioides* in 1890, but could not procure it last autumn; with me it is a bad doer. I cannot keep it, and even when it has flowered it does not survive. I think, therefore, it can never be a plant for the million, and is sure in one way or another to give rise to complaints on the part of buyers, whether of seeds or plants.

It has been grown in the kitchen garden border here for five or six years without any attention. I raised twenty seedlings in 1886 and all were eaten by slugs but one, which I divided into nine in 1890. It likes a cool bottom (heavy clay here) and good fairly stiff loam. I can give you no more hints as to its culture; it is an alpine. Last winter, to my horror, I found my man had smothered it all over with manure. This seems to have benefited it, as it is better this year than ever. The flowers on it now are much finer than those I sent you, which were dashed with the rain.—G. H. C., *Sheffield*.

**Begonias at Bexley.**—At Mr. Thos. Ware's new Begonia nursery at Bexley Heath quite a quarter of a million of Begonias has been planted out in the open, and the effect of the mass now in full bloom is wonderful. It clearly shows the adaptability of the tuberous Begonia for flower garden decoration. The choicest single and double kinds are arranged in separate houses. In the house devoted to singles may be found some old favourites, but a large proportion is quite new and distinct. Lord Byron is a vivid scarlet shading into white towards the centre; the beautiful transparency of the blooms is very marked. Other notable scarlet kinds are Superba and Grandiflora. For effectiveness, the yellows take a high place, ranging from a strawy-white in Pride of Bexley to the deep orange-coloured self Perfection. Every degree of shade between may be found in Goliath, Sovereign, Velleda, Devonia, and lastly, Sunset, a brilliant golden-orange. The whites are very pure, and include Purity, Bexley White, and Alba fimbriata. Fine varieties also are Leonora, magenta; Dean Swift, cerise; Marginata, white with delicate pink edging; Nerissa, almond and pink shading; and Bicolor, having a pink margin suffused with yellow. Coming to the doubles, evidently much time has been bestowed upon them, their erect habits and faultless flowers being above criticism. The chief feature of those indoors is the quantity of Duchess of Teck, the light golden colour of its blooms at once attracting attention. There are many other equally good varieties. Miss Jennie Fell is a distinct crimson with a very neat habit and beautifully shaped flower. Baronne de St. Didier, sulphur-yellow; Princess May, crimped white; Hecla, pure pink; Victoria, terra-cotta, perfectly erect; Triumph, crimson; Alba Magna, pure white, fimbriated edge; Flore-pleno; Claribel, salmon, with white centre; Una, light rose, very free flowering; and Procida, a delicate white, the guard petals suffused with salmon, are also noteworthy.



## ORCHARD AND FRUIT GARDEN.

## NOVEMBER PEARS.

DURING the latter part of October and the month of November, Pears are usually plentiful and of good quality, the season of some of our very best varieties being comprised within that only too short period. What has happened this year need not dishearten any intending planters, as it is not often that Pears are so scarce as they are likely to be next autumn, and the good work of furnishing gardens and orchards with profitable trees of approved varieties ought not to receive a check either now or for years to come. In but few cases can it be said that there is no room for improvement either in the class of trees or the quality of the varieties that are grown, but, on the contrary, the great majority yet leave much to be desired in the way of, more especially, selections of varieties. Much may be done towards improving the value of many trees of inferior varieties with forms of superior excellence, but in very many cases young trees are indispensable, and in the end prove more profitable than re-grafted old trees with their roots deep down in a bad sub-soil. This being so, notes on a few of the best Pears that can be grown will now be seasonable, delaying ordering trees till just before they are wanted for planting being most unwise.

**DOYENNE DU COMICE**, a variety the excellence of which is often, yet not too often brought before the notice of the readers of *THE GARDEN*, is perhaps the finest Pear in cultivation, and should be included in the most limited collections. It succeeds well under any form of training, the growth being stout and clean, and the foliage bold and healthy looking. Naturally it is most prolific on the Quince stock, and on this the fruit is apt to lay on the most colour, but the best trees are on the Pear stock. This very fine variety is in season late in October, and can be kept good till the third week in November.

**PITMSTON DUCHESS** should always be grown where sensational fruit is required, and is one of the best for the markets, large naturally-grown pyramids on the Pear stock frequently producing enormous crops of showy Pears. The tree is of free, yet most productive growth, and, left alone, forms grand pyramids. Wall trees of any form are also very prolific, and, freely thinned out, the fruit attains an enormous size, or just what exhibitors delight in. The fruit is not unlike that of Marie Louise in form, but though buttery, the quality cannot be compared with that of the last-named, being too acid for most tastes.

**MARECHAL DE LA COUR**, also known as *Conseiller de la Cour*, though not generally popular, is yet a favourite of mine. The tree is amenable to any form of culture, and is particularly well adapted for growing into large pyramids. Wall trees produce remarkably fine fruit, and though good in quality with me about the first week in November, the smaller fruit gathered from pyramids and standards is the most delicious.

**VAN MONS LEON LECLERC** I have also a weakness for, and consider it ought to be more planted, especially where large and somewhat showy fruit is desired. Pyramids on the Pear stock attain handsome proportions and produce heavily, and espalier-trained trees are also very profitable. Naturally, the finest fruit is obtained from wall trees, and this variety seems to lend itself particularly well to the purpose of clothing archways through garden walls. I have had Van Mons 5 inches in length and of good form, attractive appearance, and superior table quality.

**DURONDEAU**, another old favourite, may be grown into very good pyramids and it does well against walls with an east aspect. It is a remarkably productive variety, and if freely thinned out the fruit attains a good size and colours very

prettily. This, like the preceding, is a November Pear, ripening early in that month and is usually of good quality.

**MARIE LOUISE** is so well known and so generally appreciated, that little need be said about it here. I would, however, once more suggest that the site, or, better still, one of the sites chosen for this

of training and is very productive in all cases. The best flavoured fruit, I find, is obtained from a tree against a wall facing south-east, where also the colour is laid on most freely. It is a pretty little Pear, and when ripe, crisp, melting and rather sweet.

**THOMPSON'S** (an illustration of which accompanies these remarks) is worthy of a place in quite limited collections of Pears. On the Pear stock it grows with moderate freedom and is a sure and heavy bearer, good pyramids of it being commonly met with. The variety is well worthy of wall space, a site facing westward answering well, though it also succeeds to perfection in cooler quarters. The fruit is of medium size, obovate in form, the skin being pale yellow with a sprinkling of russet dotted over it. With me it ripens towards the middle of November, and is of delicious quality.

**HUYSHE'S PRINCE CONSORT** may safely be said to be the best of the four varieties raised by the Rev. John Huyshe. It is also the largest fruited, while the tree without being over-luxuriant is yet of free, yet most productive habit of growth. Pyramids, bushes, and horizontally-trained trees in the open garden all do well, but the largest fruit and the clearest in colour are produced by trees growing against a moderately warm wall. It is a very distinct variety, and rarely fails to produce a good crop.

I. M. H.



Pear Thompson's.

valuable November Pear, should be a wall facing east or north-east. Our best fruits are invariably gathered from a large old tree on the Pear stock against a high wall facing north-east, and it is also worthy of note that in no other position are the trees bearing well this season. I hold that the Pear stock is much the best for this variety, trees on the Quince soon becoming far too stunted to be profitable.

**COMTE DE LAMY** no lover of good Pears should be without. It succeeds admirably under any form

the best method, and one that entails less labour. Planting out should be done when the plants have been well hardened off. When planting, the drainage should be renewed, a portion of the old matted bottom roots cut away, and the plants made very firm, leaving a basin round each plant if the soil is light or water difficult to get in quantity. If the new plantation can be holed over or watered two or three times a week in hot weather in the evening, a heavy set of autumn fruit of good size will be had. On light soils, a

**Second cropping of Strawberries.**—Those who force Strawberries may readily secure fruit more than half the year by utilising their early forced plants for a second crop. Of late years this system has been found a profitable one, especially in seaside towns, as in such localities there is always a good demand for this fruit after the ordinary crop is over. If fruit is required in pots, this is readily accomplished by giving a rest for a short time after forcing, repotting into a size larger pot and standing on a bed of ashes, keeping well supplied with water, damping over with a rose or syringe nightly, and feeding when the pots are filled with roots. These plants will give a second crop in August or September, according to the time they had been forced earlier in the year. When the second crop is secured from pot plants, it is best to use 5-inch pots for the first potting and to repot into 6-inch ones. Planting out is, perhaps,



good mulch of decayed manure or short litter over the roots will do much good and retain moisture. The best varieties for autumn fruiting I have found to be Vicomtesse H. de Thury, La Grosse Sucrée, and a dwarf Keens' Seedling. I do not know of any kinds that fruit more freely than the above, as this season I forced La Grosse Sucrée, Vicomtesse, and Keens' very early, and afterwards stood the plants in cold frames for a few weeks. By watering liberally with liquid manure, the same plants, without potting or top-dressing, gave us a good second crop of fruit in May.—G. WYTHES.

### EARLY PLUMS.

PLUMS are not particularly fastidious as to sites or soils, but there are certain positions that suit them better than others, and as a rule the best crops are had for the greatest number of years from trees growing in a rather strong loamy soil. It is not always possible to do a great deal towards changing the character, but the sites may be varied considerably in most places. I am not an advocate of scattering and much mixing the wall trees where it can well be avoided, grouping the kinds rendering it a much easier matter to treat them more as they require to be treated. As far as planting in the open is concerned, not much can be done towards varying the sites with advantage, for the simple reason that trees situated on low ground more often than not have what promised to be a good crop badly marred by late frosts; but with plenty of wall space at command, the case is very different. By a judicious selection of varieties and the proper distribution of trees, it is possible with the aid of garden, house, stable, and other walls to have a good supply of Plums during most seasons extending from the first week in August to the middle of November. This summer the fruit is ripening earlier than usual, some of the varieties being fit for use during the third week in July.

What I believe to be the very best sites for early Plums are walls of any kind, other than very low ones, with a south-east aspect. Plums succeed well facing the east, but are naturally a fortnight later than those which get more sunshine. Where Peaches fail, and these do not thrive when much exposed to easterly winds, Plums should be tried, and most probably would, as in my case, pay well for all the trouble taken with them. Some of the earliest and comparatively early varieties are among the best that can be planted against a moderately warm wall, the quality of even cooking varieties being surprisingly good when they have the advantage of a sunny site. For instance, the Victoria is really quite good enough this season to be included in a choice dessert, and for either preserving or pies is first-rate. All things considered, this is still one of the best Plums in cultivation, and it is the variety my employer, as a landlord, has planted most extensively against cottages on the estate. On examining some of these recently I was agreeably surprised to see such good crops hanging, and a good market will readily be found for them. Victoria is also one of the few varieties that succeed well standard trained, though the trees are very lightly cropped this season. Rivers' Prolific has quite ousted the Morocco: at any rate it is very generally and extensively grown, while the latter is rarely met with. Yet the Morocco is a hardy variety, doing well against the coldest walls, and is very prolific and early, the fruit being near the size and shape of Orleans, purple, and of excellent quality, ripening this year by the middle of July. This good old variety ought not to be allowed to become extinct, as it is very likely

to be before many years. Early Orleans is not particularly early, but a good old-fashioned variety all the same. With me it usually ripens during the first fortnight in August, but it is not so early by a fortnight as a variety grown in the neighbourhood of Bath under the name of Grimwood's Seedling. In Messrs. Cooling's nurseries the latter was being gathered during the third week in July, and, what is even more noteworthy, the trees both against walls and in the open bore far heavier crops than any other variety in the nursery or neighbourhood. The fruit is of much the same size and colour as the Early Orleans, but of a more oval shape, while the quality is exceptionally good. This serviceable Plum ought to be extensively planted in private as well as market gardens, and is one of the best for cottagers to have presented or entrusted to them.

De Montfort as grown by me is frequently taken to be the Angelina Burdett, and in several respects it much resembles the latter. There is this material difference, however, that it is nearly or quite a month earlier in ripening, our first being fit for dessert during the third week in July. The fruit of De Montfort is of medium size, in shape resembling Coe's Golden Drop, deep purple in colour, flesh yellow, clinging to the stone, and richly flavoured, especially after shrivelling takes place. It is of slender growth, and suitable for wall culture only. It is a sure bearer. Gisborne's, an improved Pershore, ripens early in August under wall culture and crops heavily, but scarcely merits so much attention, its proper place being the open garden or orchard. The Czar, a variety of comparatively recent introduction, on the other hand, does pay for wall culture, though it is most extensively planted in orchards. It is remarkably prolific, the fruit being roundish-oval in shape, rather small in size, the colour being dark red, and the quality good. The July Green Gage is not so prolific as desirable, but there is no mistaking the quality. It is seldom ripe before the first week in August or about a week before the ordinary form. Oullin's Golden may be said to be the handsomest yellow or light-coloured early Plum in cultivation, and is only rivalled by Jefferson's at its best. For exhibition during August, Oullin's Golden is simply invaluable. The fruits are large, roundish-oval in shape, of a rich yellow colour, and of exceptionally good quality. The tree is of a sturdy habit, the foliage being very strong. This season the crop is light, but it is not often that this is the case. Early Transparent Gage cannot rightly be classed as an early Plum, as it will not be ripe much before the end of August. The tree is a fairly good cropper and the fruit very attractive in appearance and good in quality. Kirke's is also a second early or midseason variety, and a very good Plum it is. Dry's Seedling must not be omitted, this being a large, handsome, sure bearing variety, ripening early in August. Tree of sturdy habit and very prolific.—W. I.

— In seasons when Plums are more plentiful as a rule than is the case this year, the invaluable properties of the earlier kinds are apt to be overlooked, the quality not being considered so good. But however this may be, there cannot be any questioning the fact that these early Plums are the hardest of the whole lot, and that whenever others fail these may be relied upon, and the season must be very bad indeed if an ordinary crop cannot be secured off them. Of the value of these early Plums there cannot be any doubt, as they come in at a time when the smaller fruits are on the wane, and consequently are much appreciated for cooking, this, in fact, being their special trait. In the west of England large quan-

ties are grown for supplying the large midland and northern towns, not that many varieties are grown for the purpose, the bulk being the invaluable Early Prolific, Victoria and Pershore, this trio being well known as almost sure croppers. This year the trees are not so heavily laden, but sufficiently so to make them a very remunerative crop in a season like the present, when, according to reports, the crop is not so good in some other parts of the country. Rivers' Czar is also being planted extensively, as being large and good-looking, it will surely command a good price, coming in as it does just after the Prolific. Our trees of it this season are heavily laden, showing it to be a most prolific variety, and well worthy of being planted in every garden where good early cooking Plums are looked for. Being hardy and good croppers, The Czar and Early Prolific succeed almost anywhere, that is when left alone and not hacked about too much with the pruning knife. This is where many people fail with Plums growing in the open. When left alone they form most prolific bushes and standards, trim growing pyramids not being of any use for this class of Plums. Instead of forming large spreading trees when left alone as regards pruning, the annual growth is very little, fruit-buds forming very freely indeed; in fact except the annual growth, all parts of the branches which are exposed to light are studded. Nor must the soil be disturbed about the roots, as thus surface roots form very freely, and when this is the case fruit may be looked for with certainty.—Y. A. H.

### FRUIT GROWING IN ENGLAND.

"RUSTICUS," in a recent letter on the above subject to the *Times*, says: As one who has for many years felt a great interest in fruit-growing in this country and tried to make out why it is such an unremunerative industry, I venture to ask space in your columns to show to my fellow-countrymen what they must do if they would make fruit-growing pay. At present, if we have a good fruit year, we inundate during a short part of our summer and autumn the London and provincial markets with the products of gardens and orchards, and the consequence is that the produce does not do more than pay the cost of carriage and the middleman's commission. The fruit grower often gets nothing, or next to nothing, for his capital, enterprise, and skill. Of course, this state of things cannot go on long, and in time, unless a change occurs, instead of the area of English land devoted to fruit cultivation increasing it will diminish, and no reasonable person ought to be surprised. The point to be considered is whether any change can be made in our methods which will alter the position of the fruit grower, and I hope to show that this is possible.

At present the bulk of our hardy fruit comes into market early, and consequently may be regarded as consisting of early kinds. Of these kinds there is clearly a superfluous supply in prolific years. The kinds of Apples and Pears which usually produce the largest return to the growers are those which are fit to market from November onwards. These kinds are known technically as "late varieties"—that is to say, varieties which do not ripen on the tree, but have to be gathered carefully, unbruised, placed in a suitable fruit room, and sent to market only when they are in a condition fit for use by the consumer. Such fruit, to make the best of it, requires skill and discrimination on the part of the producer; but where these conditions are forthcoming fruit-growing is not usually found to be an unprofitable pursuit.

Our fruit-growers are not, as a rule, so experienced or so canny as their American cousins. They want educating, and the points on which they have most to learn are as to the selection of kinds and the "grading" of fruit. The American fruit-grower understands these subjects thoroughly, and he grows only a few carefully-selected kinds and sends to market, whether in his own country or here, none but the very best specimens produced in his orchards. The consequence is that American



Apples of well-known brands fetch the highest possible price because the buyers know that the contents of any given barrel will be uniformly good. The Americans call this "grading," and the English fruit-grower will have to learn that he must "grade" his fruit, or, in other words, he must select the best for market and keep the inferior fruit at home. But the inferior fruit is usually more in quantity than the best. What is to be done then? This is a question of great importance; but, fortunately, there is a comforting reply ready, and I will do my best to give it.

In America there is an appliance in universal use called a "fruit evaporator." There are few Transatlantic fruit-growers who do not own one. All the fruit grown by them for which they do not find a profitable market in a green state they pass through the evaporator. This withdraws the moisture from it and converts the fruit into a dried commodity which may be kept for months, or years, so that it may be sold, when there is a market for it, at a paying price. This evaporated fruit, as everyone knows who has tried it, is a most admirable substitute for fresh fruit; it only needs soaking for a few hours to absorb sufficient moisture to make it fit for using in tarts, pies, compôtes, &c. I have tried it several years after it was grown and have found it excellent and scarcely to be discriminated from fresh fruit.

Unfortunately, the fruit evaporator is practically unknown in this country, although one of its best forms was premiated by the Royal Agricultural Society at its jubilee meeting at Windsor, when it was awarded the £30 prize, and may, therefore, be regarded as having met the exacting requirements of the society. Since then one of the same kind of evaporators has been set up and used at the Royal Horticultural Gardens, Turnham Green, and has done some excellent work there. Still the fact remains that the fruit evaporator has at present taken no hold on the minds of the bulk of English fruit growers, and yet I feel sure that in this appliance they have within their reach the means of overcoming the great difficulty how to utilise and convert into a money-producing commodity the surplus fruits of prolific years. The fruit evaporator is a patented article and all European rights have been secured by a German firm, but I am authorised to say that Mr. A. Ludwig, 16, Mincing Lane, London, E.C., will most gladly supply to anyone interested in the subject any information in his possession, and I know no one in this country who knows as much about fruit evaporation as he does. He will send to anyone writing for it, post free, a lecture, delivered before the Royal Horticultural Society, on fruit evaporating and fruit evaporators.

I should much like to say something about the importance of English fruit growers selecting the right varieties of Apples, Pears, &c., suitable for their respective localities and particular seasons, but I feel I have already trespassed too much on your valuable space, or else here is a theme of great practical importance on which much might be said with benefit to those concerned.

#### VARIETIES OF GOOSEBERRIES.

When there are hundreds of varieties of Gooseberries to select from, and probably the grower in many instances does not want more than half a dozen, he is at a loss when he scans the list to know what is best, and often gets sorts not at all suitable. With so many to select from, the grower should get both early and late kinds. To get a long succession planting in different positions is necessary, and if a north wall can be spared for a few cordon trees, there is no surer crop than the late Gooseberries. This season the trees suffered badly from spring frosts, but those on a wall escaped, being later and protected from the cold winds. On a north wall as cordons the fruits can be had much later, and the trees get the cool treatment they so much like; they are also so easily protected from birds, that I often wonder that more trees are not grown in this way, as often a bare north wall may be planted with a few trees

to furnish the bottom of a wall with taller fruit trees at the top. Gooseberries do well as cordons trained to iron rods or stout Larch poles; they require so little attention grown in this way, occupying little room, and are ornamental in a fruiting state. Gooseberries well looked after are a paying crop, as they may be used in a green state, and when ripe with protection from birds hang a long time. When grown as cordons on walls they are more readily protected from caterpillars than in a bush state, and if a few loads of manure are placed over the roots as a mulch in the early part of the year or in December, raking away the old material, caterpillars are rarely troublesome, and the removal of the old loose soil removes any insect larvæ that may exist and the trees get the feeding required. These trees often suffer from want of feeding, as in many gardens there is no thought as to providing bushes with manure, but when given annually the size and quality of the crop are superior. I have seen very old bushes that had been on the same ground for many years lifted are replanted, and with the roots in a good condition, the trees have given wonderful crops. Of course, I do not advise planting old trees, as young ones with good culture soon give a heavy crop of fruit, but I would recommend more feeding in poor soils after the trees get into a bearing state. Those who require Gooseberries for preserving cannot do better than grow Red Warrington and Ironmonger. The former is a fine Gooseberry for a north wall, and if kept spurred in closely does well. In the white class, Whitesmith, King of Trumps, and Aline are good, whilst Industry, Conquering Hero, Forester, and Rough Red are good reliable kinds in the reds; Leader, Early Sulphur, Yellow Champagne, and Tiger are good yellows; Green Gascoyne, Green Overall, Surprise, and Telegraph in the green varieties. In the matter of flavour many of the small fruits, such as Pittmaston Green Gage, Red Champagne, Early Green, Hairy Early Red, Hairy Bright Venus, and Early Sulphur are beautiful fruits for flavour. In this small selection I have only given a few varieties, but sufficient for most purposes, unless required for exhibition. For the latter purpose size is essential; for early gathering in a green state a large early Gooseberry is best. When a wall or fence is devoted to this fruit there is no difficulty in preserving the buds in the spring by netting over the bushes.

S. H.

#### AUTUMN TREATMENT OF RASPBERRIES.

RASPBERRIES after the fruits are gathered are often allowed to take their chance, but such treatment is not conducive to the formation of strong growths for next year's supply of fruit. No time should be lost in giving the canes more room to develop by removing the old fruiting canes and useless suckers. There are often serious complaints as to Raspberries failing, the canes dwindling, the fruits being poor and only half the size they should be. This occurs both in heavy and light land. One reason is allowing the plants to occupy the same ground too long. On clay land the roots go down in search of food, only to find the subsoil worse than the surface, and then decay of the fruiting canes occurs, no matter how carefully pruned and fed. On light soils much the same happens. There is no feeding material in the soil, and in this case heavy surface mulching must be given twice a year to keep the canes in a healthy state. Of course, all the mulching in the world does not get the plants into good condition once they have gone wrong. It is useless to feed Raspberries and to allow the old fruiting canes to remain on the plants for months after the fruit is gathered with a forest of suckers at the base. These suckers rob all the next season's fruiting canes of the nourishment which should go to build up a strong, hard, well-ripened cane the size of a walking-stick for next season's supply of fruit. At this date the old fruiting canes should be cut away, and only sufficient suckers left for the next season, choosing those that are strongest and in a healthy state. I only allow three or four to each stool. On weaker varieties five should be the maximum num-

ber, and these not too wide or far away from the original cane, as once they get wide of the old stool the plantation should be broken up and re-made on new land. Of course, if suckers are required with a view to get canes for planting, more may be allowed. I have seen Raspberries occupy the same ground for twenty years, but this should not be, as it is impossible to get the best fruit or equal weight from canes in an impoverished condition. Removing the old canes need not occupy a long time, and those left should be tied to the old supports or wire fencing. The canes left for next season's fruiting should not be pruned in any way, but allowed free growth till late in the season, when they may be shortened back, but not to the required height, merely lightened of superfluous wood. At the final pruning in the early spring, cutting back to the height allowed may take place, as if pruned to the proper height in the autumn, the canes often die back lower down in severe weather. After the removal of old fruiting canes a good mulch of decayed manure should be placed over the roots, not dug or forked in; and on light gravelly soil there is no better mulch than manure from the cow-yard, as on hot, dry soils it keeps the roots cool and retains the moisture. This mulching should be given as soon after the fruit is gathered as possible to assist in building up strong canes for next season. G. WYTHES.

## FLOWER GARDEN.

### THE FUCHSIA.

THE Fuchsia illustrates the fickleness of fashion. A few years ago every garden at all worthy of the name had its Fuchsias; and every conservatory and greenhouse was furnished with some of the leading florists' varieties. Things have changed, and the Fuchsia is as scarce now as it was popular then. We lose much by neglecting a plant of easy culture and great freedom of bloom; but there are indications of a revival, especially with regard to the outdoor or hardy varieties. When the Fuchsia was in its full popularity, it was a favourite exhibition plant. The specimens of it were of huge size, very tall, and when well flowered—that is, smothered from top to bottom in masses of richly-coloured bloom—very beautiful. But we can well afford to dispense with this type of Fuchsia culture. The best evidence of returning love for the Fuchsia is seen in the London parks, where during several seasons it has been the leading flower. We welcome the change. A mass of Fuchsias, even though the plants may be somewhat formally trained and stiffly arranged, is far more pleasing than the scroll and pattern beds filled with plants, repeated with such persistency as to lose what little beauty they naturally possess. Carpet beds, with nothing to relieve the dead flatness, were the pride of London parks a few years ago, and even now the desire to have such things has not died out. But the carpet-bed fever has certainly exhausted itself, and the use of Fuchsias will give it a severe if not final blow. The varieties used are the fine old kinds that were the pride of English gardens years ago. The old variegated variety, Sunray, one of the prettiest variegated plants in use; Earl of Beaconsfield, a fine kind, with rich orange-scarlet tubular flowers produced in large masses; Annie Earley, white, the corolla scarlet; Elegans, crimson and purple; Mrs. Marshall, a very desirable variety, white and pink; Annette, remarkable as much for its bold and abundant deep green leafage as for its richly coloured flowers; Daniel Lambert, purple and scarlet; Henry Brooks, similar shades; Tower of London, crimson; and Mme. Cornellsen, a very pretty variety, the flowers white and scarlet.



The Fuchsias will not give much trouble as regards culture. They are amongst the easiest plants to grow, as it is only necessary to lift them when frost arrives, pot up, and place in a cool house for the winter, giving only sufficient water to prevent the plants suffering from excessive dryness. Remember that they are almost hardy. We are now speaking not of the shrubby set of which *F. Riccartoni* is the type, but of what we may call the florists' varieties. The protection of quite a cool house will be ample. Then in spring nothing more is necessary than a little pruning in the way of removing weak or dead wood, and placing them in a slightly warm house, say a greenhouse, to start them into growth after potting them into fresh soil. We saw last season in a Suffolk garden a charming bed of Fuchsias, Mrs. Marshall and Rose of Castile, from cuttings struck in the autumn. The result was obtained at little cost, and a pretty feature in the garden was made. A "bedder" would have given just as much trouble, and then only lasted one season, while the Fuchsias go on increasing season by season until too large for the place and to house comfortably. In very warm southern gardens and in sheltered spots in Wales, the Fuchsias, like the Dahlias, will live out without protection, save a covering of Fern to keep severe frosts away. In one North Welsh garden neither the Fuchsias nor the Dahlias were ever lifted; and the masses of growth and flower were effective from the profusion of leaf and blossom.

More beautiful than any of the varieties mentioned above are the hardy Fuchsias, such as the lovely *F. Riccartoni*. The slow appreciation of such plants is a mystery. Here we have a group of charming hardy flowering shrubs, elegant in outline, the perfection of grace, and during the summer wreathed with myriads of graceful flowers, and yet they are for the most part ignored. We might seek these in cottage gardens, where they are permitted to spread out unhindered and uncramped by neighbouring things. A beautiful picture we saw this summer was made up of large bushes of *F. Riccartoni* and *Hydrangea hortensis*, two shrubs of almost equal value, yet of distinct character. The effect was splendid, and we wish that such pictures would be repeated. Hardy Fuchsias love the sea. We find bushes of them almost in touch of the salt spray, but their growth seems to relish the sea breeze as keenly as the feathery Tamarisk. In southern and western gardens, the south of Ireland, and on warm sheltered spots the plants are absolutely hardy, but in other places cut down by the frosts. This, however, is not of much moment, as in the spring the growth springs up again with increased vigour. In colder districts, where they will not live out at all, they must be lifted each autumn, potted, and placed out again in the spring. This is the great secret of success. Have hardy plants, whose growth is strong and wiry, and made as far as possible in the open air.

All the subjoined will live out in warm seaside gardens, or on the southern and western coasts, and none is more beautiful and graceful than *F. Riccartoni*, which will live out even in Scotland. We saw a charming hedge of it in North Wales, the plants one mass of flower and the perfection of grace and beauty. A well-known kind is *F. coccinea*, which is also of exquisite grace and hardy in most gardens, growing in a warm soil to quite 6 feet in height. The leaves have a tinge of red, and the flowers are crimson—a rich contrast. It is a Chilean species. Another beautiful type is *F. corallina*, which is of taller growth than the others. We

have seen this very beautiful one on a wall. *F. discolor* is, on the other hand, quite dwarf, but very hardy; a good kind for beds. *F. globosa* we have also seen in many gardens thriving well. The flowers are globular, very freely produced, and make a rich show when the bush attains a good size. One often sees it, especially in seaside gardens, making a rich growth of flower and leaves. We should like to see more of this handsome shrub. Of course, *F. gracilis* is familiar; it is slender and graceful, through the long peduncles to the flowers, which make them hang gracefully. The flowers are scarlet, and when smothering a bush 6 feet or more in height, we have a charming picture of plant life. One may often meet with bushes spreading over several feet of ground and one mass of slender bloom. It is well named *gracilis*. Two very pretty kinds are *F. microphylla* and *F. pumila*, which are charming Fuchsias for a bed; they also live out well by the sea.

#### NOTES ON BULBOUS PLANTS.

THERE is always a great deal to be done in a short season in all gardens where anything approaching what may be termed representative collections of bulbous plants are grown, and particularly where such things occupy the mixed border, for then they are not nearly so readily dealt with as when occupying separate beds. But where the last-named system is employed the whole bed can be dealt with in a wholesale sort of way, and the bulbs lifted without any fear of disturbing the roots of other choice subjects, as may be the case in the mixed border. There are, however, advantages and disadvantages on both sides, for the separate bulb bed would of necessity have to remain blank each year in which it was intended to lift the stock, while in other seasons its surface may be made gay with various summer-flowering plants, among which the tuberous section of *Begonias* is perhaps unequalled. For the present, however, we may briefly look at some of the most necessary items of work in the bulb garden standing in need of immediate attention.

First and foremost, perhaps, come

THE DAFFODILS, a group invaluable in spring. These are now all lying dormant, and, thanks to the continued dry weather of the past fortnight, are in excellent condition for lifting. This being so, no time should be lost in lifting the stock, as it is well known that new roots are speedily emitted in those seasons where a long spell of dry weather is succeeded by a somewhat heavy rainfall, and where new roots are thus emitted and are afterwards lost deterioration must of necessity ensue. In those cases where we have to contend with a cold, wet spring the foliage of Daffodils naturally matures but slowly, and in the end forms no fitting guide as to when the lifting should be performed. This season, however, the foliage matured about the usual time, and consequent upon the warm weather of May and the early part of June the bulbs have ripened thoroughly, the bulbs being very firm and solid. Such as these can hardly fail with the proper treatment to bring about good results when flowering time again comes round. It is not my intention in these few remarks to deal with the matter from a nurseryman's point of view so much as to offer a few hints to amateurs, and in particular to those who are as yet only beginners in the cultivation of these flowers. For these then it will be best in lifting Daffodils to have some large pots in which to place each variety as lifted, and in these to carry them to some well-ventilated shed or outhouse, where at a more convenient moment the bulbs may be cleaned and laid out in shallow boxes where they may dry gradually, yet thoroughly. Studiously avoid using boxes with lids, and be equally careful not to pack the boxes one above the other. Underground cellars which perhaps have no other means of ventilation than the door should be avoided, for a free circulation of air is of much importance at this time. If a convenient shed or similar place

does not exist, the bulbs will be equally safe on a hard bottom in the open, protected with boards or spare lights to keep off sun and rain. In the case of the lights being employed these must be shaded, and if raised on large pots on bricks will throw off the rain and ensure a free current of air about the bulbs. In the event of any diseased bulbs being noticed, and supposing these are too valuable to discard altogether, there is no better way of dealing with them than to carefully divest them of all diseased scales, afterwards exposing them to the full sun, taking care to burn the affected portions. In large collections of these bulbs, no matter what experience has been brought to bear upon their cultivation, one is sure to find a few varieties that require special care and special treatment, and even then are not satisfactory. Such kinds, for example, as *pallidus præcox*, *Ard-Righ*, *spurius* varieties generally, *Mary Anderson*, *cernuus* and its forms, and the double white Poet's *Narcissus* are instances where a special treatment of soil or position, or both, is needed to bring about good results; but the behaviour of such as these is so varied in different gardens, that it is a difficult matter—if not an impossibility—to lay down any hard and fast rules concerning them. But a safe and sure guide for many doubtful kinds, and particularly those most affected by basal disease, is to lift them every year as soon as ripe and accord them a long season of perfect rest, and as a further precaution clean them, and give them a fresh position each succeeding year. Much is due, I feel sure, to an inherent weakness of constitution, a condition too frequently accelerated by uncongenial surroundings, and particularly soil and drainage. These things, coupled with lack of sun at the moment it is needed for ripening the bulbs, together with an excess of rain, too often keep such things in a constant state of excitement, and weakly-constituted kinds are quite unable to endure such continued change, the result being that exhaustion follows, and the bulb, being unable to perform its functions at the right season, not unfrequently perishes as the result. But if annual lifting is indulged in, combined with a long resting season for all weakly kinds, much benefit will certainly ensue, and the bulbs themselves be retained in health over a much longer period. There are, however, some varieties that are not benefited by annual lifting, and that prefer to be let alone for several seasons—in short, only lifting them to prevent overcrowding or exhaustion. *N. poeticus ornatus* is one of these; indeed some of this section appear to have a different mode of rooting to the majority of kinds, for no matter what the time of year may be—provided the bulbs are not freshly planted ones—you will almost be sure to find roots in nearly every stage, some just visible beyond the bulb, others half an inch long, and others in varying lengths up to 6 inches. This seems to point to the fact that its roots are produced successively over a long period, for I have noted exactly the same thing in mid-winter and various other times between that season and the end of June. My experience this year is only a confirmation of the past, for *ornatus* was still producing roots in all stages at the end of June, when the majority of kinds have not a new root to be seen. Another point with this very useful kind is that it does not produce its roots nearly so plentifully or so quickly after having been planted as most kinds, and seemingly resents drying off. For these reasons, then, I would only lift such as this when it became absolutely necessary, and the same may be said of *Emperor*, *Empress*, *Grandee*, *rugilobus*, *princeps* and many others, always provided there is abundant drainage below them. The *Tenby* Daffodil, where it thrives, is a splendid thing when established, and its perfect form and fine colouring are sure to have many admirers. The variety *princeps*, again, is very fine in established clumps of two or three years' standing, producing as many as four blooms from each bulb. From six bulbs of the variety *Grandee* after two seasons' planting I have had as many as twenty-one flowers; while in such kinds as *Emperor*, *Empress* and *Horsfieldi*, the growth (as well as the flowers) is much superior after remaining undisturbed for



two seasons than it is the first season after planting, so far as this district is concerned, but, as I have said, gardens and soils vary so much, that it is difficult to set forth definite rules. It may, however, be taken as a guide that in light loamy soils overlying gravel or in loam overlying limestone the more robust are safe under the let-alone system, that is, lifting every three years or so; but in gardens where the soil is heavy and retentive, annual lifting may be indulged in with a free hand for the majority, while for the double white Poet's Narcissus a heavy soil seems far more suitable than the reverse, and in such, indeed, the "blindness" to which this variety on most soils is liable seems to be either considerably reduced or unknown altogether. For the *Corbularia* section, as also for triandrus and other dwarf or frail forms, these may be left in the soil, provided all wet be kept from them till the end of September, from which time they may remain exposed to the au-

species more than to any other, for I have never been able to get bulbs altogether free from it. The only remedy known to me is to dig the bulbs up periodically in July or August and give them a thorough baking in full sun, according the same treatment to any diseased bulbs of *L. candidum*. This treatment, however, must not be regarded in the light of an absolute cure, though it appears to put a temporary check on the disease, judging by bulbs which have been so treated, and which have sprung up the next season and flowered well without spot or blemish. It will generally make its appearance again, however, the first wet spring, and with its appearance the treatment above given should be repeated.

**CROWN IMPERIALS.**—Where clumps of these exist in gardens and have become crowded and fail to flower with their usual freedom, it may be taken for granted that the soil has become impoverished and a change of quarters will prove of much benefit.



White Phloxes in a vase.

turn rains, which after a long rest will prove beneficial to them.

**LILIUMS.**—At the present time so many of these are either flowering or in full growth, that little can be done to the majority of them. In the varieties *candidum* and *testaceum*, however, we have exceptions to the general rule, these being early-flowering kinds. It frequently happens, too, that both the kinds named are attacked by apparently the same disease, and where this has occurred this season it will be advisable to lift them and subject them to a thorough drying. In the case of *L. testaceum*, apart from the disease which attacks the leaves and stems, another disease assuming quite a distinct character attacks the bulbs, the outer scales at the apex frequently being quite rotten, while others will be found hollow, as though the mischief was the result of insects, but I have never been able to find any such about the bulbs. Wireworms, of course, are very fond of the bulbs of *Liliums*, but according to my own experience these invariably continue in or about the bulb, so that I do not consider wireworms have anything to do with the decay to which I refer. It seems peculiar to this

Too frequently these showy plants are planted in shrubberies where the soil is generally impoverished by other subjects, and where fresh supplies are not forthcoming in sufficient quantity. They are at once so bold and showy, as to deserve a good place in the herbaceous border where a more liberal and generous fare is almost sure to be forthcoming. Few early spring-flowering bulbous plants are more deserving of generous treatment, for at their time of flowering we have none too much of such things at once bold and striking in appearance. Lift any impoverished clumps then, and having selected a fresh site, replant them at once 6 inches deep in well-enriched soil. Particularly striking are the silver and gold-leaved varieties, and if non-existent should be added, as apart from their flowers they are very handsome in foliage alone.

**BULBOUS IRISES.**—These will also be benefited by attention to raising the stock during the present month. In many soils not a few kinds among the sections known as English and Spanish, to which these remarks are intended to refer, have a decided inclination to deteriorate if left in the soil, but if lifted and given a season of rest, keeping them the

while in dry sand, they seem more content, and they are so beautiful and chaste in their many and varying shades, that a little attention at the right moment brings its own reward.

**GLADIOLUS COLVILLEI THE BRIDE.**—Where a stock of this valuable variety exists, and no garden where quantities of cut flowers are required should be without it, a portion may be lifted every year and the largest corms selected for potting later on. Though perhaps its greatest value is as a pot plant for flowering under glass, its usefulness as a border perennial must not be overlooked, if for no other reason than that it flowers at a season when choice white flowers with long stems are by no means common, and come when they may they are always valued. Another reason for annually lifting a portion of the stock is to obtain a succession of its flowering spikes. If left in the soil, root-action recommences with the early autumn rains; out of ground, however, a portion may be kept with impunity till February or March ensuing, as then it will afford a late batch of flowers. As a permanent subject in the open border it should be planted fully 6 inches deep to be out of the reach of frost. Where stock and space permit, however, it will be best in a bed by itself, where it may receive in dry weather an occasional soaking of water. On light soils it frequently suffers from lack of moisture, and I have never seen it so vigorous as when growing on quite a stiff clayey soil. A very showy species is *G. insignis*, but it is one rarely seen at its best unless it be planted in very moist soil or where its roots can reach the water; indeed it seems more at home in the artificial bog than in the border, and being so perfectly hardy there is no reason why it may not become a permanent subject in the bog garden where its richly coloured spikes of flowers would prove very attractive. Among miscellaneous bulbous things, such as *Scillas*, *Muscari*, *Dog's-tooth Violets*, *Triteleias*, and such like, attention should be turned to them at once where signs of deterioration were noticeable in spring-time. Many of these and similar subjects increase very freely at the root by offsets, and these quickly cause the group to become crowded and to flower less freely. In such cases the only way to deal with them is to lift, sort and replant the larger bulbs, and discard the smaller, unless there be any wild garden near where such things may be naturalised. *Anemones* of the fulgens type where planted on clayey soils are generally benefited by lifting at this season and giving a complete rest for a few weeks.

E. J.

#### TALL PHLOXES.

Of the taller kinds of *Phloxes* I grow some hundreds in the flower garden, pleasure grounds, and in the kitchen garden borders, and no plants when in bloom are more admired from July until October. They are so hardy that no excess of drought or frost will injure or kill them, and their freely produced and noble spikes of varied and richly coloured blooms are most conspicuous and attractive. *Phloxes* are admirably suited either for small or large gardens, and are specially well adapted for all gardens in or near towns, as they are not by any means liable to suffer from exposure to dust, smoke, or murky atmospheres, so injurious to many flowers. Early in the spring (beginning of April) is an important time in their culture, as propagation, planting, and transplanting should then receive attention. It is not a satisfactory way to raise plants from seed, as much time and expense may be devoted to producing a very inferior crop. The best named varieties may be bought very cheaply, and after growing a season or so, they may be divided into many plants. *Phloxes* are frequently propagated from cuttings, and the young growths root freely under a hand-light or frame early in the season. But of all the ways of increasing them which I have tried, I prefer dividing the plants. Roots of one or two years' growth may be taken up and cut into



from six to ten plants, each with a good root attached, and if replanted at once they never seem to feel the change, but grow on and flower freely throughout the season. I have treated hundreds of them in this way about the first week of April, and 99 per cent. of them have succeeded as well as I could desire. In dividing them the roots should be preserved as carefully as possible, and they should not be allowed to become dried up before being replaced in the soil. To grow these Phloxes to perfection they must have a deep, rich soil. In hot, dry weather a thorough soaking of manure water, if available, is highly beneficial, and in all cases, wherever possible, mulch over the surface of the soil with some half-decayed stable manure.

T.

#### VARIETIES OF LILIUM AURATUM.

WHEN two forms of the Golden-rayed Lily so diverse in character as rubro-vittatum (admirably shown by Messrs. Veitch at the Royal Horticultural Society's meeting on July 26) and virginal are seen in flower together, they furnish a good illustration of the variability of *Lilium auratum*, for they differ at least in colour from each other far more than many recognised species do. The variety rubro-vittatum is remarkable from the rich glowing crimson coloured band which extends down the centre of each petal, and when first expanded it is wonderfully attractive, but the crimson portion of the flower quickly changes to a kind of chocolate tint, and it is then not nearly so ornamental as at first. In the case of the red-banded Lily, some individuals are greatly superior to others, and to the finest type the varietal name of cruentum is sometimes applied, and under this title a coloured plate of it was given in THE GARDEN as long ago as December 27, 1879, at which time it was one of the scarcest of Lilies and realised a high price. Since then, however, it has become far more common, for numerous though limited importations reach this country from Japan during the winter months, and are disposed of at the various auction sales held during that period. The name of rubro-vittatum is as a rule applied to them, but generally speaking they represent the best form. The second variety to mention must be regarded as the most chaste of all the varieties of *L. auratum*. This is virginal or Witte, whose blooms are as a rule rather smaller than those of most of the other varieties, but of a neat, regular shape with thick wax-like petals. They are of a pure unspotted white, with a golden stripe down the centre of each. Even if they expand at the same time the blooms of this Lily remain fresh and attractive some days longer than those of cruentum, which so quickly loses its brightness, though the flowers really remain on the plant as long as those of the other. Compared with the ordinary *Lilium auratum*, the bulbs of the two above mentioned varieties as sent to this country are much smaller, but still they may be depended upon to flower in a satisfactory manner. A well-marked and at the same time generally distributed variety is platyphyllum, easily recognised in bulb, foliage, style of growth, and flowers from any of the others. In this the scales of the bulb are broader and thicker than those of the ordinary *L. auratum*; the stem, too, is much stouter and the leaves wider. The flowers are more of a saucer shape, and very large and massive. The constitution of platyphyllum is more robust than that of any of the others, and its general appearance suggests that possibly it may be of hybrid origin between *L. auratum* and *L. speciosum*. In colour the blooms of platyphyllum vary somewhat, but nothing to the same extent as in *L. auratum* itself. The flowers of platyphyllum are usually white, slightly spotted, and with a clearly defined golden band down the centre of each petal. In some individuals this stripe is almost, if not quite wanting, while others have the spotting more dense than usual; and, again, occasionally blooms may be met with in which the spots are totally wanting. Besides the

above there are many other forms, examples of which can usually be picked out from any batch of *L. auratum* as sent here from Japan during the winter months. One kind is dwarfer than most of the others, with a sturdy stem and numerous thick-set pointed leaves; while the flowers, as a rule, are well shaped, with the spotting and golden rays clearly defined. This is the best for pot culture, and while in some importations it is represented in considerable numbers, on the other hand very few of it are at times to be met with. So variable is *L. auratum*, that, even where numbers are in flower, it is often difficult to pick out two exactly alike; but while the last-mentioned represents the best form, the opposite to that, which often crops up too plentifully, is as a rule taller, with fewer leaves, longer flower-stalks, and blooms with much narrower petals, indistinctly marked and disposed in a very loose manner. No idea of the habit can be formed by the bulb, and these different kinds cannot be distinguished till in full growth or in flower.

H. P.

**Lilium chalconicum.**—I recently saw this fine border Lily blooming very superbly and doing remarkably well in the garden attached to the cottage of the foreman in the Hampton Court Gardens, situate in the middle of the Home Park. The bulbs were planted in clumps of five some three years since, and have thrown up numerous tall stems which were crowned with quantities of brilliant blooms. Hardly any other *Lilium* gives such intense reddish scarlet colour, and whilst plenty have much larger blooms, few are more graceful. We ought to find this variety as plentiful in gardens as is the candidum variety or any of the Tiger Lilies.—VISITOR.

**Freeseias.**—"S. D." in the issue for August 6, says: "After the tops are gone the pots should be stored away till about midsummer, and the tubers then shaken out from the soil to be repotted afresh, the management after to be same as before." Stored away! Where? In the dry, or the damp, or the dark, or the light? Will you allow a victim to many disappointments to supplement the above-mentioned instructions by the following: Store your pots containing the soil and bulbs on a shelf close to the glass, where the bulbs will get ripened; or grow them in frames well protected from frost, and when the grass dies down close the frame to keep all damp and wet out; or buy new bulbs every year which hail from a summer clime. If you do not do one of these three things you will gather few flowers and many bulbs.—J. WHITWORTH SHAW.

**Lilies of the Valley in August.**—Howsoever pleasing may be certain flowers in their proper seasons, it is difficult to find much to admire in them when they come in at unnatural or unlooked-for times. Thus the other day Mr. Jannoch, the famous Lily of the Valley grower at Dersingham, Norfolk, showed a large number of bunches of Lily of the Valley with good foliage at the Drill Hall—a very odd exhibit in August. There does not seem to be much reason in thus getting flowers of this kind so greatly out of season. Mr. Jannoch asserts that this year at least he will have Lilies of the Valley in bloom throughout. That is an unusual thing, perhaps has never been equalled, but it is not to be at all assumed that anyone can do so much or that it will pay. Only a grower who has unlimited command of roots could do so. But it is very instructive, as showing how faithful the British people can be to a favourite flower, that let these Lilies be in bloom when they will, the demand always exceeds the supply. Just now the spikes sell very well, and orders cannot be half met. The flowers shown the other day were from roots that had been started early in the year, then when full of leafage dried off, the balls of roots exposed later to sunshine, so as to harden or mature them; then soon after again started in bottom warmth, the result being the flowers shown. The fact that flowers can be so produced at this untoward part of the year is worth knowing. Mr. Jannoch is able to grow his own crowns and does

them well; indeed can easily show that Norfolk raised roots are quite equal to the best of Dutch growth.—VISITOR.

**Begonia Worthiana.**—I have not seen this fine bedding plant elsewhere so largely used as it is at Hampton Court Gardens. There is hardly any other variety that is so useful in the flower garden or so reliable. It is there found in huge masses in beds, in smaller plants as edgings, or intermixed with various plants in miscellaneous beds. The finest effect is got from the larger plants, which are two years old. That is they were originally propagated from cuttings taken from the largest tubers in February which have been started in heat. These give excellent plants that the same year grow some 14 inches in height and 12 inches through. The tubers of these plants, dried off and usually kept in boxes packed in the buckwheat refuse which comes in the bulb cases, are kept over until early in the spring, when they are gently started in pots, and from these are turned out at the end of May, when they grow into fine plants some 16 inches to 18 inches in height and as much through, blooming most profusely all the season. Whilst the shoots are erect, the flowers, which are of a bright scarlet, are somewhat pendent, but all the same produce a fine mass of colour. The variety also makes a beautiful pot, vase, or basket plant.—A.

#### ZINNIAS.

DURING the past few years Zinnias have become very popular. The earlier single blooms of Zinnias, now very much things of the past, were often indifferently coloured, cupped in form, and had in the centre of each a protruding cone of fertile organs, which was in no case pleasing. The plants, too, were generally tall or leggy. We have replaced these by other strains or forms, of which the plants if properly grown are sturdy, medium in height, short-jointed, free flowering, and carrying very handsome double blooms, perfect in form and beautiful in colour. Thus it happens that from being worthless almost as garden plants the Zinnia has developed into one of the most beautiful of tender summer annuals, and is now largely employed for filling beds or associating with other summer bedding plants. How did this evolution come about? I observe in one direction a claim made that these new double forms have not come from the old single Zinnia elegans, but are of Indian origin, the seed originally having been imported from India. It needs stronger proof than mere assertion to satisfy us that, let the seed come from whence it may, the species are diverse, or that the doubles have not come from the singles under the processes of cross-breeding and selection which characterise the work of Continental florists. However, the matter may be of little moment. It is enough that we have these beautiful Zinnias and that they may be easily grown. The best time to sow seed seems to be quite early in April in a warm temperature, for the seeds soon germinate, and the plants can with ordinary care be induced to become stout and strong in good time for planting outdoors early in June. To sow the seed outdoors is to lose all the earlier part of the summer, because the earlier the plants can be induced to bloom the longer will be the flowering season. Ordinarily, when raised in heat and planted out as mentioned, the first flowers open about the middle of July; but those later from the side branches are invariably finer, and therefore the greatest head of bloom is found during August and September. In the matter of colours, the double Zinnia gives us variations rarely seen in other flowers; whilst of the richest hues, some are so exquisitely shaded with soft tints, as to make them hard to describe. It is enough to say that though termed crimson, scarlet, carmine, purple, rose, orange, &c., yet do even these terms fail to describe fully the remarkable richness many of the flowers display. Whilst the modern strains are much dwarfer than the old ones were, it is not at all difficult to make them even more so by a little patient pegging down of the branches, al-



though that work should not be performed roughly lest the branches break off. When done, it should be begun early and whilst the stems are supple. Zinnias do not as a rule give us all one colour, because the mixed forms are so very preferable; hence beds, whilst giving so much of beauty, do not weary by glare or monotony. A. D.

#### JAPANESE IRISES.

THE flowers of *Iris Kämpferi* are now about over. Plants in full sun (the best situation for them) do not continue blooming for more than a month, and are with me in their greatest beauty at the end of June and beginning of July, but by planting in shady situations, the blooming time may be extended to about two months. I wonder in gardens with water or damp situations that this *Iris* is not more generally grown. It is much admired, and so varied in form and colour as to suit all tastes. When it was first introduced I bought some of Messrs. Veitch's importation with fine flowers, but as the plants and my experience were both small, the former did not live long. My next trial was with a few larger clumps bought at a sale; seeds of these were sown and seedlings, and seedlings of seedlings, planted round our four small ponds at Oakwood. Where the soil was good they thrived, but in a few places where it was at all poor they dwindled and did not bloom well. I planted from the water's edge upwards and found that the plants did not suffer from being wet at the roots in winter. I also planted some in moist soil at some distance from the ponds. In the "Flowers of Japan," by Mr. J. Conder, at plate 4, the *Iris* flowers seem to be of about the same size as ours, but there are some colours which we have not yet got.

Mr. F. T. Piggott, in the "Garden of Japan," an interesting book recently published, at page 40 gives a drawing of *Iris Kämpferi*, and speaks of thousands of every tint from purest white, through the purples down to pale crimson. When looking round my plants, with flowers nearly over, he told me of flowers he had seen in Japan larger than any I have known in this country. When I told him of the belief that up to the time of the Vienna exhibition, *Iris Kämpferi* had been sacred to the Mikado's gardens, and not allowed to be sent out of the country, but that the desire to make the most effective Japanese garden prevailed, and *Iris*es were sent over, sold at the close of the exhibition, and distributed over Europe, he had not heard of this, and said he had seen them in various parts of Japan. I have lately had the chance of extending the cultivation of *Iris Kämpferi*. Having to drain a field annexed to the garden, I did so by means of wide ditches. One of these had easy slopes and was planted on both sides with *Iris*es two deep, 700 clumps, and a part of the new field seeming to be moist enough, between three and four thousand clumps of seedlings were planted on level ground. These plants seem thriving; a few bloomed this season, but I hope next year there will be a fine display in addition to getting the chance of especially good varieties for show situations. In some of the old clumps round the ponds fewer varieties bloom in the same clump, and the effect is rather pleasing than otherwise. I believe that many nurserymen can now supply this *Iris*. G. F. WILSON.

***Linaria alpina*.**—This is a perfect gem among alpine plants, and one that many should grow. It can be planted in a variety of situations, and may be had in bloom from spring to autumn. On warm, light soils it is perennial, but whether it proves so or not is a matter of small moment, for no plant is more readily raised from seed, and there is no better way than to sow the seed where the plants are required. Each plant if sufficient room be allowed spreads over the ground, making a dense tuft hardly 3 inches in height. The plants commence blooming when small, and go on growing and flowering prettily and profusely; the slender creeping shoots and the leaves that clothe them are

of a silvery or glaucous colour, and the flower-spikes stand up from the graceful carpet beneath them. The flowers like miniature Snapdragons, as indeed they are, are of a violet-purple colour with two distinct orange spots on either side of the mouth. On the rockwork or near the edges of the walks it should be frequently sown, and diminutive though it is, it will always attract notice. Further, it is one of the very choicest and best of carpet plants. I do not mean for carpet bedding, but to carpet the ground under and among taller things. Beneath Tea Roses it is very charming, serving its purpose without doing harm. It ripens seed freely and abundantly, and to prolong its season of bloom two or three sowings should be made between March and July.—A. H.

#### CARNATIONS.

WE are now in the midst of the *Carnation* season, and the garden is brilliant with many fine self-coloured kinds, massed in natural groups of from fifty to one hundred plants. No further proof is needed that *Carnations* can be grown by all who wish to have them, and they ought to be largely grown in the best flower gardens, as they appear in good succession to the Tea Roses. These now, though far from being flowerless, are making a vigorous second growth, upon which will be borne the autumnal display of bloom. We have now for several years been advocating the great merits of *Carnations* for the flower garden, and must do so again, even at the risk of repetition; for though we have a society existing on behalf of the flower, it does very little to advance the cause or extend the popularity of *Carnations* in the garden. For many years *Carnation* shows have been held, but they showed little progress in the direction where it was most desired. Florists do not know the needs of English gardens, and are chiefly concerned in growing kinds which must have their blooms dressed, so that every marking may be shown, and to further this they put the blooms in white paper collars. It is not a matter for surprise, therefore, that many who visited the recent *Carnation* show at the Drill Hall, Westminster, openly ridiculed the methods adopted for displaying the flowers. It is to be deplored that such an amount of misdirected energy should be expended in doing so little good. An attempt has been made both last year and this to teach a practical lesson by showing bunches of *Carnations* cut from plants wintered in the open ground. The results so far have been satisfactory to the extent of showing how handsome *Carnations* are when cut and arranged with their own foliage and buds. In awarding the prizes, the judges are again influenced by tenets of the school to which they belong, with the result that the best garden *Carnations* have been passed over. The florist's ideal is a flower with smooth flat petals, and such a lovely kind as the Countess of Paris, than which no better garden *Carnation* exists, is altogether left out of his silly standard of perfection. We may have individual likes and dislikes, but the fact remains that a *Carnation* with fringed petals ought not to be subordinated or regarded as inferior to one that is smooth and regular. The fringed flower is the oldest and most beautiful type, and when this characteristic is combined with all the good qualities for the flower garden no fault exists. Self-coloured kinds must ever be best, because the striped and edged flowers, even if good in form and shape, produce little effect. Last season, when planting, we purposely filled large beds with kinds that were rather similar in hue, and in place of strong contrasts there are some delightful harmonies of colour. A bed of red-flowered kinds is particularly bright, the groups shading into one another in a very pretty way. Another bed was filled with dark crimson and maroon-purple varieties, and the effect here, again, is very rich and telling. White and pale pink sorts are also admirable in association, and the shades of rose are varied enough to be similarly treated. In this way we obtain that for finer effect of colour so dear to the hearts of those who sacrifice everything to bedding out tender plants. But colour fails to permanently satisfy unless flowers have other attri-

butes. The charms of the *Carnation* are fragrance and form, with loveliest flowers for the house. For such purposes *Carnations* are even better than Roses. By this time all layering of the shoots to provide stock for next year should have been completed, and then plants will be ready for transplanting in the latter part of September to the beds in the flower garden. If good layers are planted early they form healthy grass and look well all the winter. At this time of the year, when annuals often begin to fade or unsatisfactory beds will want change, Pansies are apt to frequently wither off, and there are open spaces in beds of most flower gardens which are quite ready to be planted with *Carnations*. The soil for such should be well prepared, and, if not of a naturally good loamy nature, should be made so as much as possible, heavy and clayey soils getting additions of loam, lime rubbish, wood ashes, soot, or any such materials that may be near, coarse river sand being excellent. If there is no stock at home to plant, there are many nurseries in France and England which furnish early layers; but good flower gardeners should layer a number of their own kinds every summer. What is to be avoided is spring and winter planting, in which case the plants will seldom do any good unless they have been kept in pots all the winter, and carefully transplanted to the beds in March without breaking the ball. No way is half so good as planting early layers, and the colder the soil and the more elevated position the more need for early planting. In seashore and mild districts, and on light soils, it may be done with success as late as November; but generally all planting should be done in September. Given early planting, good soil, and good kinds, there is nothing to prevent us having delightful *Carnation* gardens but the rabbit and the wireworm, both of which ought to be carefully looked after.—Field.

#### SELF-COLOURED FLOWERS.

THE boldest effects we have in our gardens are produced by self-coloured flowers, and it is a pleasing sign of the times that these are in general request. In vari-coloured flowers one must make a broad distinction between those whose tints are harmoniously blended and those of an opposite character. Some of our garden flowers are naturally harmonious in their varied hues, such as the *Alstroemerias* and the Tea Roses; but, on the other hand, the zeal of the florists in improving other flowers has been carried to excess, and we have crude mixtures of colour that are not pleasing to the eye nor productive of the best results. Those who during the last few years have urged the claims of *Carnations* and advised their extensive cultivation in gardens have pointed out the necessity of mainly growing the kinds that possessed a clear self colour. There are a general similarity and monotony of tone and tint about the flaked and bizarre forms of the florist, and some of them present combinations of colour that are harsh and offensive. Even in self colours there is variety of tint sufficient for any purpose, and when we deal with flowers of this kind, we may arrange them to produce results much more pleasing and simple than are ever obtained from the violent contrasts that abound in a great deal of present-day flower gardening. For example, writing of self *Antirrhinums* in THE GARDEN of August 6 (p. 110), "A. D." admits that he had not thought this flower capable of producing such a lovely effect till he saw a large group of a pure white kind. This is quite true, and not of *Antirrhinums* alone, but of many pretty garden flowers. We have got so accustomed to the very much mixed strains now in commerce, that we think of nothing further and content ourselves with them. Now, *Antirrhinums* are very useful garden flowers, so persistently do they bloom if relieved of the burden of ripening seed. Several



years ago I saw a group flowering in a garden, and of all the plants one only impressed me with its beauty; it was a rich crimson self. Later on the plant was sent to me, and I struck all I could from it. The following year a group was made in the garden, and the effect was so lasting and brilliant, that I was at once convinced the right thing to do was to have a few good selfs. I raised a batch from seed, and was fortunate in obtaining a creamy-white and a canary-yellow kind, also a very rich dark velvet-crimson, which is very beautiful upon close inspection, but does not produce a brilliant effect equal to that of the first kind. All four, however, have been grown in groups this season, and they have been a mass of bloom since June till recently, when all the first spikes were cut away, and from now on into the autumn the plants will keep blooming from smaller lateral spikes. There is no necessity to name them, for, as "A. D." says, six decided self-coloured kinds would be ample for any place. It is a simple and easy matter to strike a batch of each from cuttings in autumn and keep the plants under cover for the winter. They can be put out quite early in spring and are in flower by the time that tenderer, but not more showy, nor more profuse blooming plants are safe outside. Pentstemons of the present day are very disappointing, and if there are any good bright selfs in existence they are very scarce. I have a kind that I use largely with summer bedding plants. I found it on the place, and it blooms from June to November. A batch of cuttings is put in in a cold frame during October, protection is given when frost is very severe, and the plants are planted out in April. Nothing in this way and for this particular purpose could give a better return for so small an outlay. Up to the present my endeavours to obtain kinds as good in different hues have not been rewarded. A large lot of seedlings is now blooming, but from my point of view they are worthless. Many are positively ugly, so dingy in hue, and those that have pretensions towards prettiness are not selfs. There is not enough body of colour. The type that predominates is characterised by a narrow belt or band of colour running round the edges of the petals, but the tube of the flower is of an entirely different hue. It would serve the interests and meet the desires of many if those who make a speciality of this flower would endeavour to produce and supply good selfs. I saw a lot of new kinds at the Drill Hall recently. The spikes were fine, the flowers large, but the colours all partook of the orthodox type, and not one of the kinds commended itself to me for bold use in the flower garden. But whilst we deplore the want of good self-coloured kinds of particular families of garden flowers, it must in justice be said that recent years have witnessed a great improvement among many things in the direction desired, and we may reasonably assume that the good work will be pursued. Before dismissing this first part of the subject, however, Sweet Williams might be mentioned as flowers that would be ten times more popular if the many shades that characterise the flower could be had in pure fine self forms. A rich crimson, pure white, or delicate pink without the inevitable lacing or staring eye would be valuable. Stocks afford the best example of what can be done in a few years. They are all or nearly all selfs, and embrace the richest and deepest, or lightest and purest hues. Other annual flowers, too, are being selected and offered in the same manner, and no words can be uttered too strongly in praise of this good work. I have at the present time certainly 500 plants of a *Phlox Drum-*

*mondi*. It is of the *grandiflora* strain and of a rich, dark self crimson hue. Every plant has come true and the effect it produces is magnificent. When near, the flowers are like velvet, and from the distance they glow in sun or shade. A similar quantity in another colour and named *coccinea* is worthless in comparison. The flower is more scarlet, but it has a white eye. The distant effect is extremely poor, and when near at hand there is a weak and wiry look about the flowers. Nothing could more truly teach the value and superior merit of good self-coloured flowers than these two beds of *Phlox Drummondi*. It would be an inestimable boon to many if at least half-a-dozen shades were selected and could be had as pure and true from seed as the crimson kind under notice.

A. H.

### SPHAGNUM MOSS FOR ALPINE PLANTS.

TO THE EDITOR OF THE GARDEN.

SIR,—I have been very much interested by the various articles which you have published in *THE GARDEN* on the subject of growing alpine plants in Sphagnum. Last year Mr. F. W. Meyer visited our gardens both at Geneva and at Bourg-St.-Pierre, and it was in our *Jardin d'acclimatation* here that he saw this mode of culture which very much astonished him. He promised me that he would try the method in England, and I see that he has kept his word, and that, as I had anticipated and had always thought, this mode of growing alpine plants is only adapted for warm and dry climates. This is precisely what constitutes its great merit, as it is in such climates that the culture of alpine plants is found to be the most difficult.

The letter of my friend, the Rev. H. Ewbank, in *THE GARDEN* of July 16 is very satisfactory to me, as it entirely confirms all that I had anticipated. I have also just learned that M. Isaac Demole, who had tried the plan of growing alpine plants in Sphagnum at Cannes, under the hot sun of the south and climatic conditions most unfavourable to alpine flowers, has succeeded beyond all expectation. Some time ago I published a letter from this gentleman, in which he described the successful results obtained by this mode of culture, which he commenced in the autumn of 1891, and how his plants had flowered all through the winter from the beginning of January, 1892; but he was very apprehensive of the heat of the coming summer, and especially of the month of July. Yesterday M. Demole paid me a visit and informed me that, notwithstanding the tropical heat of last month, his alpine plants growing in Sphagnum were in splendid condition, fully exposed as they were to the sun under the fiery sky of the south. This is a result which, I think, deserves to be widely made known.

It is now nine years since, in the alpine garden here, I attempted to raise some seeds in Sphagnum, and in this I succeeded very well. Afterwards, having learned something of what the Chevalier Bucco was doing with plants in Sphagnum in the Botanic Garden at Genoa, I attempted to grow some mature plants in this Moss; but I did not succeed, because I had not the forethought or the boldness to grow the plants in the full sunshine. It is not quite two years since I commenced to grow them fully exposed to the sun, after I had carefully studied the Italian mode of doing so at Pavia and Genoa, and I have to say that my success has been as complete as possible. I may add that

it is not necessary to employ pure Sphagnum, as a mixture of it in compost answers well, and that water should be given carefully, that is, frequently, but in such a way as not to wet the foliage of the plants.

Our gardener here lately tried to strike in pure Sphagnum some cuttings of delicate plants which are difficult to propagate, and succeeded admirably. He even obtained, by the same means, well-rooted cuttings of *Eritrichium nanum*, to my very great astonishment.

I must, however, repeat that, like every other system in the world, the plan is only good in certain cases, and people should guard themselves from supposing that it is of general application. In the foggy climate of England it is impossible to grow alpine plants in Sphagnum, except perhaps in the extreme south, and, glad as I am to learn that the Rev. Mr. Ewbank has so far succeeded, I am not sufficiently acquainted with the hygroscopic conditions of the climate of Ryde to be able to predict that his success will be a permanent one. On the other hand, the culture of alpine plants in Sphagnum Moss is in a surprising degree well adapted to all the southern regions of Europe. —H. CORREYON, *Directeur du Jardin alpin de Genève*.

## GARDEN FLORA.

### PLATE 871.

#### RHODODENDRON MULTICOLOR HYBRIDS.

(WITH A COLOURED PLATE.\*)

Of the seven species of *Rhododendrons* from which the numerous beautiful hybrids now in cultivation have been obtained, *R. multicolor* is one of the most recent introductions, and being characterised by an unusually dwarf bushy habit of growth, this feature is reproduced to a greater or less extent in the hybrid forms claiming parentage from it. The typical *Rhododendron multicolor* produces yellow flowers, while those of the variety *Curtisi* are deep crimson. This last mentioned, under the name of *R. Curtisi*, was exhibited at a meeting of the Royal Horticultural Society on November 13, 1883, by Messrs. Veitch, who introduced it through their collector, Mr. Curtis. A first-class certificate was unanimously awarded to it, and it may be safely said that nothing else at that meeting attracted so much attention. In the early part of 1884 Messrs. Veitch showed the yellow-flowered form as *R. Curtisi leucolum*, but no award was then bestowed upon it. At the present day, when the anticipations contained in it have been fully borne out, the following notice of *R. Curtisi*, which appeared in *THE GARDEN*, November 17, 1883, on the occasion of a first-class certificate being bestowed on it, may be of interest, as the words are singularly prophetic: "This we regard as one of the most valuable new plants of the year; inasmuch as it will doubtless form the foundation of an entirely new race of greenhouse *Rhododendrons*."

With the resources at their command and the experience acquired by many years of successful hybridising, Messrs. Veitch quickly availed themselves of the opportunity to utilise *R. multicolor* for hybridising, and there are now several hybrid forms in the production of which it has played a part. The dwarfer and more branching habit combined with a free flowering character equal to that of the best of

\* Drawn for *THE GARDEN* by Gertrude Hamilton in Messrs. Veitch's nursery. Lithographed and printed by Guillaume Severeysne.



THE GARDEN  
AUG 23 1899



RHODODENDRON MULTICOLOR HYBRIDS  
1. HIPPOLYTE 2. VIRGIL 3. ROSY MORN.







the older forms, renders these newer hybrids especially valuable for small structures, as effective little specimens can be obtained in pots 5 inches or 6 inches in diameter. *R. multicolor* itself is a native of Sumatra, but occurs in the elevated districts, often reaching a height of 3000 feet. The original species from whence all these hybrid forms have sprung, viz., *R. Brookeanum* var. *gracile* from Borneo, *R. jasminiflorum*, Malacca, *R. javanicum*, Java, *R. Lobbi*, Borneo, *R. malayanum*, Sumatra, and *R. Teysmanni*, Sumatra, are natives of the same region. From this it may be gathered that the treatment suitable for the numerous hybrids is equally applicable to *R. multicolor* and its progeny, for though usually spoken of as greenhouse Rhododendrons they are not seen to the best advantage in the temperature of an ordinary greenhouse. The cultural requirements of this class of Rhododendrons have been so often dealt with in *THE GARDEN*, that little, if any, more remains to be said on that subject. An open soil consisting principally of sandy peat, good drainage, frequent syringings during the summer, and care against over-potting, are the principal points to bear in mind regarding the successful culture of these Rhododendrons. Various names have at different times been used to indicate this group of Rhododendrons, for they are sometimes called tube-flowered, and at others Javan, as well as the indefinite title of greenhouse Rhododendrons. So continuously do many of them bloom, that the term perpetual flowering as applied to this group would be by no means an inappropriate one.

H. P.

## THE WEEK'S WORK.

### PLANT HOUSES.

**PLANTS FOR THE WINTER SEASON.—STOVE AND INTERMEDIATE HOUSE PLANTS.—BEGONIAS.**—The shrubby kinds struck from cuttings or raised from seed this season should now be making good plants. Where any are really in need of another shift, it should be seen to without delay, bearing in mind what was said last week relative thereto in a general sense. These plants should be grown now in a light house or pit with a free circulation of air; any excess of moisture or a close treatment will only tend towards a stumpy growth. For the time being this may look more promising, but it will not be so enduring. What is really wanted is a hard growth, which is more compact, if not of such a deep green colour. Where there is any tendency to grow away vigorously on the part of some shoots at the risk of weakening the rest, the better plan will be to stop them at once. Although offering this latter remark, I do not infer that tall plants are not useful. In many cases these latter are extremely so, such as for training upon bare and otherwise unsightly walls, either in pots or planted out. The winter-flowering tuberous section, as represented by *B. John Heal* and *B. Adonis*, will do better if in a moister atmosphere; hence, a closer treatment will be necessary. These Begonias like a little warmth, but the stove is of the two rather too warm for them. They should be kept well up to the light, but be given a light shade when the sun is very bright. It will not be advisable to repot now in a general way, but if any are in risk of being really starved, then a small shift had better be given. Fine-foliaged kinds, although usually grown for the summer season, are well worth a good place with a fair share of attention, so as to prolong their beauty as far as is possible, in order that use may be made of the leaves in a cut state, if not in any other way.

**POINSETTIAS.**—The latest of these for use in a dwarf state should be struck by this time. If they have been propagated in 2½-inch pots, one shift will be necessary, but it need not be beyond 4½-inch pots for the strongest, or a size smaller for

the weaker ones. These plants should then be kept fairly close for a few weeks until nicely established, then be given more air. The main stock should now be well established in their pots; these must not be repotted again, or the results will not be in accord therewith. A light house or pit where the plants can be subjected to a free circulation of air both by day and night is what will now meet the case. Anything approaching a close, stuffy atmosphere should be carefully avoided. Under the former conditions the growth will be vigorous, but the exposure and drier atmosphere render it more suitable to the development of the fine bracts which are required later on. As the plants fill their pots with roots and are found to dry up quickly, occasional doses of liquid manure or an artificial stimulant should be applied, but not in strong doses; otherwise the object aimed at will be entirely defeated. Avoid the use of sticks as much as possible, thus saving this item of labour as well as the roots from injury in the process of insertion. Old stools which have been kept for cuttings need not be despised if the stock be still below the average. These, with a slight shift, will make useful plants, although rather later than the rest.

**EUPHORBIA JACQUINIEFLORA.**—This companion plant to the foregoing may be grown with it and under the same conditions, but if it be given more warmth with full exposure to the sunshine, the racemes of flowers will be much finer. A good mode of culture is that of training the shoots near the glass, but thinly, so as not to shade other things too much. Rather than keep this plant at all cool, I would prefer to grow it in the warmest house, provided the degree of moisture was not at all excessive. From now onwards I prefer to see the foliage assuming a bronzy shade. Where it is, on the other hand, of the usual green alone it indicates a too free growth.

**PLUMBAGO COCCINEA AND P. ROSEA.**—These useful and showy winter plants should be kept growing freely, but not stopped unless dwarf plants are really desired. By growing them tall, the shoots may later on be trained on wires above other things, thus assisting in the effect without taking up so much room. They may, if well advanced, be kept with the main stock of Poinsettias, but if otherwise, more heat will be better. For cutting these plants are disappointing, but as decorative objects in the stove highly desirable, flowering freely when well cared for during growth.

**ERANTHEMUM PULCHELLUM.**—This exceedingly useful winter plant with blue flowers (in this respect almost unique in its way) is well worth growing in a liberal manner. It is oftentimes seen in a starved state, but in this condition it belies its true character. To grow it well, it requires a fair share of warmth with moisture; for instance, a pit that can be kept close at night with a moderate amount of air during the day will suit it well. Anything approaching a starved course of treatment is not desirable. What is needed now is a free growth; this will impart vigour later on to the flower-spikes. Plants that are tall may yet have the tops taken off and struck singly in 3-inch pots to flower therein. Others that are none too well furnished may be stopped, merely taking away the point. When pot-bound, water with manure water.

**THYSACANTHUS RUTILANS.**—This desirable stove plant need not now have the temperature of the stove; in fact it is best grown in a more intermediate or even a greenhouse temperature for another month. The shoots ought not in any case to be stopped. It is a plant liable to attacks of brown scale, which soon disfigure it if not checked. For the *Thysacanthus* one stick to each plant is desirable; to this the shoots should be tied sufficiently to give the needful support. Young plants struck this year should be trained up with a single stem so as to form a head more in the manner of a standard Rose.

**EMPHYLLUMS.**—These cactaceous plants should now be fully exposed to the sunshine with a moderately dry and airy atmosphere, so as to fully mature the growth. The supply of water to the

roots should only be sufficient to keep the plants from shrivelling. In any case where the potting has been neglected it may yet be attended to with advantage, but ought not to be deferred much longer. Where standards are grown look well to the stakes; these are always necessary when the plants are upon the *Pereskia* stock, but not so if upon *Cactus speciosissimus*, which of the two is, I think, the better to select when a fresh lot of plants is being worked up. If the plants are infested with mealy bug, take means at once to get rid of this plant pest.

J. HUDSON.

### ORCHIDS.

I AM not sure whether some of us are not rather too fussy in the matter of cleanliness. Some persons say, and perhaps truly, that Orchids grow better in Moss grown pots than in those kept scrupulously clean. If this is so, there must be some reason for it other than the dirtiness or cleanliness of the flower-pots. I fancy the mischief arises from the injury done to the roots of the plants by bruising them in the process of cleaning. For instance, the finest lot of *Angraecum sesquipedale*, *Aerides* and *Saccolabiums* I ever saw were standing rather closely together on the back stage of a warm house, and not only had the roots been allowed to run over and twine round the Moss-grown pots, but they had also laid hold of the damp Moss-grown wall, to which they clung firmly, some of them to a length of half a yard, and such healthy, succulent roots they were too! Now it is certain these plants were left severely alone for twelve months in undisturbed possession of the stage; of course, they were also clean. If plants become insect-infested, it is necessary to clean them, and at certain times they need repotting; but those who have had much experience with the above class of plants, know that much mischief is caused to them by breaking the tips of the thick fleshy roots accidentally in the process of cleaning the plants. I do not think this is a good time to repot any of these plants. Spring is the best time, but the rule has exceptions, and any plants that may have gone wrong and it is thought to be worth while to coax them into good condition again may now be seen to. The first process must be to turn the plants out of their pots, thoroughly clean them (roots as well as leaves) and replant again in smaller pots, filled quite three parts full of clean potsherds arranged loosely in the pots, the remainder being made up of clean, freshly-gathered Sphagnum and potsherds; a few bits of charcoal may also be added. *Vanda Sanderiana* seems to do best in teak baskets with fresh Sphagnum and potsherds to root in, and the smaller-growing *Aerides* and *Angraecums* also succeed better either in baskets of small size or on cylinders. Some of them, as *Angraecum Kotschy*, will do better on a cylinder or block of teak wood. The above refers to East Indian house plants. Also flowering in this house is the very pretty *Pachystoma Thomsonianum*, a plant that does not like too much sunshine, and should be placed where the light is more diffused on the north side of the house. We placed our plants growing in teak baskets of the recently-introduced *Rodriguezia pubescens* on the sunny side of the warmest house, and it suits them admirably; they are close to the glass roof, and the plants are now laden with the curving spikes of delicately scented white flowers. This is a lovely species and should be grown in every collection of plants of this kind.

Many of the *Cypripediums* in the warmest house are making roots so freely, that the plants are like to be forced out of the pots. It is well in that case to repot them. Those of the *C. grande* and *C. Sedeni* type are amongst the freest rooting varieties. *C. Chamberlainianum* seems to be not difficult to establish, and promises to be a free growing plant, and one of the very best of recently introduced Orchids. The pretty *Oncidium Jonesianum* which grew very freely at first in the warmest house, suspended in baskets, very soon showed signs of waning health and would not flower. It would neither thrive with me on the north nor south side of the house,



Cattleya nor East Indian department. We must look to some persevering, enthusiastic amateur cultivator to show us the way to grow this difficult species. The same remarks as to care in moving the plants for the purpose of cleaning them apply to Cattleyas, Lælias, &c. The young rootlets pushing out freely from the last-formed pseudo-bulbs, close to the surface of the soil or above it, ought not to be disturbed. I have seen cultivators of these plants so anxious to get their plants to do well that they have piled up over these roots peat and Sphagnum so plentifully, that most of the roots have been destroyed in this early stage of their development. It is far better to let them alone. Cattleyas and Lælias never do so well as when they form plenty of good roots outside the potting material. A healthy plant always makes good strong healthy roots, but when the plants get into bad condition the roots are usually produced in a feeble manner, and they frequently die off in the process of development. The Pleiones have made good growth this year suspended near the glass roof on the sunny side of the Cattleya house. The growth is now completed and the leaves are showing symptoms of decay. That being the case, water must be gradually withheld, so that the material in which the plants are growing may become quite dry. The recently introduced plants of Cattleya labiata have made good flowering pseudo-bulbs, and we may expect to have a good display of them in a month or six weeks. They will require a good supply of water at the roots, so that the flower-spikes may be developed freely and strongly. Every Orchid collection should contain a number of plants of this. It has several good qualities not possessed by all Cattleyas; it is easily grown, maintains its constitution well, and is also a remarkably free-flowering species. The good old *C. crispata* superba is now beautifully in flower with us. The flowers are truly elegant in form; the purity of the sepals and petals, the lip crimson stained and prettily curled and crisped, not to mention the delicate perfume of the flowers, all combine to produce one of the most pleasing of Cattleyas. Not the least of its good qualities is its freedom of growth. Cattleya Bowringiana, now making its growth in a light position in the Cattleya house, must be freely supplied with water at the roots; it produces roots very freely, and as the rainfall is excessive in the growing season where the plants are found, we should imitate this in our houses. The atmosphere even during the dry season is always highly charged with moisture. It is of easy culture, and now is the time to see that the growths are well developed to produce fine spikes of bloom in October and November.

J. DOUGLAS.

#### HARDY FRUITS.

**KEEPING GOOSEBERRIES AND CURRANTS.**—Good keeping varieties of Gooseberries are far too scarce. Luckily, the only one to be depended on, the Red Warrington, in addition to hanging a long time, is also one of the most productive and best flavoured varieties in cultivation, and should be grown the most extensively of all. Birds and damp are the greatest hindrances to long keeping, and netting or matting over to exclude the former serves to keep the fruit, at times, far too damp for it to hang well. Permanent wire netting-covered structures are the best places for keeping Gooseberries, air always circulating through these. In any case it is advisable to lightly thin out the young shoots where at all dense, and if the fruit hangs very thickly, to also thin out these somewhat. Wasps are scarce as yet, but should they become numerous the Gooseberries will soon disappear, unless a little of the advertised wasp-killer is kept in each bush. A saucer containing two or three Gooseberries already partially eaten, and having a drop or two of the poisonous syrup to tempt the wasps, effectually wards off the latter. Red and White Currants hang better than Gooseberries if only they can be kept moderately dry. Prior to matting or covering these, thin out the young shoots, spurting back now instead of next winter, and

also thin out the clusters of fruit. The latter are unusually thick this season, and left in that state are liable to decay wholesale.

**RIPENING WALL FRUIT.**—Where blackbirds are numerous, nothing short of netting over Peaches, Nectarines, Pears and Plums will save them, while wasps are even more difficult to keep away. Finding and destroying the nests of the latter will thin them down considerably, but not often sufficiently so to save the fruit they start eating. Large quantities of both wasps and flies may be attracted and destroyed in wide-necked bottles half filled with a mixture of beer, water and sugar, suspended about the wall trees, and enclosing Peaches and Figs in muslin bags may save many of them. The wasp-killer already alluded to is, however, the best remedy. A few drops of this on partially-eaten fruit first attracts and then repels the attacks of wasps, and is also the best destructive agency for getting rid of wasp nests in walls or other awkward places. It must be borne in mind that it is poisonous, and should therefore be kept out of reach of children or anyone else with a propensity for helping themselves to fruit.

**OLD STRAWBERRY BEDS.**—In very many gardens it does not pay to keep the old plants after they have produced three, or at the most four good crops of fruit, but there are some few places where old plants are even more profitable than young ones. No general rules can, therefore, be laid down, each cultivator having to find out what best meets the exigencies of the case. No matter how long the beds may last, their destruction should be anticipated, a bed or beds being formed every season to take the place of any dug up, while those reserved for fruiting again next season must also be attended to. Especially ought the latter to be cleared of all runners and old leaves. The old-fashioned plan of cutting the plants cleanly over, young as well as old leaves being removed, ought not to be followed; but if merely cleared of runners and old leaves, they will make strong, fresh growth and lay the foundation of good crops next season. It is a mistake to remove all the mulching material unless a little fresh is substituted, as this may be followed by cracking of the soil, consequent upon the rapid loss of moisture by evaporation. Keeping the surface loosened by means of hoeing may answer very well in some instances, but it is very difficult to accomplish in the case of heavy soils that have recently been much trampled upon. Strawberries are great impoverishers of the ground, and old plants require rather more assistance than can be given them from the surface. At this time of year a narrow trench may safely be cut midway between the rows and good solid manure be dug in. This will destroy a considerable number of roots, but fresh food will be placed where it will quickly become available. The newly-disturbed soil and manure mixed with it should be heavily trampled, a firm rather than a loose root-run being most needed for Strawberries, or otherwise there will be a plentiful crop of leaves and but few fruit next season.

**STRAWBERRY RUNNERS.**—In most private gardens a sufficiency of strong runners is early established in either small pots, turves, or layers of fresh soil to form fresh beds early in August, or soon enough for the plants to attain a serviceable size before the winter arrives. This plan can scarcely be adopted by market growers on a large scale, and there are also gardeners who do not follow it. The former are content to plant the best runners they can procure from among the old plants, planting these where they are to remain for the rest of their lives, but not being very strong, they are not allowed to fruit during the following season. Being kept free of flowers, runners, and weeds, these plants grow strongly and bear heavy crops of fine early fruit during the second summer after planting. Some private gardeners instead of planting out permanently are content to arrange the runners about 4 inches apart each way in nursery beds, transplanting them from these in the following March or April. This plan answers well, especially if the precaution is taken to prevent fruiting during the same summer. If the space

cannot be wholly given up to newly-planted Strawberries, rows of either Onions, Lettuces, or kidney Beans may be grown between them during the first season after planting. A very good lot of early pot plants can also be had by means of this plan of disposing runners in nursery beds now, lifting and potting them next spring or early in the summer.

W. IGGULDEN.

#### THE KITCHEN GARDEN.

**PEAS.**—August is a trying month for Peas, and only those which receive the best attention are likely to turn out satisfactorily. They must receive copious supplies of water at the roots. When drought is coupled with a poor root-run the haulm quickly collapses before even the pods fill. The benefit of prepared trenches for Peas which turn in during this month and next is now plainly seen, and if these now receive the assistance of a good soaking of water, to be followed with liquid manure, they will turn out well. Peas that are growing on poor soil must have the assistance of liquid or sewage if they are to succeed, a mulching along each side of the rows proving of the greatest benefit, this conserving the moisture and also preventing rapid evaporation. Nor ought the latest rows to suffer from the want of timely staking, as if these are not properly staked the rough autumnal gales quickly play havoc with them, and they do but little good afterwards. Light, direct sun-hine to the base of the haulm, with ample moisture at the roots are the conditions under which late Peas thrive.

**LATE CELERY.**—Plants for a supply of Celery late in the season will now be fit for planting. To secure sound heads and such as will stand the winter, preparations must be made. In the first place, deep trenches are an evil, and the nearer the Celery is planted on the level the better. A good root-run being essential for Celery, the trenches should be taken out to the depth of a foot, and into this the manure should be placed, a little burned refuse also favouring a sound growth. The trenches having been filled up to the top with the best of the surface soil which had been removed, a favourable root-run will have been provided. The plants, if put out with good balls, should be watered home to settle the soil well about the roots, and lightly sprinkling in the evening will quickly establish them. Liquid manure, or anything likely to cause a strong growth, should be avoided. Earthing up in any shape will not be needed until frosts should be likely to injure the plants, as the later this can be put off the better the Celery will keep.

**ENDIVE.**—To secure good heads, or such as will turn out satisfactorily after being blanched, every attention must now be given the plants to keep them growing steadily. Overcrowding being one of the greatest evils connected with the growing of good Endive, this must be avoided, as besides having room for ample development, there must also be space for a circulation of air, this to a great extent preventing damp from settling about the plants later on. Plants growing in either seed beds or, what is better, in rows must be freely thinned out and the thinnings planted elsewhere, south borders from which early Potatoes have been cleared answering very well. Failing south borders, select an open sunny position for this later crop, and if sloping all the better. If the weather should be dry at the time of planting, watering may be necessary to settle the plants, but afterwards a free use of the hoe is what is required to stimulate growth, and which even in dry weather is much better than deluging them with water, which is not at all necessary—in fact, an evil. By attending to the plants' wants now, Endive worthy the name is easily obtainable.

**WINTER TURNIPS.**—It is not yet too late to make other sowings of winter Turnips. This is also the best season for sowing for affording Turnip greens in the early spring months, and although these are not likely to be called for in quantity, a few are certainly indispensable in every garden, especially if the winter should play havoc with the



normal supply of spring greens. The soil must be brought into a well-pulverised condition, and although ground charged with manure is not necessary, yet it must be in a fertile state, or else little growth will be made. Ample room must also be allowed, 16 inches between the rows not being any too much space. The site must be open and sunny and away from trees and bushes. For this and the earlier crop the hoe must be plied freely from the time the little plants are first seen. This with early singling out will result in a satisfactory supply of bulbs being obtained.

**WINTER RADISHES.**—Although these are not often looked for, yet they come in very acceptable where Radishes are cared for. The soil for this crop must be in a rich condition, as if Radishes are not well grown they are little cared for. The site should be in an open and sunny position, and the seeds be sown in drills 8 inches apart. Directly they are large enough, thin out so that each root has room for its development. This crop is not drawn from the ground for use, but is taken up during the early part of November and stored in clean white sand in a cool shed, this keeping the roots plump and fresh for a lengthened period. The varieties adapted for this crop are the Black Spanish and the China Rose.

**CORN SALAD.**—Although, like the preceding, this is little grown, yet many people are partial to it for mixing with other materials for a general salad. The seeds should be sown on well-enriched soil in drills 6 inches or 8 inches apart, and the seedlings as soon as large enough should be thinned out to 4 inches or 5 inches. The leaves are cut over as required for use. A. YOUNG.

## ORCHIDS.

### COMPARETTIAS.

THESE plants come from the Andes of South America and the mountains of Central America, and it is a pity they are not more grown. Two or three decades ago, when the majority of the Orchid houses in this country were kept hot and damp in the summer and hot and dry in the winter, the one or two kinds which we then had were difficult to keep alive. I do not advise the *Odontoglossum* house for these plants in the cold winter months, but a temperature which does not fall below 55° suits them well. In the summer months *Comparettias* thrive well along with *Odontoglossums*, save that the *Comparettias* like more sun and light than are really necessary for the *Odontoglossums*. *Comparettias* are slender, dwarf-growing plants, having small pseudo-bulbs, which mostly bear a single, somewhat thick and leathery leaf. The peduncle springs from the base of the growth, and when strong bears from six to nine flowers, which for the most part are of brilliant and pleasing shades of colour. These flowers have a striking peculiarity in being double-spurred, one spur being within the other, the spur of the lip being included in that of the sepals. In growing these plants I have already stated the temperature they require, and in speaking of sun and light it must be remembered that these plants cannot stand much direct sunshine. They require shading during the hottest part of the day, a good supply of water to their roots, and a moist atmosphere. I prefer to grow them upon a block of wood. There should only be a little *Sphagnum Moss* round the roots. They succeed equally well in small, well-drained earthenware pans, adding a little peat fibre and Moss. Care must, however, be taken to have everything sweet and fresh about them, for I know few plants that suffer so much from stale and stagnant matter as do the *Comparettias*. The following are the kinds I know. All are well deserving a place in every collection, the

brilliant colours of their flowers commending them to the attention of all, whilst if grown as recommended above they will be found as amenable to culture as the *Odontoglossums*.

**C. COCCINEA.**—This is perhaps the rarest species in cultivation and the smallest-flowered. It bears a slender radical scape, which is nodding and carries six or seven showy flowers, each of about an inch across, the colour being brilliant orange-scarlet. It blooms during November and December and lasts about a fortnight or three weeks in full beauty. It comes from Mexico.

**C. FALCATA** is another species with flowers quite distinct from those of *C. coccinea*. The scape is pendent, growing about a foot long, bearing eight or nine flowers each about an inch across and of a rich crimson-purple, white at the base. This has been long in cultivation, but, like all the species, it is now very rare. It comes from Peru.

**C. MACROPLECTRON.**—In this, the latest addition to the genus, we have a singular and pretty free-flowering plant. It is also a stronger grower, and the flowers, which are produced in the summer months, are larger. Mr. J. Clarke, who gives no address, sends me some flowers, each of which measures upwards of an inch and a half across. The flowers are of a soft and delicate rose colour, dotted with deep rosy purple, and the broad lip is marked with a deep blotch of magenta-rose, through which run some spots of purple. It comes from the United States of Colombia.

**C. SPECIOSA**—This is a rare and brilliant flowered kind. The spike is pendent, bearing six or eight large flowers, which are of a brilliant cinnamon-orange with a paler-coloured spur. This kind is said to come from the woods of Ecuador.

WM. HUGH GOWER.

**Dendrobium stratiotes.**—A flower of this species is sent by George Wakelin for an opinion. It is of fair size, but the sepals and petals are green and very different from the pure white ones of the plant in Mr. Sherwood's collection. Perhaps the plant has been grown in too dense shade. The announcement that it came from Thursday Island does not go for much, that spot simply being a point of call for vessels, I think, and there is no telling where the plants were collected.—W. H. G.

**Lælio-Cattleya Digbyana Mossiæ.**—This is one of the latest novelties raised by Mr. Seden and now in the collection of Baron Schröder, The Dell, Egham. It is the result of a cross between *Cattleya Mossiæ* and *Brassavola Digbyana*. The flowers are large, each measuring upwards of 6 inches across, the sepals and petals being of a delicate soft rosy lilac; lip large and flat, of the same colour as the petals, heavily fringed all round. Between the fringed border and the throat is a zone of white, the throat being deep yellow, marked with radiating streaks of crimson; in the centre is a bold stripe of crimson-lake, with numerous spots of the same colour in front.—*Orchid Album*, t. 449.

**Dendrobium dixanthum.**—Respecting the introduction of Moulmein Orchids to British gardens, no name stands out so prominently as that of the Rev. C. S. Parish, and it is to this veteran orchidist that we owe this charming *Dendrobe*, which was sent by him to Messrs. Low, and named by Reichenbach, in 1865. It is, however, by no means a common species, although it has flowered annually in the Kew collection for many years. The other day a plant was flowering very prettily there. The stems are erect, about 2 feet in height, and taper towards top and bottom. The racemes consist of two or three blossoms, and are produced on the upper portion of last year's stems. Each flower is 2 inches across, and almost entirely of a bright, clear yellow. The lip, which is about 1 inch in diameter and shaped like a cockle-shell, is pubescent and toothed at the margin; the disc, being of a more orange-yellow, furnishes the second shade of yellow to which the specific name refers. The comparative scarcity of this Orchid in our collections is not due to any special difficulty

in cultivation, for under the ordinary treatment given to the warmer section of the genus it thrives admirably and rarely fails to flower.

**Cattleya Aclandiae.**—Although one of the smallest growing of *Cattleyas*, this species is when in bloom undoubtedly one of the most charming. Like its near ally, *C. Schilleriana*, it will occasionally flower twice in one season—a very unusual character in *Cattleyas*. Its flowers are not only extremely beautiful, but when compared with the plant itself very large. The scape, as a rule, is single-flowered, but occasionally the blooms occur in pairs, each one being between 3 inches and 4 inches across. The sepals and petals are similar in colour, but the former are the larger; the ground colour is a deep olive-green, which is marked with large irregular blotches of dark purple. The lip is of large size, being over 2 inches long and 1½ inches across; in colour it makes a striking contrast with the sepals, being of a bright magenta-purple. The column forms a rather conspicuous feature, being very broad and of as bright a shade of purple as the lip. The stems of this *Cattleya* are about the thickness of a penholder and 4 inches in height; the leaves are broad, oblong, and produced in pairs. Unfortunately, it is not so easily grown as most *Cattleyas* are, and is liable after one or two seasons to lose the free-flowering character which it possesses when newly imported. It requires a little more heat than most of this genus, and should be grown on blocks of wood with a little peat fibre and *Sphagnum* fixed about the roots. Grown in this way it necessarily requires frequent attention in watering, especially during the growing period. Even in winter it is necessary to watch that it does not suffer from lack of moisture.

**Odontoglossum hastilabium.**—Although this species is usually looked upon as a spring-flowering plant and described as such, we have during the past week seen it fully in flower. According to the *Botanical Magazine*, where it is figured at t. 4272, its flowers were first seen in the month of August, 1846, at Syon House gardens. Its flowering period, however, extends over six or eight weeks. It is a very handsome species, having a larger growth and longer flower-spikes than are common to the majority of *Odontoglossums*. Not unfrequently branching scapes between 4 feet and 5 feet in length are produced, these being erect and many-flowered. The pseudo-bulbs are large, markedly two-edged, and, like the stout broad leaves, of a rather pale shining green. The sepals and petals are narrow and pointed, the ground colour being a creamy white, which, except at the apical portions, is transversely streaked with brownish-purple. The lip forms a pretty contrast with the other parts of the flower, being white, rather deeply tinged with rose at the base. The whole flower is between 3 inches and 4 inches across, the lip about one-third as much. The species is a native of New Grenada, where it was first discovered in 1843. It occurs at considerably lower elevations than most *Odontoglossums* do, and should, consequently, be given conditions warmer than such species as *O. crispum* require. The coolest part of the intermediate house will be found suitable.

### SHORT NOTES.—ORCHIDS.

**Cattleya Gaskelliana alba.**—Among a lot of fine forms of this species now to be seen in The Woodlands collection, Streatham, is a very fine plant of this attractive kind. *Cattleyas* with pure white flowers are not very frequently seen. The plant in question has large flowers, which are pure white saving the orange throat.—W. H. G.

**Dendrobium Wardianum album.**—This is distinct from the variety known as *candidum*, which has the ordinary velvety, dark eye-like spots at the base of the lip. In the variety *album*, flowered by Mr. Lee, of Beech Lawn, Auden-haw, Manchester, the flower is pure white, saving the patch of orange-yellow at the base of the lip.—*Orchid Album*, t. 450.

**Lælia autumnalis alba.**—A pure white form of this old plant which has flowered in several collec-



tions. A white form flowered in Mr. Raphael's collection at Englefield Green. The plant figured flowered with Mr. Williams. There are some varieties with so-called white flowers which have a tinge of rose in them which quite spoils their purity.—*Orchid Album*, t. 451.

**Madevallia pachyantha** (S. Frew).—This is the species you send for a name, and is not often seen. It was introduced ten or eleven years ago by Mr. Shuttleworth, of Clapham Park. It is a pretty flower, much spotted in the tube, and comes very near to *M. coriacea*. The flowers are more fleshy and the tails broader than in *M. coriacea*.—W. H.

**Phalænopsis Sanderiana**.—G. Baes sends a very fine variety of this kind. Some say it is a species, and others deny it. The whole flower is of a bright, delicate rose. This plant comes from the island of Mindanao, one of the Philippines, and may be grown with the other species of this genus. W. H. G.

**Grammatophyllum Measuresianum**.—This is a very pretty and free-flowering species, introduced by Mr. Sander, of St. Albans. The spike is some 5 feet or 6 feet in height, bearing many flowers, which are of good size, having a ground colour of rich yellow, broadly tipped with purple and spotted with the same colour.—G.

**Bollea Patini**.—This plant is very like *B. coelestis* in its growth, though the colour of its large solitary blooms is quite different. *B. Patini* is now flowering in Mr. Williams' collection. The blooms each measure some 3 inches or more across, the large sepals and petals being rosy pink, and the lip yellow with a deep frill at its base. I have found it thrive best in a comparatively cool house in pots thoroughly drained.—W. H. G.

**Pachystoma Thomsonianum**, now a very rare plant, from the hilly regions of Old Calabar, is flowering in Mr. Williams' nursery, Upper Holloway. It grows naturally upon the branches and stems of trees; the bulbs bear one or two leaves, and the peduncle springs from the base, bearing two to four flowers, which are some 3 inches across, the sepals and petals being of the purest white. The long recurved middle lobe is of the most brilliant purple. It is a great pity more of this plant is not imported.—W. H. G.

**Brassavola acaulis**.—"G. G." sends me a leaf and flower of this plant for a name. When well grown it forms a pleasing object in the houses at this time of the year. The flowers last a considerable time in full beauty, provided they are kept from the damp, which often destroys them. At this season the atmosphere suddenly becomes cool, damp falls, and in a day or two brown spots, which cause the flowers to rapidly decay, appear. It thrives best upon a block of wood, and should be kept in the Cattleya house.—W. H. G.

**Epidendrum dichromum amabile**.—This is a beautiful species, having many colour varieties. It was originally introduced by Messrs. Low and Co., of Clapton, in 1864, from the neighbourhood of Bahia, in Brazil. Their collector found it on the lower branches of shrubby bushes, the roots growing down into the sand beneath. It is said to thrive best when grown upon a block of wood, and plunged into sandy peat fibre well drained. It is a very beautiful and showy plant.—*Orchid Album*, t. 452.

**Angraecum falcatum** (H. Birch).—This is the flower sent as coming from Japan. This is quite an outlying member of the *Angraecums*. It was first gathered by Thunberg, and was called *Aerides Thunbergi*, but there is no doubt that the name given it by Lindley is the correct one. It comes from a warm part of Japan, and grows best under cultivation in the temperature of the Cattleya house. It should be suspended near the glass, and not much soil should be put about its roots.—W. H. G.

**Aerides quinquevulnerum**.—This beautiful species is now flowering freely in Mr. Williams' nursery, Upper Holloway. Although sent by Hugh Cuming to the Messrs. Loddiges, of Hackney, upwards of fifty years ago, it has never been common. It comes from the island of Luzon, and requires to be kept in the warmest house. The flowers,

arranged on a long spike, are white, with a large and very bright purple spot on the lip of each sepal and petal. It yet remains one of the brightest and most showy of the kinds belonging to the odoratum group.—W. H. G.

**Cypripedium Bernice**.—This, raised by Captain Vipan, is, I am told, a cross between *C. philippinense* and *C. Lowi*. If I had not been told its parentage, I should certainly have said that *C. Parishii* had been one of the parents. The leaves are stout, robust, and bright shining green; the peduncle erect, bearing four flowers; the dorsal sepal is white, flushed with rose, greenish at the base, and with good-sized stripes of purple which break into spots at the base. The lower sepal is white, flushed with pale green with darker green veins; petals about 4 inches in length, the basal half yellow spotted with purple, the upper half of a uniform brownish purple; pouch greenish purple. It is a most beautiful and showy species, now flowering with Mr. Measures at The Woodlands, Streatham.—W. H. G.

## DESTROYERS.

### AMERICAN BLIGHT ON APPLE TREES.

This pest is often most troublesome during the next month or two, but if timely precautions are taken to arrest its progress when it first appears, time will be saved in the end and the trees greatly benefited. I have no new practice to bring forward as to its destruction, but would draw attention to early removal of the pest. This is of great importance, as many young trees are ruined if left too long. American blight is certainly one of the worst enemies of the Apple tree, and when once introduced into a garden it is only by persistent and repeated efforts that it is kept in check. This pest does not keep on the upper surface of the bark, but gets into the cracks and crevices of the tree, and though the injury caused is not seen at the moment, in time it produces canker, and the trees are ruined.

The danger lies in young trees being attacked, as they are so soon injured and disfigured. When very old trees are attacked it is almost useless to try and save them, as the old wounds harbour the blight and prevent remedies being applied. If possible, old trees so affected should receive a winter dressing of clay and soluble petroleum well mixed together to the thickness of paint. This will do much good, care being taken to thoroughly paint over two or three times the old wounds or cankered parts of the tree, removing all decayed portions before applying the paint. I do not think there is any better remedy for young trees than paraffin or petroleum, using a brush and touching all affected parts. I have also used soluble paraffin and clay at this season with equal success. When young trees are badly infested with the aphid the use of a quantity of paraffin in a raw state is not a safe remedy; I would prefer using Gishurst compound in a strong state, mixing sufficient Gishurst with a little water and well rubbing all over the bark. Soluble paraffin is also a safer remedy than the raw material if a great quantity is used, and is very effective. The use of the raw material must not be condemned, as on older trees it is very efficacious when carefully used. Soft soap and tobacco water applied in a liquid state is a good remedy. Whatever insecticide is used it is necessary to thoroughly wet or paint the infested places, well rubbing the mixture in with the brush, and to do the work as early as possible. The aphid having a woolly covering, merely syringing or wetting the bark will not reach it; indeed, without hard rubbing it cannot be dislodged. All ties that are near the insect should be removed and burnt, old nails removed and reburnt or heated, and wire dressed with the raw petroleum. If such precautions are taken when first observed, much time and labour will be saved and the trees maintained in a healthy condition.

G. WYTHES.

**Scale on Ferns**.—I should be much obliged if you would insert in THE GARDEN, or give me a

reference to some cure for scale in Ferns; mine are badly infested.—J. B.

\* \* It is not stated by "J. B." what kind of Ferns they are that are infested with scale. In the case of tender kinds, i.e., such as the major portion of the Adiantums, the Gymnogrammas, Gleichenias, Cheilanthes, and a few of the Pteris family, particularly those which thrive best in a warm house, it is hardly safe to use any kind of insecticide. It cannot be applied sufficiently strong to exterminate the scale without injuring the plants themselves. The best way to treat such as these is to pick off all the worst fronds by degrees, taking those first upon which there is most of the scale. By this means it can be greatly reduced in a short time, and by giving constant attention to the killing of the young ones whilst they are still tender and easily removed by a pointed stick, the scale may, in the course of time, be got under. It is, however, only by unremitting care that it can be subdued; the mistake is so often made of assuming that when a searching investigation has been made, and all visible insects destroyed, the plant does not want any more looking after in this respect. Herein lies the error made by many, the result desired to be arrived at being thereby not only prolonged, but oftentimes entirely defeated. If the Ferns in question be tolerably hardy ones, as the Aspleniums, the hardier of the Pteris family, the Lomarias and Davallias, a deal may be effected by using soluble paraffin oil insecticide at about half the strength advised upon the printed directions. In any case, however, it would be the safer plan to pick off a frond or two of the Ferns and dip them in the solution first. If it does not injure them in about half an hour, when it would in any case be best to dip or syringe the plants in clean water, it may be assumed that no injury will be done to them. By experimenting with this solution a few times the proper strength in any given case may be arrived at; until that has been attained the best plan is to proceed cautiously.—F.L.I.C.E.S.

**Campanula pumila** and **C. pumila alba**.—A night or two ago I was passing a cottage in this district. In this cottage garden the walk leading to the house was edged with these two Campanulas. This edging was from 12 inches to 18 inches wide, and when in bloom the effect was lovely. These Harebells are often seen at railway stations in the western part of England. It is a pity such plants are not more frequently met with in larger gardens.—DORSET.

**The wintering of delicate alpine**.—I am exceedingly glad to learn the results which have been obtained by Mr. Williamson, who has so perseveringly endeavoured to find out the proper method of keeping delicate plants through the winter. As I have already informed him, what all these plants require during the winter is a condition of perfect dryness along with the greatest amount of air and light that is possible. I have never had any faith in the plan, which is sometimes adopted, of covering the plants with Moss. In foggy climates, where there is no snow in winter, alpine plants from high altitudes must have air, light, and dryness. I must, however, say that I never expected such a success as Mr. Williamson has recorded and it far exceeds my hopes. The species which Mr. Williamson notes as "gone" are precisely those which require a condition of perfect dryness, and perhaps they were not sufficiently protected by him from damp. However, on this point nothing positive can be concluded, as it appears that *Edraianthus serpyllifolius*, which is the most delicate species of the genus, has held its ground well, while *E. dalmaticus*, the strongest species, has perished. Also, the plants which require a vertical position—that is, to be planted on the face of a wall, such as *Androsace helvetica* and *A. pubescens*, for example—are all dead. But, generally speaking, Mr. Williamson's success is indisputable and deserves to be widely known. Perhaps he will permit me to suggest to him the advantage of continuing his experiments on a larger scale and to try again the species which have "gone," keeping a record of



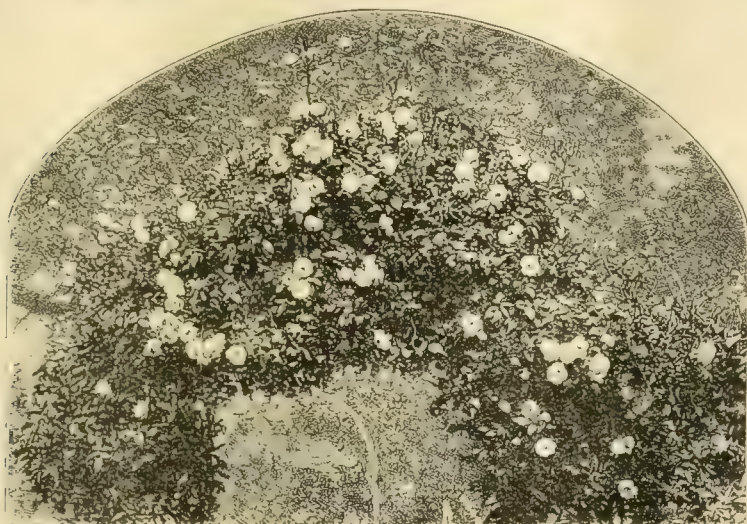
observations on them as they grow. There is one special group of plants which I commend to his notice, as they have given me entire satisfaction ever since I commenced to grow them in the alpine garden at Geneva, namely, *Campanula Raineri*, *C. Waldsteiniana*, *C. Elatines*, *C. Allioni*, *C. excisa*, *C. pulla*, *C. carnica*, *C. garganica*, *C. muralis*, and the *Edraianthus*, some of which last-named genus he has already tried. H. CORREYON.

## ROSE GARDEN.

### ROSES FOR ARCHES AND PILLARS.

Roses which possess a vigorous constitution and annually make long growths for flowering the following year are the most desirable varieties. Selections may be made both for early flowering and for more continuous bloom through the season. Of the first-named class are the Hybrid Bourbons, some of which are the finest Roses grown when treated properly. My own plan is to lay in all the strong wood and thin out the weakest every spring; on no account should the vigorous shoots be pruned or fresh wood will only ensue. These strong shoots should not

one of the best of all the red sorts: Princess Louise Victoria, very free in the autumn and a good climber; Boule de Neige, the best of the whites; Climbing Pride of Waltham, pink; Climbing Edouard Morren, rose colour; and Climbing Victor Verdier, bright rose. Of the Hybrid Teas, Cheshunt Hybrid (carmine) and Reine Marie Henriette (deeper carmine) are two of the best, both growing freely. The Climbing Tea Roses of the Dijon class are amongst the best of all. Gloire de Dijon must still be included; to it should be added Mme. Berard, of a deeper shade; Kaiserin Friedrich, a beautiful newer kind, very vigorous; Mme. Eugène Verdier, chamois-yellow; Waltham Climber No. 3, bright crimson; and Belle Lyonnaise or Bouquet d'Or, the former a pale kind, the latter a deep salmon-yellow. To these must be added Celine Forestier, pale yellow; Rêve d'Or, buff; the well-known W. A. Richardson, and Lamarque, pure white (should have a warm spot), from the Noisette class. For poor or cold soils the selection should chiefly be made from the Hybrid Bourbons, the Evergreen Roses, and the hardiest of the Teas and Noisettes, as Gloire de Dijon and Rêve d'Or.



An archway covered with Roses.

be left upright, but be trained over or downwards; hence they are better suited for arches. Thus treated they will bloom most profusely, yielding an abundant supply of flowers before the Hybrid Perpetuals are in many cases showing colour. Of the Hybrid Bourbons, the four finest are Blair No. 2, blush-pink; Charles Lawson, vivid rose; Coupe d'Hébé, deep pink; and Vivid, crimson. Hybrid China Mme. Plantier, a pure white, is a delicately beautiful old-fashioned Rose, and very free-flowering. The Boursault Roses should not escape notice; they are of the hardiest, and will thrive where many only fail or drag out a miserable existence. Amadis, one of the earliest; Gracilis, bright red; and Elegans, crimson, are all good sorts. The Evergreen Roses (*R. sempervirens*) are among the very best for arches, blooming as they do in large clusters; Banksiaeflora, Félicité-Perpétue and Leopoldine d'Orléans are three of the best light kinds, with Flora and Princess Marie of the darker or rose-coloured varieties. These, like the Hybrid Bourbons, require merely to have the weakest wood thinned out, leaving all the strongest or as much as can be used. Of the Hybrid Perpetual class the following are a good half-dozen: Glory of Cheshunt,

In such positions manure should be used freely, that from the farmyard being preferable; draining should also receive attention, being most essential. Moderate pruning the first season is advisable to form a good base. The ground for these Roses should be deeply dug or trenched, adding fresh soil as well as manure if the ground is not up to the mark. A mulching after the planting is done is advisable; for this I would prefer cocoa fibre to manure, as the birds would not be so disposed to interfere. Secure all the shoots at once, or they may be injured by the winds, canker afterwards setting in upon any gross shoots if damaged in this way. R.

**The York and Lancaster Rose.**—At a horticultural exhibition held at Hesse, near Hull, a short time since, a collection of garden decorative Roses of an extremely interesting character was shown by one exhibitor, and among them was one named York and Lancaster, said to be the true form of it, a type with a white ground, the white largely preponderating, and flaked and striped with bright pink or a pale rosy-tinted pink. This was said to be the true form of the York and Lancaster Rose, to all appearance a type of the Damask, and quite distinct from the ordinary York and Lancaster seen in the south, which is practi-

cally a large bright red or rosy red Provence Rose, striped with white, and which was shown in the same collection under the name of Rosa Mundi. I have a very good type of the latter, which I obtained from Messrs. George Cooling and Sons, of Bath, under the name of an improved form of the York and Lancaster, but in this, as in all of the self-same type I have seen growing, the red largely predominates over the white, and instead of its being described as a flower with a white ground striped with red, the reverse would be more correct. I notice in the catalogue of Messrs. Paul and Son, of Cheshunt, that they evidently follow the nomenclature I saw at Hesse in their description of the York and Lancaster Rose, and they speak of Rosa Mundi as the best striped red, and often called York and Lancaster. When a few years ago the present Marquis of Bute used to offer prizes for York and Lancaster Roses at the Chiswick flower show, what appears to be the true Rosa Mundi was always shown under the name of the York and Lancaster. -R. D.

### SILVER MEDAL ROSES.

It has occurred to me that a few notes upon the varieties gaining the distinction of a silver medal, as being the best Roses of their classes at the National Rose Society's shows would be acceptable to many readers. The best Rose among so many grand specimens as are always to be found at the exhibitions of this flourishing society must indeed be a grand one. It is remarkable how frequently Souvenir d'Elise Vardon wins this distinction among the Teas and Noisettes. Both in the nurserymen's and amateurs' division at the Crystal Palace this grand Tea Rose took the silver medal. It also obtained the same honour in the nurserymen's division at Chester. Souvenir d'Elise Vardon was sent out by Mares in 1854, and after almost forty years it is still by far our best exhibition Tea-scented Rose. The great size and substance to be found in this variety as well as its exquisite form and long-lasting qualities make it an ideal show Rose. In growth it is not quite so free and strong as might be desired, but it is almost certain to bear a flower at the end of each shoot, and as this has the merit of swelling and growing into a good-shaped and large-sized bloom it is usually a satisfactory Rose. In this respect it very much resembles another grand exhibition Tea, Comtesse de Nadaillac, this variety also opening into a much superior bloom than the bud seems to promise. The other silver medal Tea of this season was Souvenir de S. A. Prince. I do not think it is possible to say too much in favour of this Rose, which was only sent out in 1889 by Mr. Prince, of Oxford. Unlike the two Roses previously named, Souvenir de S. A. Prince has a magnificent constitution, is wonderfully sweet-scented, free flowering, and constant. Under glass as a forcing Rose or in the open air for general decoration no white Rose can surpass it. That grand variety Niphetos equals it under glass, but out of doors it must give up the post of honour to the new sport from Souvenir d'un Ami. In all respects, except colour, Souvenir de S. A. Prince is the counterpart of Souvenir d'un Ami.

Among the Hybrid Perpetuals, Gustave Piganeau, another new Rose of the same year as S. A. Prince, has gained the medal both at the Crystal Palace and Chester among the nurserymen's classes. It also gained it at the metropolitan show of last year. It is long since such a grand new Rose as this is introduced, and it deserves a short notice. This Rose was sent out by Pernet and Ducher in 1889, and is one of the largest and best shaped Roses grown. The petals are large, stout, and most exquisitely cupped. It is evidently a good all-round Rose, coming so well as it has during the past three years. Although generally described as a vigorous grower, Gustave Piganeau does not give me the impression of being a Rose that will get into the list of cheaper Roses so quickly as did Mrs. John Laing and Ulrich Brunner. G. Piganeau runs a great risk of being crippled for some time through over-pressure in reproduction, and there are likely to be many plants distributed during the



next two or three years that will be by no means a fair guide to the normal constitution or habit of this variety. Mrs. J. Laing and Ulrich Brunner possessed such extra strong constitutions that excessive propagation did not have a disastrous effect upon them; but I am afraid we shall not be so favoured in Gustave Piganeau.

Comte de Raimbaud, sent out by Roland in 1867, was the silver medal H. Perpetual Rose among the amateurs at Chester. This Rose is very seldom seen in such perfection as here shown by the Rev. J. H. Pemberton, and is, in fact, not often met with in the winning stands at shows of such note and excellence as those of the National Rose Society. It is a very bright carmine-cerise in colour, of good shape, and the medal Rose was wonderfully full and fine.

Dupuy Jamain was the winning Hybrid Perpetual in the amateurs' classes at the Crystal Palace. This variety, sent out by Jamain in 1868, is one of the most reliable Roses we have of this colour. This is also sometimes described as a bright cerise, but it is not nearly so vivid as Comte de Raimbaud. Dupuy Jamain is a model Rose for growth and freedom of flowering.

Three out of the four silver medals offered for the best Tea or Noisette at the two exhibitions of this society were won by Souvenir d'Elise Vardon, and I feel almost sure that this grand Rose has won as many of these medals as any other two varieties combined.

RIDGEWOOD.

#### ROSES BY THE SEA.

HAVING for three years been engaged in the cultivation of Roses in the neighbourhood of the sea leads me to give my views as to the best kinds for growing there. As "Caledonicus" is no doubt aware, situations even by the sea vary greatly, and Roses may succeed splendidly and also fail in the same district, and yet only be separated a few yards. Visitors to the seaside may notice a variety growing and blooming splendidly, and there and then come to the conclusion that the variety is specially adapted for the purpose, and recommend it in print accordingly. They may have overlooked the special conditions under which it is growing; perhaps it might have been situated in an alcove or protected by a buttress, and which makes all the difference between success and failure. Given the requisite shelter, Roses may be grown as successfully near the sea as further inland, and in the case of Teas perhaps better. In fact, as far as these latter are concerned, the beautiful tints are more pronounced and certainly much better than any I have ever seen on flowers inland. As "Caledonicus" is no doubt aware, it is difficult for almost any kind of tree or shrub to grow within sweep of the sea spray, and when subjected to cutting draughts, as is very often the case, it is almost death. Roses are no more exempt than anything else, for although they may look thriving enough one day, if a rough storm arose the young growths would literally be soon lashed to pieces. From my experience thus gained, I came to the conclusion that if Roses are to thrive well near the sea it is absolutely necessary that shelter be provided. No doubt there may be found here and there a few natural coves where Roses thrive surprisingly well, but these are exceptions. A low wall often makes all the difference between success and failure, and from such a wall I have gathered the loveliest of Teas, and also in the narrow border in front. From the above it will be gathered that there is no hard and fast rule to go by as far as special varieties are concerned, except that the Teas, Noisettes, and Chinas thrive the most satisfactorily when given the needful shelter. The darker Hybrid Perpetuals are certainly the least satisfactory, but I have gathered splendid blooms even of these if a favourable time happened to attend the opening of the buds. For the benefit of seaside readers I will give a list of the Teas and some other kinds which used to thrive exceedingly well. Anna Olivier, Catherine Mermet, Gloire de Dijon, Homère, Mme. Berard, Mme. Bravy, Mme. Chedane Guinoisseau, Mme. de St.

Joseph, Marie van Houtte, Mme. Lambard, Rubens, Souvenir d'un Ami, and William Allen Richardson. The China Roses and the varieties of Rosa Polyantha also do well. Of this latter section Mlle. Cecile Brunner was a splendid kind, large clusters of small flowers forming very freely. Where the Dog Rose and Blackberry thrive, there, too, will Roses grow when given the ordinary cultural attention with the necessary shelter from very rough winds and direct spray.

A. Y.

## KITCHEN GARDEN.

### WINTER CUCUMBERS.

WHERE a supply of Cucumbers has to be maintained throughout the winter months, a certain amount of forethought is necessary. It must be remembered that Cucumbers are lovers of sunlight and long days, and under these conditions the plants grow and fruit freely enough, but not so at midwinter. At this time, unless the treatment is judiciously carried out, the plants will hardly grow, let alone bear fruit. Fitful supplies are often secured, but where Cucumbers are looked for, a regular supply is what should be aimed at. As is generally the case, the plants are spoiled at the first. They may have been planted all right and also grown in a suitable structure, but are ruined in the earlier stages and quite unable to bear the strain which the dark days put upon them. That the plants may be in condition to fruit freely through the autumn and early winter months is no reason that they should be allowed to do so. At that time Cucumbers are not looked for in quantity, and this being so, it is of no use to let the plants bear the strain which these early crops undoubtedly put upon them. With the plants worn out as it were, it matters little what after-treatment is bestowed upon them, as rarely are they able to recruit their strength to prove satisfactory. The want of Cucumbers is generally felt throughout the months of January and February, and particularly so during the latter month. I do not advise the same set of plants for the production of Cucumbers throughout the winter, as I like a set for producing fruits for the early part of the winter and another for the latter end. By having two sets, the first batch may be relied upon until the end of January, and then at this time the second batch will commence to bear and will continue through what is generally the worst season, as far as the production of winter Cucumbers is concerned. By relying upon two sets of plants, it must not be imagined that extra space is needed, as if room is scarce the same number of plants as is generally grown in one batch may be divided, and by arranging them in this manner a far greater number of fruits may be secured than relying exclusively upon one set and these planted early.

For the successful production of winter Cucumbers a suitable structure is of the utmost importance, as unless this is light, efficiently heated, and so forth, their culture would be attended with difficulty. A good heating surface is most desirable, so that a comparatively high and equable temperature can be easily kept up. To the want of this the failure of many winter Cucumbers may be traced. Before commencing operations it will be as well to consider the system under which they will be grown, whether in large pots or in prepared beds. Pot culture has its advantages and disadvantages, but personally I favour the planting out for the first or earliest batch and pot culture for the later, that is, where there is the

convenience for carrying out the work in this way. When grown exclusively in pots it is most desirable that a comparatively high temperature be maintained, for unless the pots can be plunged so as to derive benefit from bottom-heat, the plants cannot make much headway. The pots being surrounded with warm fermenting material, so as to generate a bottom-heat of 80°, the roots are kept actively at work, and when this is so the plants remain healthy if not overcropped. This certainly is the point where many fail with winter Cucumbers when grown in pots.

As I have previously mentioned, the plants must be built up sturdily from the first, and fruit should not be allowed to form until actually required, and then only sufficient should be reserved to keep a steady supply. Plants which may be raised now and duly planted out have not only time to form vigorous plants before the dull days arrive, but also to fruit heavily as well by the same time. Allowing the plants to produce these surplus fruits is only wasting their energies and weakening out before their time. It may appear waste to cut off the small fruits as they form, but this show is only fleeting, for sooner or later a collapse will come and the plants will refuse to grow, let alone produce fruit.

The raising of the plants for what should constitute the first or main batch must now take place, so that they can be planted out some time during the month of September. By allowing them to become starved in small pots for the want of planting out, and perhaps also smothered up with other subjects, is only to court failure. It is best to raise the plants singly in 3-inch pots. Particular care should be taken that the small plants are kept to themselves, so that a clean start may be made. The seeds after being sown should be plunged in a gentle bottom-heat, and directly the seedlings appear through the soil elevate them to the light. Nor must the little plants be allowed to want water, which should be tepid. The soil for these winter fruiters must also be lighter than is generally used for the summer crop; but this, of course, will be gauged by the kind of loam at disposal. The soil I have to deal with being heavy, the roots work the more freely when it is used in the proportion of one half loam and one part each of pulverised horse manure and leaf-soil, with pounded charcoal and old lime rubbish as correctives. With lighter soil to work with, use a third of loam.

The formation of the beds, or rather mounds of soil the plants are to root in will of course depend upon the formation of the structure and also the arrangement of the bottom-heat pipes. What is wanted is a genial root-run, with not too great a bulk of soil. The practice of using some fermenting material, either of well-worked stable litter, or, what is better, litter and leaves in equal proportions, for placing under the mounds over the bottom-heat pipes is not favoured by some people. I do not think so, as I am certain that a layer to the depth of a foot, and this trodden firmly, forms an effective barrier to the dry heat which ascends from the bottom-heat pipes. Do not lay it direct on to the pipes, but over the usual layer of broken bricks which surrounds the pipes. The roots thereby work the more freely and are not subject to fluctuations of temperature. Over this litter the mounds should be placed, arranging them at least 3 feet apart. Whether turves will be needed to be placed underneath will, of course, depend upon circumstances. Certain it is that turves are of benefit where they can be used. A high and close temperature must be avoided, this forcing on



the growth too much without that solidity so essential for successful after returns. What is wanted is a circulation of air tempered more or less by artificial heat according to the weather. To attempt to gain this thus early in the season without a judicious application of artificial heat will only result in attacks of mildew. The growths must be trained thinly, the main laterals being thinly disposed. The secondary shoots should be stopped at the second joint, or what is known as one joint beyond the fruit, whether fruit is expected to form or not, as this of course may be removed if not wanted. The shoots must be kept judiciously thinned out, and the larger leaves should also be removed to let in the requisite amount of light.

Nor must the roots have less attention, as the soil must be kept at an even degree of moisture, taking the precaution, however, that the soil is moistened through. The roots must be kept actively at work also by judicious top-dressing and feeding up with clarified liquid manure. The application of liquid manure may be easily overdone, however, during midwinter. The growth at this time is at its lowest ebb, and applying liquid manure too freely is apt to sour the soil, with the result that the plants quickly take on a sickly appearance. With a good heating surface at command the temperature may be easily kept up during the night to 65°, with an extra 5° on mild nights, allowing of course the natural rise by day.

For the secondary batch the early part of November is quite time enough for planting. As I have previously remarked, this batch is best grown in large pots, and by being plunged in warm leaves, or fermenting litter and leaves mixed, satisfactory crops will be secured. Plants such as these may often be produced when grown in a stove, always taking the precaution to keep them away from insect-infected plants, especially those subject to mealy bug.

A. Y. A.

**Wilson's Ashleaf Potato.**—Mr. Gilbert sends us from Burchley some specimens of this, which is really an excellent Potato in flavour and form. Potatoes so often owe their charms to local conditions or soils, that we have no guarantee that this would be the same everywhere.

**Sowing Cauliflowers in autumn.**—Most cultivators are aware that Cauliflowers can be sown in spring and got in quite as early as that which has been sown in autumn. Spring sowing may answer very well where pits and frame accommodation are unlimited. But this is not the case in many gardens. I well remember seeing at The Deepdene, near Dorking, when Mr. Burnett had charge of these gardens, early in May a fine lot of spring-sown Cauliflower. This was growing in some sunk wooden frames. The plants were put out in much the same way as when planted out in the open ground. At that date they were well advanced, and no doubt would be ready to cut as early as my autumn sown. After trying to obtain Cauliflowers as early as possible in several different gardens and localities, growing them in divers ways, I have come to the conclusion that no way is so reliable as growing them in handlights for the first supply. During the last four years I have made a point of growing these in three different ways, namely, in handlights, potting up a batch of plants and growing on a third lot in boxes. These two last lots are grown in cold frames during the winter. Every year I have cut those from the handlights from ten days to a fortnight earlier than from those grown in pots, although these latter were well attended to, planted out of 3-inch pots, one plant in each and well sheltered with Fir branches for a time after. Both batches, namely, those grown in handlights and those from pots, were grown side by side on a south border. For the last three years I have cut the first Cauliflowers from the handlights the first few days in June. One season I was not without

Broccoli or Cauliflowers the whole year round, and this without growing them either in pots or frames, duly protecting the Broccoli in winter by placing them in frames. I have tried sowing early in January on a hotbed, afterwards pricking out the plants into cold pits or boxes, and then removing to the open border. I now rely on autumn-sown plants to keep up the supply till I can get those in from seed sown in cold pits or under handlights in March. I plant a part of those that I winter in boxes in the open garden and a portion on a north border. By so doing, a succession is kept up with but little trouble. Some cultivators recommend a certain time for sowing. This should be done according to locality and situation. From the second week in August to the end of the first week in September is a good time. I rely on such kinds as Extra Early Forcing, Walcheren, Early London and Autumn Giant.—JOHN CROOK, *Forde Abbey.*

**Early Peas.**—I was much surprised to read at page 89 Mr. Crook's note on the above. He states that Chelsea Gem reaches a height of 30 inches. I fear he cannot have the true variety of Chelsea Gem, or he has got very good soil with abundance of feeding material to get it that height. In my case this variety comes very true, and I rarely get it more than 12 inches high and never more than 15 inches. I sow mine at the same distance apart as Mr. Crook, and use a few twigs to keep them off the ground. This adds to the neatness as well as being better for the Peas. I thoroughly agree with all that has been said as regards the merit of this variety, and, like Mr. Crook, I do not think it can be objected to on the score of being soon over, as it lasts as long, if not longer, than many early dwarf Peas; indeed, it is far more prolific than the early white-seeded kinds, which are over so quickly. It is an excellent variety for sowing late; in fact, I do not know of any better for the purpose, especially in gardens where space is a consideration, while it can be very easily protected in the autumn against early frosts. I formerly grew taller varieties, but Chelsea Gem answers the purpose much better. It is most prolific and one of the best to resist severe weather, and does not take so long to come to maturity.—G. WYTHES.

## STOVE AND GREENHOUSE.

### JASMINUM SAMBAC FL.-PL.

THIS plant comes from the East Indies; its exquisitely scented flowers are ivory-white in colour, double, the petals much pointed, which takes off the formality in appearance generally present in flowers that have rounded, smooth-edged petals. It is a remarkably free bloomer, but, like most others that continue in flower for a long period, is never clothed with such a profusion at one time as those that produce blossoms from each shoot simultaneously. The flowers are borne on short, lateral shoots, usually furnished with a few small leaves, that proceed from the axil of the leaves on the stronger growths, which in a healthy plant generally keep on blooming all through the summer and autumn so long as its growth is being made; this is an advantage, as it admits of almost every bit of bloom it makes being utilised for cutting, for which purpose it is the best adapted, as the successional habit of blooming does not admit of its ever making so great a display on the plant as if the flowers opened all together. Cuttings strike easily when they can be obtained with some freedom of growth in them, but the shoots that are disposed to form flowers as soon as they have attained 1 inch or 2 inches in length, even if they make roots, are a long time before they can be induced to grow freely. In the spring about the beginning of April, cuttings of the right description may

generally be had; these should be a few inches in length, but not with the wood too hard or matured; take them off with a heel and put them singly into small pots three parts filled with a mixture of three-fourths sand to one of loam, the surface all sand; keep moist, close, and shaded in a temperature of 70° or a little more. They will strike in a few weeks, when use them to bear the full air of the house and stand them on a shelf or some other moderately light place. When a fair quantity of roots is made move the plants into 3-inch or 4-inch pots, using good turfy loam with some sand; they will now do best with a brisk stove heat, giving air in the daytime with a little shade when the sun is powerful, syringing daily, maintaining a moderately moist atmosphere. After a few inches of growth have been made, pinch out the points of the shoots, for the plant has naturally a thin, erect habit of growth, and to induce the formation of sufficient branches it is necessary to resort to stopping, although it is by no means desirable to attempt to restrict it to a bush-like form. It is best grown round a pillar, or wound round a few tall sticks inserted just within the pot; being a spare rooter, it must not have too much root room, either in a pot or planted out. In July move them into pots 3 inches or 4 inches larger, and again stop the shoots. Treat generally through the summer as recommended until the middle of September, when cease shading, give more air, less moisture in the atmosphere, and reduce the temperature; during the winter 60° or 65° in the night will be enough, only just keeping the soil a little moist. Towards the end of February increase the warmth, and when growth has fairly begun again pinch out the points of the shoots, and move to pots 2 inches or 3 inches larger. In the matter of heat, moisture, air, and shade treat as in the preceding summer; they will this season bloom from all the growths they make. When planted out, the soil to which their roots have access must be limited to a small space, or it will most likely get sour. If confined to pots, all they want in subsequent years is to give more room as it is wanted, not attempting to shake out the plants or disturb the roots more than can be avoided. A little manure water in a weak state will be an assistance. The plants will last for many years. There is a single-flowered form of this Jasmine differing little in its appearance except in the flowers. It succeeds under similar treatment to the kind under notice. This Jasmine is liable to the attacks of most insects that affect plants grown in heat. Thrips and red spider, which are partial to the leaves, can be kept down by syringing. If any insects of a worse description, such as scale or mealy bug, make their appearance, sponge with insecticide, finishing with clean water. T.

**Campanula Vidalii.**—This Campanula, which is a native of the Azores, is one of those uncommon plants that can be recommended to those who desire to keep a greenhouse gay with flowers throughout the summer, as it is quite distinct in appearance from the general run of plants employed for that purpose. Instead of being herbaceous, as in most members of the genus, this forms a plant of a half-shrubby character with a stout stem, which, as a rule, divides into several branches at a little height from the ground. The oblong-shaped leaves are each about a couple of inches in length, deep green, and of a thick wax-like character, while the flower-spikes, which are formed by the elongation of the branches, bear several large white blossoms of a drooping nature, somewhat between a bell and an urn-shaped flower. The blooms from their substance remain in beauty a considerable time, and



during the months of July and August the plant is very ornamental. A vigorous specimen will reach a height of a yard or thereabouts, but in small pots it will flower freely at a less height. Cuttings of it may be struck during the spring, besides which seed is nearly always produced in quantity, and it not only germinates readily, but the young plants grow away freely afterwards. Any old plants that are not required will if planted in the open ground flower freely in the summer, but, as a rule, the winter proves fatal to them.—T.

#### CALLAS.

THERE are few, if any, plants that are so generally useful for decoration as the Calla, which by a little management may be had in bloom for a very long season, as by forcing some and retarding others, flowers may be easily produced at Christmas, and a succession continued till Easter and after. Beautiful as is the new one, *C. Elliottiana*, and valuable as it will be for general purposes, it will never be anything like so extensively cultivated as the old favourite. For many, however, *C. aethiopica* gets too large, but now that we have the miniature form of it in *C. Little Gem*, it can be substituted, and will be found, though corresponding with the other in all but size, to be about one quarter the height, with flowers in similar proportion. *C. Little Gem* grows and increases very freely, as small plants when pulled apart in the spring or after having made their growth in the autumn will be found to have numerous little tubers or plantlets about their base, all of which should be taken care of and potted, as in a year if grown on in the ordinary way they will flower. The plan I pursue is to plant them out in wide trenches, prepared after the manner of those for Celery, only not so deep, but quite as heavily manured. During summer they are mulched and kept well watered, when they begin to form fresh leaves and can take it up and have active roots. Early in autumn they are lifted carefully and potted. In doing this I give them light rich soil after slightly reducing the balls, and when the potting is finished I stand the plants in a deep pit or under a wall where they are out of reach of the sun, and keep them sprinkled overhead frequently during the day, so as to prevent flagging. Any that may be wanted in early are differently treated; as soon after they get established they are subjected to gentle heat by being kept in a warm house. Forcing has to be slow and the plants should have all the light possible, or they become drawn and weak in the leaf-stems. If Callas are not planted out, the pots should be plunged in the ground or have loose litter around them to keep the roots cool and uniformly moist and be well fed with liquid manure. It is also a good plan to top-dress with solid manure, using cow or sheep droppings, as plants will not flower freely unless they make strong crowns by the autumn. S. D.

**Carnation Winter Cheer.**—The blooms which I send you were cut from plants grown in pots. The plants were propagated from cuttings which were taken towards the end of last year; they were rooted on a moderate bottom-heat. The young plants were potted off singly into 3-inch pots early in February and grown on in a house where we could give sufficient heat to keep out frost. After they get a good start I give plenty of air on all favourable occasions. Early in May they were potted on into 5-inch pots and placed out in cold pits, the lights kept on until the plants were well established, after which they were only put on in case of heavy rains. For potting Carnations I use rather heavy loam, with some well-rotted manure and a little sand. The plants from which the blooms were cut were barely 2 feet high, including the flower-stems; they have not been stopped, but have a number of sideshoots which will soon throw up for bloom again. This variety, although a more vigorous grower, is very similar in habit to the well-known and valuable Miss Joliffe. I lately saw a fine bed of Winter

Cheer at Messrs. Veitch and Sons' Chelsea nursery. Although one of the best for winter flowering, it may be equally recommended for summer flowering either as a pot plant or for outdoors.—F. H.

**The Sweet-scented Tobacco** (*Nicotiana affinis*).—I am sorry to differ with Mr. Wythes, but having grown this plant for ten years, I can confidently assert that it is not an annual, although, like *Mignonette*, a severe winter will kill the roots. The finest specimens I have ever had were two-year-old plants that had survived the winter in the open ground on a south border. The seed is very hardy and passes the winter in the open and germinates freely in the summer. As a proof of this, my stock of garden plants last year was obtained from seedlings extracted from a newly-sown lawn in which I found over fifty plants self-sown. I always find more than sufficient seedlings in the borders for potting for winter use, and I may say that I am never without this flower winter or summer. The pot plants when turned out of the houses are cut down and planted out. They at once start growing and flower in the autumn. There are three things necessary to this plant if

known white variety *La Belle*, though possessed of thinner and more weakly growth, is not nearly so liable to injury as those already named. My earliest plants of *Miss Joliffe* in 8-inch pots and now throwing up the flower-stems are now being staked, three stakes in a triangular manner being placed to each, and for the present two strings of raffia for support. These plants, like many others, are in need of sun and warmth, the absence of these, together with the recent heavy rains, being the reverse of beneficial.—E. J.

#### A DEVONSHIRE GARDEN.

THE view here illustrated was photographed in the garden of the Manor House, Torquay, the residence of the Dowager Lady Haldon. The spot chosen is a small lawn surrounded on three sides by steep banks about 50 feet high, covered with *Rhododendrons*, but open on the west to the sea, which it is about 200 feet above. From this point



View in a Devonshire garden. Engraved from a photograph sent by Mr. A. Verschoyle, Watcombe House, St. Mary Church.

good specimens are wanted: Abundance of room, abundance of manure, and abundance of moisture. Above all, it requires great depth of soil, and if this does not exist naturally, large holes should be dug and filled in with good rich compost. I do not agree with Mr. Wythes about the flowers being unsuitable for cutting. It is a pity to cut the long stems with all their wealth of buds, but if one makes up one's mind to do so, they will last for weeks in water and keep on producing small flowers. If Mr. Wythes will cut some single flowers when shut up in the daytime and arrange them in a flat, shallow vase with some Maiden-hair Fern (with the seeds on the fronds), he will have a thing of beauty to look at for several days. *Nicotiana affinis* will grow from root eyes.—J. WHITWORTH SHAW, *Lingfield, Surrey*.

**Tree Carnations.**—The earliest batches of these will now be well established in their flowering pots, and attention in the way of staking will be needful. If from pressure of work at this season the staking has to be delayed for a time, see that the plants do not break off meanwhile. Any that are pushing up their flower-spikes will be most likely to break off at the joint if not well supported, particularly such kinds as *Miss Joliffe*, *A. Alegatiere*, *Mlle. Carle* and others. The well-

lovely views are obtained across Tor Bay on to Brixham and Berry Head. The Agave in the foreground was planted about thirty years ago, when a good-sized plant, and is flowering this year. Behind it is a Lacquer tree, brought by Sir Samuel Baker from Japan, and given to Lady Haldon a few years ago; it is in excellent health and growing well. The Cordyline is one of the few in this part which did not suffer from the blizzard of last year. It is wonderful, however, the amount of cold which Cordylines will stand. I have a bank fully exposed to the east and facing the sea on which were planted four years ago *C. australis*, *C. indivisa*, and *C. i. Veitchii*, *Yucca gloriosa* and *Y. g. recurvifolia*, *Chamaerops humilis* and *C. Fortunei*, *Phormium tenax* and *P. t. variegatum*, and *Aralia Sieboldi*. Not one of these plants was killed by the blizzard, to the full force of which they were exposed, as well as to the spray, which, although we are



over 200 feet above the sea, drives over our garden like a mist during a heavy easterly gale. Last winter, however, during the protracted east winds and frosts which lasted for some weeks, all the *Cordylines* suffered, two having their stems killed to the ground, and all the others losing their centres. They are all now making strong growth either from the side or from the ground with the exception of one—*C. australis*. The *Yuccas*, *Aralias* and *Phormiums* have not suffered in any way with the exception of the variegated form of the latter. The Palms have had their leaves a good deal cut by the winds, but the *Aralias* have suffered in no way whatever. They are, I consider, most in valuable plants for the garden, as they are evergreen, and their large shining deep green leaves are very striking and uncommon. Though classed as half-hardy, they are, from my experience of them, capable of standing any amount of frost and cold winds, and yet how seldom one sees them. A. R. V.

## CHRYSANTHEMUMS.

### SELECTING THE BUDS.

SELECTING the buds is perhaps the most important point of all the details connected with Chrysanthemum culture, because if the right bud is not chosen it is impossible to obtain a perfect bloom. Instances of this occur frequently. Many complaints during November reach me of flowers which have hard green centres, do not develop, and throw out their petals in an irregular manner. In the case of the Queen family the petals are reflexed instead of incurved. Amongst growers there is a common term employed of "taking the buds." When a bud is forming at the point of the shoot, growth will cease for a day or so and again push into activity by the production of numerous growths on the same shoot. As a rule, shoots will spring first from the nodes below the flower-bud; in some instances as many as ten growths will push. In all cases the three top shoots grow much the faster, owing to their extra strength being at the apex of the plant. When these shoots are a couple of inches long, the flower-bud will then be sufficiently formed to admit of the cultivator being able to judge of its perfect form or otherwise. Sometimes, owing to a bruise or an attack from some insect pest, the bud does not present a perfect shape—round and clean. If this is so, it is useless to allow it to remain and expect a perfect bloom. Presuming, then, that the bud is all right, the side growths named should be removed to concentrate the whole energy of the plant into the bud selected. If the shoots are allowed to grow, say, 4 inches or 6 inches long, they are all the time robbing the bud of its store of nutriment. The best time for taking the buds or removing the shoots is early in the morning, or in the evening when the dew is upon the plants; the shoots at that time are quite brittle. If the stem is held secure in the left hand and the young growths which are intended for removal be bent suddenly down one at a time, they snap off. After a little practice this method of taking off superfluous shoots is more expeditious than cutting them off with a knife, but if the operation is effected during the middle of the day when hot and dry, the shoots are quite tough and the risk of damaging the flower-bud

is much increased. As a safeguard against accident in the manipulation of the buds and shoots, some growers retain one shoot at the point for a time until it is seen that the bud is safely swelling to a good size, but this, I think, is wrong, as the growth is divided between the bud and the shoot retained, and the latter must to some extent rob the flower-bud of its due amount of sap. If any doubt exists that the bud has been injured, the retention of a growth shoot near a bud is advisable, as this will in due time produce another bud. I have explained at some length the method adopted to "take" the buds. Readers will be anxious now to know when this all-important point is to be carried out. Much depends upon a variety of circumstances. For instance, one variety will need to set its flower-buds fully a month earlier than another; still both will be in flower at the same time. This is one of the details which experience of each variety alone can teach. Then, again, there is the difference in various localities. Take, again, the vast difference there must be between, say, the counties of Durham and Devonshire for instance. Growers in the latter county have much more difficulty in obtaining perfect blooms than those residing in the north or, say, the midlands. This latter district is the most favourably situated of any in England, because there what are known as crown buds can be depended upon to give the best blooms. Crown buds are those which result from the second natural break. Where crown buds can be depended upon in the case of some incurved varieties to give the finest blooms, say, north of London, flowers produced from the same class of bud in the south would be quite useless. I mention this to show that no hard and fast rule can be laid down that will suit all parts alike. Japanese varieties need earlier bud selection than the incurved section, for the reason that size is of more importance in the former than in the latter, and in the Japanese blooms there is none of that evenness of petals to consider.

I will name a few varieties in both sections as a guide to the beginner. Mrs. Falconer Jameson is now one of the leading varieties, exceptionally dwarf in habit. This variety needs earlier bud selection than any sort I know to have it in the best condition for early shows. The flowers also last longer in good condition than those of any sort that I know. Some of our plants are but 3 feet high, and the buds are already as large as small Hazel nuts. *Avalanche* still holds its own as the finest white Chrysanthemum in cultivation; buds are now setting fast on the plants, with still a few yet to form. The blooms of this will open about the middle of November. The plants are about 4 feet high. *Val d'Andorre* is very dwarf this season. Mons. Bernard, quite the best of its shade of colour—amaranth—is always appreciated; from 3 feet to 4 feet is the height of the tallest plants; all are now setting their buds. *Gloriosum*, a narrow-petalled, light bronzy yellow, handsome when in good condition, but not so often seen now as its merits deserve, has some buds swelling kindly, while others have still to be "taken." On Louis Böhmer, which is strong in growth, quite superior in this respect to its white relation, buds are now forming freely. W. Lane, one of the best for grouping, is not more than 3 feet high, with healthy buds. W. H. Lincoln, one of the best yellows and a great improvement on *Grandiflorum*, is a sturdy-growing sort; the buds are just showing. *Beauty of Castle Hill* is remarkable; it has the largest leaves of any variety I am acquainted with; the habit is very dwarf. Mrs. S. Fogg, soft yellow, has a very fine

habit of growth. Plants not more than 2 feet 6 inches high and in small pots have perfectly formed buds, which promise well later on. *Stanstead White*, the largest white we have as yet, is exceptionally promising. The plants are from 4 feet to 5 feet high; the buds are in various stages, from those perfectly formed to those in the embryo state. *Puritan* promises to sustain the great reputation it made the last two years by the perfect manner in which its blossoms unfold. *Sunflower*, still the prince of yellows, generally carries a pale tint in its leaves. The buds, in the majority of cases, have yet to form, but one or two of the earlier plants have passed that stage. *Etoile de Lyon* is exceedingly dwarf with me this year and very variable in the formation of its flower-buds. Only a few are set. The bulk of the plants will show the buds about the 15th inst., which is a safe period for this variety to avoid coarseness and paleness in colour, which have done so much to bring this Japanese variety into bad repute. J. Stanborough Dibbens has yet to justify the promise given last year as one of the best bronze yellows in cultivation. W. W. Coles, 4 feet high, has set its earliest buds; others to follow, and these will give the best coloured blooms. Mme. Mezard, 3 feet; perfect buds now swelling. Edwin Molyneux is, as I like to have it, in various stages, thus prolonging the flowering time of this sort, still unsurpassed in colour. The plants range from 3 feet to 5 feet high; some buds will not show for another ten days. *Boule d'Or* I tried an experiment with this season in the way of topping the plants when 1 foot high to vary the height of growth and time of flowering. Those topped are now 4 feet high and are setting buds; those allowed to grow uninterruptedly are 1 foot taller. The buds are in their first stage of formation, or say one week behind the others. *Gloire du Rocher*, so dwarf with me last year, has this season already run up 7 feet high, and will go another 6 inches before the flower-buds are perceptible. *Condor* is also 7 feet high with buds now forming. Mlle. Marie Hoste is without exception the finest habited variety I know, while it leaves nothing to be desired in the way of flower. The buds will be perceptible in ten days. Miss A. Hartzhorn has been most persistent all through in setting prematurely its flower-buds; the plants are but dwarf and cannot under such circumstances be expected to produce extra fine flowers. *Vivian Morel* has been disappointing also in this respect until the last five weeks, when it seems to have made a new start and grown freely. One plant 5 feet high has just set its buds. *Florence Davis* is from 3 feet to 5 feet high, promising its buds at a favourable period. I fear I have occupied so much space with the Japanese section that little is left for the incurved.

Chrysanthemums of the Queen family, which have been wonderfully persistent in setting flower-buds instead of freedom in growth, have at last changed their tactics, and now look more promising than at any period previous. Some are now showing buds. These, where growing in districts south of London, ought to be removed, waiting for the next to set at the end of the month or the first week in September. Blooms better in form and far superior in colour of such as *Queen of England* and *Alfred Salter* would be the result of waiting. *Jeanne d'Arc*, now 7 feet high, has buds set; others 5 feet will not form buds for another ten days. The *Princess of Wales* family, which perhaps tests the skill of the cultivator most, is very promising this year; the plants are



strong, from 6 feet to 7 feet high. Prince Alfred also gives a number of sorts appreciated by the exhibitor, but not by the grower for home decoration only, owing to the extremely tall growth; the height now is from 7 feet to 8 feet, and the plants are still growing. If earlier buds are taken with a view to reducing the height, the flowers are over too early for the shows, in the south at any rate. The growth of M. R. Bahuant, which I do not look favourably upon as an exhibition variety, owing to the flowers lacking substance, the petals being too thick and few in number, is very promising. I am testing its merits in a variety of ways with a view to producing blooms that will entitle it to be classed among the best sorts. Some plants are now 6 feet high, and will not show buds for another ten days, others still later.—E. MOLYNEUX.

— Bud-taking is a puzzling phase to one who makes a start in the culture of this flower for highly-developed blooms, and most important to those who wish to enter the lists at our autumn exhibitions. I think mistakes may be more easily made by securing the buds at a too early date, but by careful note-taking and watching the growth of each variety from year to year, one may lessen these errors to a considerable extent. In a former note I named a few kinds which take a long time to perfect their flowers, therefore require to be taken early; but it is unwise even at this date, when crown buds are so plentiful, to go through a collection and secure them as fast as they appear. Many of the Japanese varieties will show crown buds twice or thrice during the summer, so that there need be no desire to be in a hurry with the flower-buds of these quick-growing ones. W. H. Lincoln may be instanced as a kind that goes on to another flower-bud soon after one has been taken away. Miss Anna Hartzhorn, Viviand Morel, Wm. Tricker among newer sorts, and the following older kinds have a similar habit: Fair Maid of Guernsey, M. Tarin, Bouquet Fait, Wm. Robinson, Volunteer, Stanstead Surprise. Nor should Etoile de Lyon, which is often condemned, because when grown from an early bud it is coarse, be secured before the end of August. Mme. John Laing, Sarah Owen, A. H. Neve, Baronne de Prailly, Carew Underwood, and Florence Davis come true to character when taken late. But such well-known and newer varieties as Avalanche, Sunflower, Puritan, Stanstead White, M. Bernard, Gloire du Rocher, W. W. Coles, Mlle. Marie Hoste, Mr. E. Beckett, Alberic Lunden, J. S. Dibbens, Lilian Bird should at this date have their flower-buds set as soon as seen. It has been said that all incurved sorts give the best flowers from buds taken about the end of the present month. Undoubtedly it is so, but at the same time it would be well not to miss the crown-buds which may appear now on those varieties known as the Queen family, because about another seven weeks will elapse before other buds come on the same shoots. Although the Queens take longer than the rest of the incurved flowers, I would treat two of that group, Alfred Salter and John Doughty, differently by selecting a later bud. They are apt to reflex their petals if taken early. M. R. Bahuant, about which so much was heard last season, flowers too early for the November shows if the buds be taken now, but one must expect to lose a little in size if a terminal bud be selected. There is yet plenty of time for Jeanne d'Arc, John Salter, Lord Wolseley, Mrs. Shipman, Princess Beatrice, but the crown bud must not be missed on any of the Princess of Wales group, which includes Mrs. Coleman, Mrs. Heale, Violet Tomlin, May Tomlin, Miss Haggas. In the same category place Nil Desperandum, Lady Carey, Refulgens, Novelty, Isabella Bott, and the newer Madame Darrier. On this early bud again the recently introduced Ami Hoste, Madame Frederic Mistral, Camille Flammarion and Robert Cannell are not satisfactory. All varieties of the reflexed, single pompon, and Anemone classes produce their blossoms best from the later flower bud, so that they

ought not to be selected from those which appear on the plants now. In the way of manures be content with the use of weak soot water, which is perhaps the best thing that can be had to keep Chrysanthemums healthy and growing. When the flower buds are swelling freely the use of some concentrated manure may prove beneficial. But their use, especially with the incurved kinds, may be easily overdone. There are well-known fertilisers in the market, and I think they are best applied by sprinkling them on the surface of the soil in showery weather about every fortnight. The quantity used should not exceed a tablespoonful to a 10-inch pot. Give the tip of each growing shoot a puff of tobacco powder occasionally both to kill green-fly, thrips, and so on, and also to prevent their appearance. Earwigs give some trouble and must be constantly trapped, for they do no end of mischief among swelling buds. The new early M. Gustave Grunerwald is in flower and a pretty sort it is. Not only in shape of flower, but in habit of growth it much resembles the useful Mme. Desgrange. The colour is light pink. Those who like these early varieties of the Chrysanthemum should not fail to have this and grow it another year.—H. S.

### A LETTER FROM THE RURAL GROUNDS.

I AM replying to your welcome favour of the 16th ult.

ROSA RUGOSA.—No, I am not "quite sure" that my hybrid rugosas are as pretty as the white rugosa; but I do not carry my admiration of them so far as to place them before Georges Bruant. This with me does not show the full beauty of its foliage until the third year, when the leaflets are larger than those of white rugosa, though not quite so thick and glossy. The flowers are semi-double, more enduring than those of rugosa. The buds are larger and nearly the shape of those of Niphetos, the odour even sweeter than that of rugosa. It blooms just as freely—I was about to say more freely—than either the white or pink rugosa. From all I see in THE GARDEN and other English publications, I fancy that Georges Bruant is not as yet duly appreciated. It has stood in my grounds (unprotected) 8° below zero. I dare say you are aware that self seedlings of Rosa rugosa come nearly true. The only differences I know of are to be seen (1) in the colour of the flower, and this varies but little, and (2) the formation of fruits. Self seedlings are usually less fruitful than the parent, while some do not form hips at all. I have never raised a Rose from seed unless the seed was borne on either the white or pink rugosa. Six years ago (my first trial) I used the pollen of Harrison's Yellow. One of the seedlings of this lot, named Agnes Emily Corman, bears leaflets larger than those of rugosa—the largest, indeed, I have ever seen—while the rugose character of the leaf is well marked. The colour of the flower is just that of General Jacqueminot. It bears six or seven whorls of petals. This I have on its own roots and on Manetti. The leaflets of the latter are the larger. From the same lot of seedlings I have robust bushes with leaflets of the smallest size. One of these bears double yellow flowers with a reddish or copper-coloured centre. This is a mass of bloom in late May, but it does not bloom again. Of this class I have half a dozen others—I call them hedge Roses—all with tiny leaflets and bearing some white, some lilac, and others pink flowers, all more or less double. Many bear single flowers. The next year I used pollen of Hybrid Remontants. Many of these bear double flowers and bloom almost constantly; all show in a

greater or less degree the rugosa leaves and stems. I have since used pollen from yellow Teas, hoping to get a yellow rugosa; but most of the seedling plants are feeble. Those of a vigorous habit that have bloomed bear small, ill-shapen flowers of various colours (white, rose, crimson) without value for any purpose whatever. Among the Hybrid Perpetual cross rugosa seedlings is one precisely like pink Rosa rugosa that trails upon the ground. It is now 15 feet in circumference and but 2 feet high in the middle. It does not, however, bear any hips. Altogether I have planted as many as 6000 hybrid seeds. I have raised from these not over 1000 seedlings. Of these about ten to fifteen may be worthy of introduction, and are now being propagated for that purpose by one of our large florists. It is an interesting fact that a large number of these seedlings from rugosa, whatever pollen was used, does not resemble rugosa in a way to suggest it as one of the parents.

ROSES ON THEIR OWN ROOTS.—Yes, many of our Rose growers are now propagating on their own roots. The Dingee Conard Co. raise all of their Roses in this way, while such firms as Ellwanger and Barry and The Storrs Harrison Co. raise the feebler growing Roses on Manetti.

CROSSING TOMATOES.—One of the most interesting pieces of work that I have ever engaged in is crossing Tomatoes. I began by using the Peach Tomato as the mother plant three years ago. The two fruits crossed did not mature. They were green and deformed when frost occurred. I did not suppose the seed would germinate. On the contrary, it germinated more freely than that of other varieties planted the same day, and the plants were marvels of thrift. These plants bore all sorts of Tomatoes, from the Fig, Pear and King Humbert, Trophy, Victor and Conqueror to the shapelier kinds of later years; but there was not a Peach Tomato to be found among them, nor one with the characteristic downy skin of the Peach. These crosses with the Peach were again crossed, using pollen of the popular varieties of last year, such as Ponderosa, Stone, Ignotum, Long Keeper, &c. I find now that the Peach blood asserts itself. Some of the shapeliest specimens borne by the two hundred cross-bred plants have downy skins. They are not yet beginning to ripen, but they promise to be of goodly size, almost round and as firm as other Tomatoes.

After a short, rainless season of excessive heat, we are now having daily showers. The thermometer reaches from 90° to 95° daily, and the death-rate in the city among the little ones and from sunstroke is appalling.

N.J.

ELBERT S. CARMAN.

Exhibition and conference on Begonias, British Ferns, Apricots and Plums.—On Tuesday and Wednesday next, August 23 and 24, a great exhibition of Begonias, Apricots, and Plums will be held in the Royal Horticultural Society's Gardens at Chiswick. In addition to these, growers of British Ferns will contribute specimens of our native forms. All the committees will meet in the gardens at 11 a.m. precisely on Tuesday, August 23, and there is no doubt but that two of them, viz., the floral and fruit, will have a busy time of it; while Orchids will receive the attention of the Orchid committee at the same time. Every amateur grower of Begonias, Apricots, Plums, and British Ferns should endeavour to take part in this exhibition, and should at once, if it has not already been done, communicate the nature of his exhibit to Mr. A. F. Barron, so that due provision for space, &c., may be made in good time. In accordance with the policy inaugu-



rated a few years ago, the society will hold a conference in the great vinery on each of the above-mentioned days at 2 p.m. The subject of the first day's conference will be "Begonias." Mr. Harry J. Veitch, F.L.S., has consented to take the chair and open the conference, after which papers will be read by Messrs. W. Watson, J. Laing, and H. Cannell on the "Cultivated Species of Begonia," "Tuberous Begonias," and "Winter-flowering Tuberous Begonias" respectively. On the second day, August 24, the conference on Apricots and Plums will be presided over by Dr. Robert Hogg, F.L.S., and Messrs. T. Francis Rivers and J. Smith will read papers on "Dessert Plums" and "Cooking and Market Plums" respectively; while Mons. F. Jamain, of Paris, will contribute a paper on "Apricots." Besides the exhibition of flowers and fruits which will be brought together on this occasion, it may be stated that the gardens look extremely beautiful, and will well repay a visit not only from gardeners, but also from ladies and gentlemen interested in the promotion of horticulture.

## BOOKS.

### THE CARNATION MANUAL.\*

THIS is a manual devoted to the cultivation of a very charming flower, which has hitherto been very much obscured by what is called the "florist," who cultivates it in a hole-and-corner way in pots, houses, &c., and sets up a stupid standard of perfection which is only attainable by the aid of tweezers. He makes up little shows in London and Birmingham, and on the assumption that there is no beauty in the natural form of this lovely flower, flattens all the petals out of shape with his tweezers, puts the flowers in collars, and arranges them on hard tin and wooden benches. He has gone on in this way for many years, the result being that the Carnation is virtually shut out of our flower gardens, because anyone seeing the result of these little shows must think that the Carnation is a flower requiring very special treatment and curious taste to admire, and that it is quite unfitted for gardens generally. A greater mistake could not be made. The best results of the florist are not half so pretty as good kinds touched only by the wind and sun in the flower garden. What the "florist" has really done is to make both the flower and the grower ridiculous in the sight of many people of taste and artistic knowledge. Observations such as those I make here are always put down by the florist as the result of ignorance or "lunacy" on the part of those who prefer the beautiful natural form of the Carnation as enormously superior to any tweezer-made thing.

Who is to judge of what is beautiful form? Certainly not one who proves at once that he cannot admire natural form. We who do see it would not even claim the right to judge. The best judges of form are artists whose whole lives are given or should be given to the study and drawing of beautiful natural form. Will the Rev. Mr. Horner and the florists consent that the point should be so settled? Will they at Chiswick or any public place let me put out, say, a rood of Carnations which shall be grown and judged wholly in the open air, and the flowers and buds never touched in any way beyond supporting them, they treating a like space as they wish, and submitting the result to two or three artists who can really draw and have studied flower form, say Mr. Alfred Parsons, Mr. Moon, and a lady of like training?

This book is such a curious mixture of the florist and the naturalist, that it is not nearly so effective as one entirely from an artistic and garden point of view would be; but still it will be very useful to many. What we really want is to make the flower

come into the flower garden for the pleasure of many people who do not care a fig about shows that are utterly ineffectual as regards the improvement of the plant as a garden flower.

We cannot do better than give a list of contents:—

Carnation Seed and Seedlings; Propagation of the Carnation; Border Carnations; The Carnation in the Flower Garden; The Culture of Garden Carnations; Calendar of Operations in connection with Border Carnations; The Carnation as a Town Flower; Carnation Culture for Exhibition in a Small Garden; The Carnation in the Midlands; Dressing and Staging the Carnation and Picotee for Exhibition; Calendar of Operations for Exhibition Carnations and Picotees grown in pots; The Carnation in England; The Carnation in Scotland; The Carnation in Ireland; The Yellow Carnation and Picotee; Tree or Winter-flowering Carnations; The Culture of Winter-flowering Carnations; Calendar of Operations for Tree or Perpetual Flowering Carnations; the Carnation and Picotee; Diseases and Pests; Diseases and Pests; Selection of Varieties.

For an example of what dressing the flowers means we take the following by Mr. Benjamin Simonite at p. 98:—

By the time the plants are coming into bloom, and the day of the exhibition is drawing near, the stands required should be got ready, and two pairs of tweezers be at hand. One pair, made of ivory, will be needed for dressing; and one pair of steel ones is wanted for turning back the segments of the calyx or "pod" (which is a technical, but inaccurate term), and also for pulling out defective petals.

The book owes its existence to Mr. Martin R. Smith, the president, who is himself an excellent cultivator of the flower. The finest effect from Carnations we have ever seen was in his garden at Hayes last week. The effect of his splendidly grown seedlings as garden flowers was brilliant and interesting beyond description.

### THE CHRYSANTHEMUM AND ITS GROWTH.\*

THIS is a new treatise which covers almost the same ground as that gone over by the excellent little guide on Chrysanthemum cultivation, published by Mr. Edwin Molyneux six years ago. In our opinion the world could have very well done without the new book. We fail either to understand or appreciate the appearance of the new book for several reasons, not the least important of which are the utter want of literary style in which it has been executed and the very unsatisfactory English with which the authors favour their readers from beginning to end.

It is possible to be a very clever grower of Chrysanthemums for exhibition, and to have a keen desire to let others know how to excel too, and yet be incapable of imparting the knowledge to others in an intelligible form. There are probably many gardeners skilled in the production of fruits and flowers who are never likely to be able to teach others except by word of mouth, and this of course through no fault of their own. But when such people attempt, through the medium of the printer, to instruct the world at large, we have a right to expect that a book of any sort and on any subject should be written at least in plain, every-day intelligible English.

It is quite beyond the scope of this review to criticise the many errors of composition that disfigure the pages of "The Chrysanthemum and its Growth," but we will incidentally remark that the authors' idea of a sentence is, to put it mildly, somewhat eccentric. In several places are found 150 to 200 words all strung together with such assistance as a plentiful supply of conjunctions, commas, and semi-colons will admit.

On cultural matters the book deals with the ordinary routine of Chrysanthemum growing, viz., striking, potting, feeding, taking the buds, housing, watering, and like matters. Quite a third of the book is devoted to special culture of the best forty-eight Japanese and thirty-six incurved. The

authors take each variety separately, dealing with its individual peculiarities. How long the selections in these two classes will remain the best even in the authors' opinion is more than we can say, but if the work runs into another edition, corrections in this portion as well as in the others may no doubt usefully be made.

### LE POTAGER D'UN CURIEUX.\*

THIS is an extremely interesting book about an ungrateful subject. We are very much interested in it ourselves, and can appreciate the industry and the spirit which led the authors into such a by-way of garden work. As a study and description of little-known table plants and of some not known at all, the book is extremely well done and is quite a credit to the authors. We think there ought to have been more illustrations of the kinds known. There are only fifty-four in the entire book, and some of these are of plants which are rather well known already, like the Pond Flower; but others less known are not illustrated at all. However, we must be grateful for what we have. It is a very interesting book and well printed.

The invariable practice of French authors is followed, that is to say, a dry and very often useless description is given of the plant before anything is said at all of its history, use, structure or the more important facts concerning it. For example, as regards Sweet Fennel, a plant perfectly well known to anybody who has ever taken the least interest in the garden, the authors begin with very dry descriptions of its stems and leaves, and shape, instead of telling us what particular use the plant is to gardeners in Italy where it is important, and in other countries where it might be so. If a description of such plants as this and the common Ice plant is wanted at all, which we deny *in toto*, the place to put it is in small type at the end of the article. The effect of having dry, useless matter put in the front place cannot but be prejudicial as regards the book. In the cases where cuts are given, these very technical descriptions are still more useless as they are placed.

"Garden Design and Architects' Gardens."—This is a reply to two insolent and shallow books of recent appearance on formal gardening. It shows by the aid of illustrations of gardens of our own day the falseness of the position assumed by the authors by giving views of existing English gardens beautiful without the shears of the architect or the needless display of the builder. It contains chapters on garden design in relation to the house, and the true work of the architect in relation to the garden, clipped Yews, and other subjects of interest from the point of view of garden design.

Packing fruit.—Having a quantity of Grapes and Peaches to send by rail and parcels post, I shall be glad if you will tell me the best way and what material to use for packing them in.—T. Y.

A monstrous Plantain.—I send an extraordinary specimen of common Plantain found growing in the road just outside Lamport Hall. I hope it may be considered interesting enough for a place in one of your papers.—EMILY R. HODGSON.

\*\* An example of the monstrous forms assumed occasionally by this plant.—ED.

Names of plants.—G. Wicks.—*Mertensia pubescens*.—C. P.—1, *Dendrobium Phalenopsis*, an ordinary form; 2, *D. P. Statterianum*; 3, *D. bigibbum*.—J. Hunter.—1, *Dennstaedtia anthriscifolia*; 2, *Lomaria vulcanica*; 3, *Dictymania attenuata*; 4, *Goniophlebium plectolepis*; 5, *Lastrea elegans*.—A. H. C.—*Angraecum fuscum*.—J. Broome.—It appears to be *Grammatophyllum Measuresianum*.—J. B. N.—1, *Pellaea ornithopus*; 2, *Microlepia pinnata*.—D. McNab.—1 is much like *Cypripedium orphanum*.—E. H. Woodall.—*Althaea rosea*.

\* "Histoire, Culture et Usages de 200 Plantes Comestibles peu Connues ou Inconnues." Par A. Paillieux et D. Bois. Deuxieme Edition. Librairie Agricole de la Maison Rustique, 26, Rue Jacob, Paris.

\* "The Carnation Manual." Edited and issued by the National Carnation and Picotee Society (southern section). Cassell & Co. (Limited), London, Paris, and Melbourne.

\* "The Chrysanthemum and its Growth." Illustrated. By W. and G. Drover and W. Adams, Nurserymen and Florists, Fareham.



## WOODS AND FORESTS.

### GROUPING DIFFERENT KINDS OF TREES.

TREES widely different in their affinities, but having a resemblance to one another in the size and forms of their leaves, may be associated in groups. Mixture of kinds, however, is most commendable when the trees possess some other marked characteristic in common, such as colour of foliage, bark, and flowers, habit of growth or form, &c. Thus when depth or darkness of colour in leafage is desired, fit associates exist in the Purple Beeches, Oaks, Elms, Hazels, Barberries, &c. Where light colours are wanted they are at command in the Corstorphine Plane, the Golden Oak (*Quercus pedunculata* Concordia), Golden Ash, Birch, Alder, and Elder, as well as in the Gold and Silver Yews, Moonlight Holly, Spruces, and the smaller Coniferae; as also among the naturally silvery-foliaged trees, such as the Abele Poplar, the Huntingdon, and some other Willows; the White-beam or Service Tree, Sea Buckthorn, &c.; while among strictly variegated trees and shrubs there exists a wide field to select from. The autumnal colours and tints of fading foliage deserve marked attention at the hands of planters for ornamental effect. And whether the rich scarlets and purples of our native Geans, and of some American Oaks, the golden yellow of the Norway Maple, or whatever colours are wanted in plants that have been grown from seed, it is a wise precaution to select them in the nursery, when the colours are most marked, as the fading leafage of plants raised from seed is generally much varied, although these be of the same species or kind. Colour in bark is most appreciated when the branches are denuded of their foliage; and small or moderately-sized groups, having distinct colours, tend to break up or relieve that dull monotony which prevails in deciduous woodland scenery throughout the winter and early spring. The following may be instanced: With white or lightish coloured bark, the common and several other kinds of Birch, Constantinople Hazel, Snake-barked Maple, the Cane or White Welsh Willow (*Salix decipiens*), *Crataegus punctata*, and some other Hawthorns, &c. With yellow or orange-coloured bark, the yellow-barked small and large-leaved Limes, Golden Ash, Golden and Copper Willows, &c. And with reddish, dark, or blackish bark, the red twigged or Coral Lime, *Salix acutifolia*, *S. daphnoides*, *S. purpurea*, *S. nigra*, and some other Willows; *Crataegus M'Nabiana*, and several other Hawthorns; the Red Dogwoods, &c. With regard to flowers, although the Horse Chestnut and the Gean are the only full or large-sized forest trees that produce showy blossoms, there are of smaller trees the Pavias, and other allies of the former; while belonging to the same natural order as the latter, there are others of the Cherry tribe, Hawthorns, Services, Mountain Ashes, Mespiluses, Almonds, and the wild forms of the Apple, Pear, and Plum. In other families there are the Scotch and English Laburnums, Robinias, Lilacs, Elders, &c., which, together with Rhododendrons, Azaleas, Weigelas, and other flowering shrubs too numerous to mention, are admirably adapted, when grouped according to their colours, for decorating the margin as well as the interior of our woodlands. And on prominent rocky points, natural sites for the Rowan, the Gean, and the Sloe-thorn, the snowy whiteness of the last two displayed before the earliest leafage of spring is ever the

admiration of all beholders. Of distinct habited trees, drooping or weeping kinds are very serviceable for shutting out lower and near at hand unsightly objects, without impeding the views of more distant and important scenery. In such a case weeping trees being comparatively few, a judicious mixture of kinds becomes necessary in order to obviate disagreeable monotony and uniformity. This suggests a procedure that is too generally neglected in opening up views that have become interrupted or shut out by the over-growth of injudiciously planted trees, viz., that of grafting some of these with weeping kinds at requisite heights, particularly Ashes and Elms, which are the most easily operated upon; and the more general adoption of this practice would be the means of retaining many a fine stem or bole, where their presence is ornamental as well as needful. Among upright, pyramidal, and conical formed trees, we have the Lombardy Poplar as the most important, from the great height to which it attains as well as from the remarkably fastigate upright habit of its growth, characteristics which render it highly suitable for certain localities, but most incongruous in others. Thus, when neither too thickly nor over-widely grouped at the ends of a bridge, viaduct, or high-level topped embankment, these horizontal lines are, as it were, balanced and supported by the perpendicular lines of the Poplars, and the latter have a singularly important landscape effect when seen rising from among ordinary plantations over these horizontal surfaces, as well as over flattish topped ranges of buildings, while, among or rising behind groups of roundish headed trees, their occasional presence has a very pleasing effect. On higher, drier, and more exposed grounds, some of the taller growing conical-topped conifers, such as the Silver Fir, are productive of similar results; but great care is requisite not to introduce either these or the Lombardy Poplars over-abundantly. In pleasure-grounds, a lower class of fastigate trees, such as the different upright growing Elms, fastigate Oaks, Hawthorns, Thorn Acacia, Elders, Yews, Junipers, Cypress, &c., may be introduced with equally effective results.

**Tulip trees dying.**—In a part of the grounds of this place once called the Pleasaunce are some rather fine old Tulip trees upwards of 150 years of age. The curiously large round bowl-shaped bases from which the trunks start are beginning to decay by the ground, and the top branches are gradually becoming more leafless every year. Shall I be likely to save these trees by cutting down to, say, 15 feet or 20 feet from the ground, thus inducing the growth of a pollard? I fancy by this I might prolong their lives.—O. R., *Albury Hall, Herts.*

\* \* \* Pollard the trees early next spring and apply a dressing of one half decomposed manure and one half loam of good quality. Better still, carefully remove by scraping out from between the roots all the old and spent soil, substituting that recommended above instead. In pruning off the branches cut at a good angle, so that the rain may easily run off, pare the edges of the wounds, and apply a coating of either paint or tar.—A. D. W.

**Heaping soil against trees.**—When I was staying at Ryde, now nearly thirty years ago, some considerable alterations were being made. A great many flourishing Oak trees were growing not far from the margin of the sea, and the levelling necessitated heaping the soil to some considerable height against the boles of the trees. This induced me to observe to the man in charge that "by doing so he would certainly kill the trees." My interference was not resented, and I was asked to give my opinion as to what I could advise. I advised building bricks around a few inches from

the stems of the trees to the height that the new soil was desired to be heaped. I visited Ryde again a few years after to find that the improvements by the seaside were great indeed and the Oak trees flourishing. They may be there now. It may have been before, or it may have been after the above circumstance happened, that I was at Warwick with the late rector of Woodstock, of course, for the purpose of viewing the castle and gardens. Alterations were taking place and great quantities of soil and *débris* were being shot down the slope where the Cedars were growing, closely enveloping their boles. I could not help giving advice about so unwise a proceeding, but it was not taken in so kindly a manner as it was in the Isle of Wight. It would be interesting to learn from any one of your readers who may be journeying that way whether the Cedars on the slopes at Warwick Castle, looking down to the river, have now the appearance of growing from the original level of the soil, or whether the soil has the appearance of having been heaped up around their stems. Reading "A. D.'s" paragraph at p. 152 relative to the heaping of the soil against the Willow trees at Kingston-on-Thames recalled the above incidents to my mind. I am quite sure "A. D." would never plant a tree deeper in the ground than it stood before and expect it to flourish, and he may still have the power to save those Willows by advising that the soil be excavated to the old level and have funnels of brickwork built up 6 inches from and surrounding their stems to the surface of the artificial soil.—R. FENN.

**Ivy under trees.**—I am often asked to name the best plant that will grow under trees, and I invariably recommend Ivy, as it will succeed where Grass refuses to grow, but it ought to be kept on the ground. Although it looks well creeping up trees and draping them with its elegant verdure, it will ultimately prove a deadly enemy to them. Ivy will take possession of any tree, and in some cases if allowed its own way will in time kill it. Now that I know the cause of the evil, I strip the Ivy from most trees annually, and it is surprising how those freed from it two or three years ago have regained their health.—C.

**The Large-toothed Aspen** (*Populus grandidentata*) is anything but a common tree in cultivation, and yet it is one which is well worthy of a place in the park or pleasure ground. In shape the leaves are roundish ovate, with large and irregular sinuate teeth; when young they are densely covered with white silky wool, but as they mature both surfaces become smooth. It is a medium-sized tree, sometimes attaining a height of 70 feet or 80 feet, with a trunk 20 inches to 30 inches in diameter. In a wild state it is common in the Northern United States and Canada.

**The Cluster Pine** (*P. Pinaster*).—This noble species naturally inhabits the most sterile sandy plains of France and Southern Europe, especially along the coast. Its timber is light, soft, coarse, and only used for very ordinary purposes. It prefers an open and airy situation, and in the vicinity of the sea, where the temperature is to some extent equalised, attains large dimensions. Like the Corsican Pine, this tree is difficult to transplant with safety, the roots being few and large; but this may, to a great extent at least, be obviated by careful attention to the young plants while in the nursery, so that they may be frequently transplanted, neglect of which generally proves fatal to the tree when planted out permanently.

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No. 1064 SATURDAY, August 27, 1862. Vol. XLII

"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—*Shakespeare.*

## THE FRUIT CROPS.

THIS week, through the kindness of our many correspondents, we are enabled to publish the reports of the fruit crops for 1892. The abundant display of bloom on the trees has not fulfilled expectations. In many districts the Apple crop is very heavy, while in others the reverse is the case. Had not late spring frosts come upon us, the fruit crops would have been generally good. On June 15 there were from 6° to 12° of frost, which quite destroyed the early Potatoes and many of the smaller fruits. In nearly every case the Keswick and Manks Codlin Apples are bearing freely this year, and in many of the Middlesex orchards the crop of these two varieties is very heavy. In one garden we visited the other day we saw magnificent crops of Cox's Orange and Blenheim Orange, while in the same garden many varieties of Apples were so abundant, that the trees had to be propped up to prevent the breaking down of the branches. Wellington, too, in many orchards is this year bearing a full crop. Pears are, as a rule, both in orchards and private gardens almost a failure, while of Plums the crop is, as a rule, poor, although in some places the trees require to be supported, so heavy is the crop. Cherries, on the whole, have been abundant. Apricots, too, have where protected when in bloom borne well. The crop of Peaches and Nectarines on the open walls is, according to all accounts, the finest that has been seen for many years, and this notwithstanding the wet and unfavourable summer of last year. The question naturally arises, Are the failures as regards the crops of Peaches outdoors to be attributed entirely to the weather, or may it not be that the roots in many cases suffer from want of moisture? Be this as it may, the question of moisture at the roots and well mulching fruit trees when they are bearing a heavy crop is an all-important one, and one that in many cases is, we fear, neglected. Early Strawberries were not so good as usual, many of the flowers suffering from the severity of the weather, while in the case of the later varieties the dry season was against their swelling. From the reports that have come to hand we find that the Strawberry season was, as a rule, a very short one. Bush fruits have, on the whole, been good. Mr. Iggulden, writing from Marston House, Frome, Somerset, says:—

There was never a better prospect of a good fruit crop generally, and seldom have the hopes of cultivators been more rudely dashed. A dull, showery summer is sometimes spoken of

as being most inimical to the fortunes of the fruit grower. Not, however, because this very materially affects the ripening of the current season's crops, but rather on account of its supposed prejudicial effect upon the maturation of the wood and the formation of fruit-buds. Doubtless there is some truth in this as far as moist situations and strong soils are concerned, trees on clayey land looking particularly yellow and unhappy during a wet summer. In most other cases, however, it would really appear that the trees, more especially those that have arrived at a good bearing stage, do not get half enough moisture at the roots, and more often than not fail to bear every second or third year owing to not having sufficiently recovered from previous severe strains. They may bloom abundantly and yet fail to produce a good crop of fruit, the poor, weakly flowers shattering off wholesale. There are only too many failures this season, but for once these must not be attributed to any inherent weakness of the trees, but rather to the very unfavourable weather to which first the flowers and then the newly-set fruit were subjected.

Pears in all positions were beautifully set with buds, but many of these were damaged in the centre before being expanded, and they were gay, yet barren accordingly. In some instances the flowers were sound and were followed by great clusters of fruit, but which, unfortunately, were badly frozen through when about the size of Hazel nuts. The reports from various friends practising gardening in different parts of the country are to the effect that Pears are a complete failure, and in some cases there are said to be fewer fruit than trees. In only too many places Pears will be very badly missed during the next autumn and winter, there being no available substitutes in the way of dessert fruit. Personally I can boast of having a fair crop on about one-sixth of the wall trees and a sprinkling on some few pyramids. Trees on the coldest walls or those facing north-east flowered and set fruit at the least critical periods, and I shall be able to gather a few baskets of Marie Louise, Louise Bonne of Jersey, Autumn Bergamot, Beurré Diel, Vicar of Winkfield, Glou Morceau, Huyshe's Victoria and Easter Beurré. The last-named is the surprise of the year. It is one of the first to flower; the buds are small and open and the petals small and weak, yet every tree I have of it has set fairly good crops. In this locality there are a few orchard trees carrying good crops, but they are in decidedly sheltered positions, those more exposed being complete failures.

Apples are most variable, the best crops being where the trees were sheltered from frosty winds. There are whole orchards and large fruit gardens almost void of fruit, and near at hand other trees of various sizes and forms all heavily cropped. The heaviest crops in the garden under my charge are borne by strong trees on dwarf stems, the most productive varieties being Duchess of Oldenburgh, Manks Codlin, Stirling Castle, Tower of Glamis, Lord Suffield, Lane's Prince Albert, Bramley's Seedling, Hawthornden, Beauty of Bath, King of Pippins, Margil, Quarrenden, and Court Pendu Plat. The greatest failures are Cox's Orange Pippin, Blenheim Pippin, Braddick's Nonpareil, Keswick Codlin, and Reinette de Canada. On the whole I consider the Apple crop fairly satisfactory, and believe it will be found that the markets will be fairly well supplied for some time to come with English grown fruit.

Of Plums the same cannot be said, these being very scarce indeed in very many gardens and orchards. The trees flowered grandly, but only

those that were growing against comparatively warm and also the coldest walls are ripening fairly good crops, either the flowers or the newly-set fruit coming to grief in most other cases. Wall copings of various kinds, including the thatched tops of Wiltshire walls, boards, slates, stones, and glass, all proved more serviceable in saving either flowers or fruit than usual, but neither these nor trebled fish-nets were capable of warding off 15° of frost, this being about what was experienced hereabouts late in March. Severe frost just a month later completed the work of destruction, this catching much of the tiny fruit that did set. Cherries, other than Morellos, were a very thin crop with me, but in the Cherry-growing districts, notably Kent, the growers appeared to have more fruit than they knew what to do with. It is to be hoped before this happens again the growers, or someone else in their locality, will have made arrangements for either drying or bottling the surplus fruit, or all that it does not pay to send to the market. Morellos rarely if ever fail. They are naturally somewhat late in flowering, and the cool sites assigned the trees also favour lateness, while the pendulous habit of the flowers not unfrequently proves their salvation. If we in the south-western counties are somewhat at a disadvantage as regards the Cherry crop, the home counties and Kent in particular were not so generally fortunate with their Apricots, Peaches and Nectarines. There was such an abundance of strong bloom on the Apricot trees, that we could very well afford to lose a good proportion of either flowers or tiny fruit by the frosts experienced at the end of March, plenty nearer the walls escaping, heavy crops being the order of the day. To grow Apricots successfully, ample and good provision ought always to be made for protecting the trees from the time they are in flower till they are heavily furnished with leaves, and nothing answers better than glazed copings and blinds. Peaches and Nectarines also bloomed very freely, and more than enough flowers and fruit survived the frosts. Even trees protected with board copings only are bearing fairly good crops, while those roughly protected are beautifully fruited. It is not often Peaches can be gathered so early in the open as they have been this year, Waterloo being available on July 15. Nectarines are far more promising than usual, the fruit being as yet quite free from scars or cracks and colouring beautifully. I have never seen Peach and Nectarine trees so free from disease and insect pests of any kind, all having made clean, healthy growth. Yet easterly winds were only too prevalent.

Small fruits were far more plentiful than thought possible at one time. Currants were exceptionally plentiful and Gooseberries far from being a failure, though it is not often that the bushes are so badly over-run by caterpillars as they have been this season. Raspberry canes were much damaged by frosty winds, not a few being killed outright. Frosts that did so much injury to Potatoes in low positions, this happening about June 13, also spoilt many Raspberry flowers. The rainfall hereabouts was far too light to suit Raspberries and also Strawberries, the latter losing very many early flowers by frost, and later on suffering badly from drought. Walnuts are not very plentiful, but Filberts where sheltered are abundantly cropped. It is surprising what the tiny flowers will stand, but all the same it is a mistake to plant Filberts as shelter trees for an orchard or garden. They pay better than fruit trees in many seasons, especially if sheltered somewhat from cold winds.



## SOUTHERN.

**Addington, Winslow, Bucks.**—In this garden and neighbourhood the fruit crops generally cannot be said to be good. With me the exceptions are Currants (Red, White and Black), all fine crops; Gooseberries much thinned by frost, but a good average crop and fine fruit. Apples, Pears, and Plums all below average. Strawberries the worst crop we have had for years; the winter seemed to injure the plants very much. The only kinds grown this year are Keens' Seedling, President, and Vicomtesse H. de Thury, all good in their way both for bearing and quality. The season has been cold, dull, and deficient in rainfall—total from January 1 to August 1, 8.56 inches, the least we have recorded for twenty-two years. Frost on June 15 did us much harm, and very cold nights lasted until June 21.

All our vegetables suffered very much during the winter; some of the Brassica tribe destroyed altogether.—**JOHN MATHISON.**

**Mereworth Castle, Kent.**—The crop of fruit is, on the average, somewhat light. Apples are more plentiful than was at one time anticipated, and some trees are bearing very heavy crops. Pears are very thin; Black Currants scarce; Cherries very good; Gooseberries plentiful; Damsons satisfactory, but Plums thin. Nuts very light, and Peaches and Nectarines very fair. The crop of Strawberries has been all that could be desired.—**H. MARKHAM.**

**Easton Lodge, Dunmow.**—Apples here are an average crop; some sorts are bearing heavy crops, viz., Lord Suffield, Warner's King, New Hawthornden, Manks Codlin, Keswick Codlin, Lady Henniker, King of the Pippins, Cellini, and Ecklinville Pippin. Apricots a very poor crop. Pears are poor except on the walls, where Beurré d'Amanlis, Glou Morceau, Beurré Bosc, Pitmaston Duchess, Bergamote d'Esperen, General Tottleben, and Louise Bonne of Jersey are bearing good crops. Plums are a very light crop. Peaches a good average crop. Cherries an average crop. Raspberries, Currants and Gooseberries have been good crops. Strawberries have been a good crop.—**H. LISTER.**

**Bookham Lodge, Cobham, Surrey.**—The Apple crop is much under the average. Pears almost a failure, some gardens in this district having scarcely any. Plums nearly as bad, though in one garden near here some pyramid trees quite close to the river are carrying good crops. Apricots on walls are a fair crop. Peaches and Nectarines a good crop where well attended to, and the trees clean and healthy. Bush fruits, where protected from the ravages of birds, are a good crop. Raspberries good crop. Filberts are also cropping well. Strawberries have been a good full crop.—**A. J. SANDERS.**

**Swanmore Park, Bishop's Waltham, Hants.**—Apples are an exceptionally heavy crop, the trees clean and healthy; some varieties which previously were not looked upon as free-bearing or in any way desirable here have full crops. The following are examples: New Hawthornden, Wormsley Pippin, Golden Pippin, Devonshire Quarrenden, Ribston Pippin and Lord Suffield. Of sorts that annually crop heavily, Ecklinville, Warner's King, King of Pippins, Irish Peach, Worcester Pearmain, Mère de Ménage, Cox's Orange Pippin, Lane's Prince Albert, Yorkshire Greening, Golden Spire, Lady Henniker and Beauty of Hants are the most conspicuous. Pears are thin; the fruit promises good quality. Jargonelle, Pitmaston Duchess, Comte de Lamy, Williams' Bon Chrétien, Ne Plus Meuris, Doyenné d'Été and Doyenné du Comice are the best. Plums are much below the average. Bush trees of Victoria are heavily laden, while the same sort on the wall has but few. Jefferson's, Kirke's and White Magnum Bonum are the only other varieties that are at all fruitful. Damsons are a heavy crop; the Prune and Mitchelson's are the only sorts grown. Cherries, both sweet and Morellos, are above an average crop, as they always are here. Governor Wood, May Duke, White Heart, Elton and Bigarreau Napoleon are the best, especially the first and last-named. All bush

fruits, with the exception of Raspberries, are exceptionally good, Gooseberries especially so. Peaches and Nectarines, without exception, are heavily cropped, while the trees are all that could be wished for in appearance as to health and promise of good fruit. Alexander, Early Louise, Hale's Early, Bellegarde, Gross Mignonne, Royal George, Walburton Admirable and Princess of Wales are the sorts grown here. Nuts are far above an average crop. Strawberries have not been so good a crop as last year. The season has been shorter and the fruit smaller, owing to the long spell of dry weather experienced at the time the plants were in bloom. This crippled the free swelling of the fruit.—**E. MOLYNEUX.**

**\* Eridge Castle, Kent.**—Apples plentiful and good. Pears under average. Plums a light crop. Small bush fruits over average. Raspberry canes in many cases killed by frost. Apricots scarce. Peaches under average. Cherries have been good and plentiful. Nuts over average. The Strawberry crop has hardly been up to the mark, the late spring frosts having killed many of the blossoms.—**J. RUST.**

**Penshurst Place, Kent.**—Apples half a crop. Lord Suffield, Ecklinville and Worcester Pearmain the best early; King of the Pippins, Blenheim and Northern Greening fair crop. The best Apple of all is Lane's Prince Albert, always a crop, splendid keeper, will last until May. I have several other sorts with only two or three on a tree. Pears quite a failure. Plums none. Peaches a poor crop; Late Admirable the best. Nectarines the same. Raspberries very good. I grow but one sort—Superlative, the finest of all Raspberries both in size and flavour. Currants average crop.—**F. BRIDGER.**

**Luton Hoo, Beds.**—Apples are a good average crop in this district. Pears are thin except on walls. Peaches and Nectarines are a very heavy crop and trees are looking well. Apricots very thin. Plums are thin except on walls. Cherries are a good crop. Damsons scarce. All kinds of bush fruits have been very heavy with the exception of Gooseberries. Strawberries have been rather light owing to the dry weather we have had here. President and Sir J. Paxton both do well here, and John Ruskin promises to be all that is said of it. Generally speaking, all fruit trees have made a remarkably healthy growth this season.—**GEO. MAYCOCK.**

**The Wildernes, Sevenoaks.**—Apples a fair crop. Cherries very good generally. Nuts thin. Pears very poor. Peaches and Nectarines very good where well protected from frost. Apricots none. Gooseberries fell off through frost; consequently thin except under a north wall, where, being later, they are a fair crop. Plums the same. Other small fruits good. Strawberries very good, especially young plantations. To secure a good crop I find it best not to let them continue over three years. The kinds I find to answer best in this light soil are La Grosse Sucrée (which does very well here, especially for forcing), Sir Joseph Paxton, President, and Loxford Hall Seedling. In some market gardens in this district Strawberries have been poor. Raspberries very good.—**HENRY ELLIOTT.**

**Hughenden Manor, Bucks.**—Apples are a good crop. Pears, with the exception of some trees on walls, are almost a failure. Gooseberries good crop. Currants have been very good, especially Black. Cherries good crop. Plums very thin. Apricots and Peaches a fair crop. Raspberries good. The late spring frosts killed a great deal of the bloom on early Strawberries.—**W. HEAD.**

**Basing Park, Hants.**—Apples a good general crop in most places in this neighbourhood; fruit good, and the trees clean and healthy. The best kinds and most prolific on this cold clay soil are Keswick Codlin, Irish Peach, Lord Suffield, Beauty of Kent, Cellini, Cox's Pomona, Northern Greening, Dumelow's Seedling, Warner's King, Royal Russet, Dr. Hogg, Mrs. Barron, Hawthornden. Dessert kinds: Devonshire Quarrenden, Kerry Pippin, Boston Russet, Sturmer Pippin, and Wor-

cester Pearmain. Pears very short, but what few there are are very good and clean and trees healthy. Plums a good crop and fruits fine on such kinds as Coe's Golden Drop, Green Gage Kirke's, Jefferson's, Golden Drop, Pond's Seedling, Victoria, Dymond, and white Magnum Bonum. Cherries good crop and fine, the trees looking well and making plenty of new wood. Raspberries good crop, fruit very fine. The best kind I grow is Fastolf, a great bearer, first-class fruit, and of good flavour, lasting longer than any other kind. Gooseberries good crop, fruit large and of good flavour. Currants a good crop and fine. Peaches and Nectarines half a crop, cut by the late frosts.—**WM. SMYTHE.**

**Cassiobury Gardens, Watford.**—Apples under average. Pears a poor crop. Apricots and Plums a failure. Peaches and Nectarines a good average crop. Cherries and Gooseberries average. Strawberries average. A fine show for bloom, but 14th June frost killed all exposed flowers and fruit. For flavour and bearing, President and Keens' Seedling; for early, Noble; late kind, Elton Pine. I find Noble and the Captain good cropping sorts, especially on one-year-old plants, early runners and planted early in August producing fine quality fruit following season.—**CHARLES DEANE.**

**Claremont, Esher, Surrey.**—Taking it as a whole, the fruit crop in the immediate neighbourhood is decidedly below the average, and may also be described as very partial. This is particularly the case with Apples, which, although as a rule very thin, may be found in abundance in a few gardens. The Pear crop is the poorest I have had for several years, cordons and old-fashioned wall trees being alike failures. There was no actual frost during the time Pears were in bloom, but a spell of dry weather with very drying winds and a persistently low thermometer seemed to prematurely shrivel the petals of the flowers, which indeed, in most cases, never expanded properly. A sharp frost following a wet day was answerable for the destruction of nearly all the Plum blossom, and this fruit is also very scarce. Apricots and dessert Cherries, both spring protected, are and were fairly plentiful, and we have a good crop of Morellos. Peaches and Nectarines, spring covered with double (thick) or triple (thin) fish netting, are a grand crop, and I do not think there is a miss along the entire stretch of wall. Gooseberries suffered severely from the effects of the frost that destroyed the Plums; in the open quarter we had hardly enough for our green picking. Dessert fruit on trellis is more plentiful, but not so good a crop as usual. Currants in their various colours are plentiful and fine. The past winter (I think the bitter winds, as our plantation is much exposed) wrought destruction among the buds on Raspberry canes, and portions of canes that remained intact fruited remarkably well. We had a good and fairly long Strawberry season, lasting from June 7 until the third week in July. The season might be further extended by planting late varieties on a north border, but the experience of the last few years has shown that a Strawberry season of the length above mentioned, following the forced fruit, which commences, say, early in April, is quite long enough for our purpose.—**E. BURRELL.**

**The Gardens, Wykeham Rise, Totteridge.**—Apples good all round, especially large sorts. Pears middling. Plums none. Damsons good crops. Wall fruit scarce. Dr. Hogg Peach and Alexander the best. Lord Napier Nectarine seems to me to be a tender fruit. Pitmaston Orange better, but Elruge, I think, is the best to depend upon. Apricots very thin. Bush fruits have been good all round.—**J. ATKINSON.**

**Caversham Park Gardens, Reading.**—I cannot give you such a glowing account of our fruit crop this year as last. In the early part of spring there was every appearance of a good crop; but alas! the severe frosts later on soon blighted our hopes in that direction. Apples are a fair crop; such varieties as Peasgood's Nonsuch, Lord Suffield, Hawthornden, Stirling Castle, and Manks Codlin are bearing heavy crops. Pears are almost a failure, for barrowloads gathered last year there are not



gallons this. Plums same as Pears. Aprico's a fair crop; they seemed to have got over the critical period before the severe frost. Outdoor Peaches suffered from the frost and are a complete failure. Cherries are a light crop. Filberts and Medlars under average. Small fruits have on the whole been a fine crop. Black Currants were extra good, and helped to compensate for the rather light crop of Gooseberries. —JAS. JEFFREY.

**The Durdans, Epsom.**—Apples, Pears and Plums are a light crop here. Morello Cherries good. Apricots a fair crop. Gooseberries a heavy crop; also Black and Red Currants. Raspberries a good crop, especially Northumberland Filbasket. —J. BARCLAY.

**Betteshanger Rectory, Dover.**—Bush fruit of all kinds has been very good. Pears and Plums it is useless to plant in this garden. Peaches and Nectarines very good. No protection given when in bloom. Cherries an excellent crop. I have been speaking of crops on standards and bushes. Apples are a good crop. I have a standard Fig (White Ischia), untrained, about fifteen years old, standing in a very dry corner, with a better crop on it than ever I have seen before. If I leave the Figs on the tree to get fully ripe they are the best I ever tasted. —W. HERINGTON.

**Canons Ashby, Byfield.**—Apples are a complete failure. Currants, Black and Red, a fair crop. Plums on standards heavy crop, Victoria, Golden Drop, Orleans, fruiting heavily. Strawberries good crop. Apricots fair. Pears very few. Peaches on walls fair. —T. WALKER.

**Yattendon Court, Berks.**—Apples a fair crop of most varieties. King of the Pippins, Keswick Codlin, Early Margaret, Red Astrachan, Warner's King, Tower of Glamis, Lord Suffield, and Wellington are with me all bearing good crops. Pears, some on most trees, but a thin crop. Plums a moderate crop, some on most trees, young trees of Victoria and Pershore bearing heavily. Cherries were a fair crop. Morellos on walls a very heavy crop and fine, but black fly very troublesome; ordinary remedies not so effective as usual, owing to the dry spring. Gooseberries and Currants a good crop, and free from caterpillars where dressed with quicklime at winter digging; those not so dressed badly attacked. Raspberries very good. Strawberries have been a good crop and of better flavour than for several years past. Our soil is a clay gravel and well adapted for Strawberries. —R. MAHER.

**Harrow Weald Park, Stanmore.**—Bush fruit of all kinds has been good. Apples good. Pears very light. Plums very light. Peaches and Nectarines are a good crop outside and in. —J. MARTIN.

**Lockinge, Wantage.**—Apples under. Pears under. Plums under. Cherries over. Peaches and Nectarines average. Apricots over, good. Small fruits average, good. Strawberries under. Nuts over. —J. ROSE.

**Brookwood Asylum, Woking.**—The Apple crop in this neighbourhood is a very poor one, owing to the spring frosts while the trees were in bloom. Only three kinds here have anything like a crop, viz., Ecklinville, King of Pippins, and Manks Codlin; other sorts have only a sprinkling of fruit. We have never had such a poor crop of Pears during the twenty-five years I have been here; the frost destroyed the bloom; only a few on walls. Plums much better than Pears, but, like the Apples, some trees, chiefly of Victoria, on high ground have a crop, but in the low-lying part of the garden the bloom was nearly all destroyed. Gooseberries away from the shelter of trees nearly all killed by frost; under the Apple trees the crop was good. Currants of all sorts were plentiful and good; Apricots very thin; Peaches a fair crop; Nuts scarcely any. Strawberries were most abundant. —R. LLOYD.

**The Gardens, Thedden Grange, Alton.**—Apples in this district are a heavy crop and look very promising; the trees are healthy and free from insects. Pears on walls are a thin

crop except a few, viz., Williams' Bon Chrétien, Louise Bonne of Jersey, Conseiller de la Cour, General Todtleben, all of which have good crops. Peaches and Nectarines are very heavy; quite two-thirds of the fruit had to be removed. Gooseberries suffered badly in the low-lying district, and the crop in many places is quite a failure. Fortunately, we escaped these late frosts, and our crop of Gooseberries was a heavy one. Raspberries very light, owing to many of the canes being killed down to the ground through the long-continued dry weather and cold east winds in early spring. Apricots very light, and the trees are cankering badly. Black, White, and Red Currants are a very heavy crop of first-class fruit. Plums are very abundant on standard trees, many of the branches requiring support, but the trees on walls are bearing a very light crop. Strawberries suffered badly in the early spring owing to the inclement weather, but they recovered, and we have had an average crop of rather small fruit. The season was very short with the exception of Elton Pine, planted on a north border; this variety does remarkably well here as a late variety, and it affords us a supply of fruit during August and September. It is one of the best varieties for preserving; the plants are very hardy and late. The fruit has a sub-acid flavour. —N. CAMPANY.

**Brickhill Manor, Bletchley.**—The fruit crops in private gardens and market gardens are in this district very good and above the average. Apples, early and late, clean and good in quality; Pears fair crops of certain kinds; Plums above the average; early kinds and Victoria very abundant, but want sun; Gooseberries above the average, but the fruit has suffered, and trees also, owing to the attacks of the caterpillar; Currants suffered from frost, and in consequence were very thin. Raspberries very good; Strawberries abundant and good. —G. BLOXHAM.

**Holme Park, Reading.**—I have in the gardens here a good crop of Apples, and by what I have seen in the neighbourhood of Reading, it is the same. Pears are the thinnest crop for some years past. Plums are about one third of a crop. Apricots poor. Peaches and Nectarines are a good crop indoors and out, and should we get plenty of sun the outdoor ones will be a grand lot. Gooseberries and Currants about half a crop with me this year, but Black Currants very good.

Vegetables in general were never better than they are this season. Potatoes are an abundant crop and very good in quality. I should think the late varieties will be a good crop also, as the late rains have kept them growing. All green crops in the garden are looking very promising. —B. OSBORN.

**Hurstbourne Park, Hants.**—Apples in very many places in this district above the average. Peaches and Nectarines very good. Apricots a complete failure. Plums average crop. Gooseberries very heavy crop. Currants very good. Pears average crop; Williams and Marie Louise very heavy. Nuts good. Damsons good. Cherries very poor. Strawberries half a crop. —R. PERRY.

**Greenlands, Henley-on-Thames.**—Apple crop fairly good. Pears very thin. Plums very scarce. Cherries good; Morellos are somewhat thin. Apricots fairly good. Plum trees in this neighbourhood growing on high ground are bearing well. Gooseberries and Currants medium crop, and Strawberries fairly good. Noble, President and Latest of All are amongst the best bearers for open-air culture. For forcing I find La Grosse Sucrée, Auguste Nicaise and President the most reliable kinds and of good flavour. I force 5000 of those three sorts. —HENRY PERKINS.

**Brambletye, Sussex.**—The fruit crops here this year are generally good. Apples are a heavy crop; many of the trees are breaking down with the weight of fruit. The following varieties are all carrying more or less good crops: Alfriston, Baumann's Red Reinette, Bismarck, Blenheim Orange, Cox's Pomona, Bramley's Seedling (one of the very best of kitchen Apples, as it is large and solid, a good keeper, and the tree is a most prolific

bearer), D. T. Fish, Ecklinville Pippin, Flower of Kent, Frogmore Prolific, Wiltshire Defiance, Hawthornden, Lady Henniker, Hanwell Souring, Hoary Morning, Lord Suffield, Keswick and Manks Codlins, Pott's Seedling, The Queen, Sandringham, Warner's King, Oslin, Syke House Russet, Worcester Pearmain, Rosemary Russet, Red Astrachan, Duchess of Oldenburg, Cox's Orange Pippin, Devonshire Quarrenden, Irish Peach, Mannington's Pearmain, Scarlet Nonpareil and a few others. The only varieties of Pears on which there is a crop are Marie Louise, Louise Bonne of Jersey, Beurré Diel, Beurré Bosc and Winter Nelis. Plums are a thin crop on walls, but, strange to say, the standard trees of Early Prolific, Victoria, Dymond, and the Damsons (which are planted outside the garden in a sheltered position) are a wonderful crop, and require to have the branches propped up all round the trees. Peaches and Nectarines on the south wall are a good crop. Cherries have been a fair crop. Black, Red and White Currants have never been better. Gooseberries have been a heavy crop and of good quality. Raspberries, although of good quality, had a very short season, owing to the dry weather we have had lately. Strawberries were a good crop and excellent in quality. The varieties that I find do best here are Vicomtesse Héricart de Thury, President and Sir Harry. Cobnuts, Filberts and Walnuts are light crops.

Early Potatoes have been good in quantity and quality. I have only lately seen one or two diseased tubers. The late varieties are looking well, especially Magnum Bonum. —G. F. GLEN.

**Woodhatch Lodge, Reigate.**—Apples slightly under average. Varieties cropping well: Lane's Prince Albert, Grenadier, Stone's, Lord Grosvenor, Duchess of Oldenburg, Ecklinville, and Lady Henniker as pyramids. As espaliers, New Hawthornden, Lord Suffield, Melon, and Peasgood's Nonsuch. Pears and Plums very poor. Cherries average. Gooseberries average. Currants fair. Raspberries fair. —C. J. SALTER.

**Betteshanger, Dover.**—The Apple crop is a good average. Apricots below average, but good in quality. Cherries abundant, but small, and not of very good flavour. Peaches and Nectarines inside an abundant crop and good. Outside on walls without protection fruit good, but crop under average. Pears are below average. Plums good average, especially on bush and standard trees. Cob Nuts and Filberts scarcely any. Walnuts over average crop. Small fruits over average and good, except Raspberries; the canes were killed by the late spring frost. —G. LAWRENCE.

**Roehampton House, Roehampton.**—Apples plentiful. Pears and Plums thin. Gooseberries, Currants, and Cherries very good. Raspberries fair. Apricots thin. Peaches and Nectarines very good. —E. BERRY.

**Arundel Castle, Sussex.**—Apples over average. Pears under average. Peaches good. Nectarines extra crop. Apricots average. Plums very thin. Gooseberries abundant. Currants average. Raspberries average. Nuts under. Medlars average. Strawberries average. —E. BURBERRY.

**Old Warden Park, Biggleswade.**—Apples taken as a whole are about half a crop. Blenheim Orange, Fearn's Pippin, Jolly Beggar and Schoolmaster are carrying full crops. Lord Suffield and the Codlin type are carrying good crops. Pears as bush trees are very thin except Louise Bonne of Jersey, Williams' Bon Chrétien and Beurré Clairgeau, but on walls they are better. Plums are very thin, but on walls Rivers' Early Prolific, Dymond and Orleans are carrying fairly good crops. Apricots are thin generally. Peaches and Nectarines on unprotected walls are carrying full crops, but they are ripening later than usual and the fruit is rather small, owing, no doubt, to the cold and cloudy weather in July. Cherries not much grown, about half a crop, rather small. Walnuts and Filberts are generally good. Bush fruits, including Gooseberries, Currants and Raspberries, are plentiful. Gooseberries and Currants have been very much infested with the caterpillar, which has given much trouble. The bushes were so bad, that I had them well sprayed with the garden engine,



using clean water, following quickly with a rather strong dressing of soot and lime under the bushes, giving a good dusting round the stems so as to prevent them crawling up again; this plan seemed to effectually destroy them. Strawberries have been good and plentiful.—G. R. ALLIS.

**Elsenham Hall, Essex.**—There has been a very heavy crop of small fruit here such as Gooseberries, Currants, Raspberries, and Strawberries; we only grow one sort, Sir Joseph Paxton. The soil being very light, it succeeds better here than any other sort I have tried. Pears very poor crop; Apples not good in general; Duchess of Oldenburg in plantation of young trees planted three years very fine; Plums fair crop; Victoria extra crop. We have 300 trees planted three years ago with about sixty bushels on them. Apricots half crop; Damsons fair crop; Cherries in general very heavy crop; Morellos quite a failure.—W. PLESTER.

**Ottershaw Park, Chertsey.**—Of Apples, Wellington, Pott's Seedling, and the Codlins have a good crop, but the best Apple I have seen for cropping is Fletcher's Seedling, taking one year with another. Pears in the open are quite a failure; on walls we have a fair crop. Peaches and Nectarines are a good crop, and so are Apricots. Plums on walls are a good crop; also Cherries. Damsons are a heavy crop in places. Currants are a good heavy crop; so are Gooseberries and Raspberries. Strawberries have been a heavy crop and of good flavour, but not quite so large as usual.—T. OSMAN.

**Albury Park Gardens, Guildford, Surrey.**—1891 was one of the worst seasons for the ripening of the wood of fruit trees. A long and severe winter with late spring frosts quite ruined the Apple and Pear crop for 1892. There are a few exceptions. Plums are a light crop. Peaches and Nectarines fair crop and trees healthy. In regard to all other kinds of small fruits, I never remember to have seen finer crops. Strawberries have been extra fine this season where well grown.—W. C. LEACH.

**Cowarth Park, Sunningdale, Berks.**—Fruit crops here with us are good, bush fruit being plentiful and very fine. Peaches, Nectarines, and Apricots both inside and out a good crop. Plums, Pears, and Damsons below the average. Cherries, Apples, and Nuts are a very heavy crop.—H. ATTFIELD.

**Aldenhall Park, Elstree.**—Owing to the severe frosts we had on June 15, 1892, I regret to say the results in this neighbourhood are below the average. Apples are a fair crop, trees clean, and fruit of good quality, particularly the later kinds. Pears a failure, except on walls; Plums and Damsons scarcely any; Cherries of all kinds abundant; Apricots an average crop and fine fruit; Peaches and Nectarines very promising; Gooseberries and Raspberries both suffered very much. The former, although promising well in the spring were completely wrecked on June 15, some bushes not having a berry left on them. Raspberries have been very poor indeed. Black Currants plentiful. Red and White Currants very thin. Strawberries produced splendid crops, but owing to the dry weather at the time of swelling lasted but a short time.—E. BECKETT.

**Syon House, Brentford.**—The fruit crops in this district may be termed meagre, as in many cases choice Apples have not a single fruit; whilst a few others, chiefly cooking kinds of Apples, are heavily laden. Such varieties as Keswick, Manks Codlin, Lord Grosvenor, Grenadier, Lane's Prince Albert and Hawthornden are bearing very heavy crops, Alfriston also being very good. Early dessert kinds are fair crops. Pears may be put down as a failure, a few trees having a few fruit, many having none at all, the best being Louise Bonne of Jersey, Passe Colmar and Pit-maston Duchess. Plums of dessert kinds are a total failure, as out of many trees I have none. The same remarks apply to cooking varieties, there being very few, the only varieties bearing any being Victoria and Pond's Seedling. Damsons are a failure, though a better promise of fruit when in

bloom never was seen. Cherries have been abundant and good, but difficult to keep clean early in the season. There have been very fine crops of Rivers' Early Black, Governor Wood, Black Circassian and the Bigarreau section, these being on walls. Morellos are also a fair crop, but not overlaid, many fruits dropping in a young state. Bush trees are bearing good crops and in a clean healthy condition. I never knew a season so disastrous to the old trained trees, much wood being lost through gumming and canker. Peaches and Nectarines are a good crop, the trees very clean and healthy. These receive but little protection in the early spring, but are kept unnailed till the last moment. Apricots are giving us enormous crops, some of the trees being old. The crop set so freely, that much thinning was necessary. Small fruits have, on the whole, been only a medium crop. Strawberries abundant and good. Raspberries good and heavy crops; some of the weaker-growing varieties suffered much from frost, the canes being damaged, but the newer Superlative does well on our light soil, and though a few days later than some, it continues a longer time in bearing. Gooseberries have only been good on a few trees, such as the small reds or preserving kinds, the larger and more spreading growers being much injured by frost late in the spring. Red Currants are also a thin crop, owing to the same cause. Black Currants are better, but not a heavy crop. White Currants a fair crop. The crop of Figs in the open air is not good, as the severe frost of the past two winters did much damage to the wood. Walnuts and small nuts are not much grown in this district. Quinces and Medlars much poorer crop than is often seen.—G. WYTHES.

**Waddesdon, Aylesbury.**—Apples, Cherries and Plums were well furnished with fruit-buds, which, in consequence of most unfavourable weather, opened badly, and the set is very light except on Apples on espalier trees, which are carrying average crops of good clean fruit. Pears also are best on wall and espalier trees, where they are carrying about half a crop. Cherries and Plums very light even on espaliers; pyramidal trees of all kinds almost failures. Gooseberries very light crop, bushes clean and healthy. Currants (Black, Red and White) abundant and good. Raspberries fair, the late fruits swelling up well. Strawberries below average, both as to quality and crop.—J. JAQUES.

**Sewardstone Lodge, Chingford.**—Not for many years has such a poor crop of Pears and Plums been recorded in this district. On the other hand, Apples are a fair average crop, notably Blenheim Pippin, Gravenstein, and Gloria Mundi. Manks Codlin never fails. This is the best cropper out of 250 sorts grown in the district. Gooseberries, Currants and Raspberries plentiful; also Peaches, Nectarines, and Cherries. Strawberries an excellent crop.—J. NICHOLSON.

**Wycombe Abbey, High Wycombe.**—Apples an average crop of good quality. Pears very scarce generally. Plums very much below the average. Cherries abundant in most places; Morellos about an average. Peaches and Nectarines an average. Insect pests abound, and some trees very much infested with red spider. Apricots much under average. All kinds of small fruits plentiful and good. Walnuts under average. Nuts average.

The Potato crop in this district very good indeed and of the best quality. In places disease in a mild form is present, but many crops are quite unaffected. Very early kinds are ripe enough to be lifted, and unless fine weather continues it would be an advantage to get them up as early as possible.—GEO. THOS. MILES.

**Heckfield Place, Winchfield.**—It is gratifying to be able to give a favourable report of the fruit crops in this neighbourhood, and I think the various kinds may be classed as average with the exception of Pears and Plums. The trees were never more beautiful than at the last blooming season, and the late frosts did us little injury, Tower of Glamis, Mère de Ménage, King of the Pippins, Lord Burghley, Blenheim Orange, Hamble-

don Deux Ans, and many others carrying good crops. Pears on old-established trees are very scarce, Beurré Hardy, Ne Plus Meuris (which by-the-by never fails here), and one or two other less useful varieties alone carrying crops. Cordons with a northern aspect on the Quince stock are better, Beurré Diel, Durondeau, Marie Louise, Pit-maston Duchess, Doyenné du Comice, and Glou Morceau being most plentiful. Peaches, Nectarines, and Apricots are very good, and have required heavy thinning. The trees have kept very free from fly, but have been badly attacked with red spider in spite of repeated washings and waterings with a powerful hose. Cherries are abundant and good, only a few exposed trees of early varieties having suffered from late frosts. Bush fruits have been plentiful, but small, owing to the late continued spells of drought. The same remarks apply to Strawberries. Nuts are abundant, both hedgerow trees and cultivated varieties bearing freely.—A. MAXIM.

**Binsted Wyck, Alton, Hants.**—Apples, especially early sorts, are heavy about here, but in the valleys not so good. Pears are very scarce. Peaches and Nectarines plentiful, but late and small. Plums scarce, also Damsons, except the round ones, which are plentiful. Currants, Black, Red, and White, a heavy crop. Strawberries were a full crop, but late again this year owing to the late frosts. The sorts that did well with me were President, Keens' Seedling, Noble, and James Veitch. Sir Joseph Paxton did not do so well this year. I mean to try Vicomtesse Héricart de Thury, as it does well in the neighbourhood. I consider Keens' Seedling and President the best flavoured. Noble and Keens' Seedling are the two earliest with me. I make a new plantation every year with strong runners as soon as I can get them on trenched and well-manured land, and never allow them to stand over the third year.—JOHN ROGERS.

**Elvetham Park, Winchfield, Hants.**—The fruit crop here is one of the worst on record. Pears and Plums, total failure. Gooseberries, under average. We had a most promising show of bloom, but it was completely killed by the late spring frosts, 12° and 13° being registered on several mornings, and throughout the month of April we only escaped four mornings without frost. Raspberries, Currants, Black, Red and White, average crops and fruit good. Apples, being later, are a partial crop, the following being the best: Cox's Orange Pippin, Ribston Pippin, Margil, Summer Golden Pippin, Gravenstein, Fearn's Pippin, King of the Pippins, Hawthornden, Keswick Codlin, Blenheim Orange and Dumelow's Seedling. Peaches, Nectarines and Apricots, where protected, are a fair crop. Cherries very thin. Strawberries average crop, but soon over through the drought.—J. JONES.

**Cherkley Court, Leatherhead.**—Apples fair, some trees heavily cropped. Pears very poor. Peaches (outdoor trees) fair. Cherries very heavy crop, but fruit small. Plums, standard trees, very heavy crops. Wall trees very poor. Gooseberries the largest crop for many years. Currants, Red, White, and Black, good crops. Apples and Pears in some cases quite barren; in others so heavily cropped as to require propping up. No signs of Potato disease.—J. PAGE.

**Conholt Park, Andover.**—The fruit crop here, more especially wall fruit, is very thin. Pears are quite a failure. Plums and Apricots very thin. Morello Cherries are very good, other sorts very fair crops. Gooseberries are quite a failure here owing to the severe frosts in April. Black and Red Currants and Raspberries very heavy crops and fine. Strawberries about half a crop on old plants, and very soon over. Young plants of such as President, Sir Joseph Paxton, Sir Charles Napier, and Waterloo bore well. Apples are a good average crop, especially Grenadier, Ecklinville, Bramley's Seedling, Lane's Prince Albert, Worcester Pearmain, and King of the Pippins.

Potatoes are good and very free from disease.—J. BISSETT.



# ORCHARD AND FRUIT GARDEN.

## FRUIT TREES AS ORNAMENTAL SUBJECTS.

Why should not fruit trees be grown more for their beauty when in bloom? When we consider the flowering charms of a great portion of our fruit trees, is it not surprising that they are not more grown for their beauty when in flower?

In early spring nearly all hardy fruit trees, such as Apricots, Peaches, Plums, Cherries, Almonds, Apples, and Pears, are more or less ornamental—the double-flowering Peach, Cherry, and Almond being particularly so. All of these trees should be planted more abundantly than they are, for in the spring no shrubs are more attractive. They may be grown in any form, bush, pyramid, or standard, and to various sizes; and when flowering as standards in the open borders they form conspicuous objects. A little attention, however, is required as regards keeping them well supplied with young

The common wild Cherry is very attractive when in flower. The wild Crab is also very attractive. Many trees of this sort would be found well worth the trouble if planted in any open space in pleasure grounds or by the side of woodland walks, instead of the worthless subjects which now too often occupy such places.

**Training of Red Currant bushes.**—I have repeatedly spoken of the value of the method of training as referred to by "A. D." (p. 135), and after seeing the results attending such practice I wonder more of it is not seen in private gardens. Beyond securing annually a crop of fruit, the ease with which the fruit can be gathered and freedom from the honeydew-like covering which is so common to this fruit in some gardens are important. The fruit is always clean and of a bright colour, as it is so exposed owing to the annual pruning given the trees in June. Summer pinching of the shoots of Red Currants is too much ignored in some gardens on the score of want of time and the non-advantage rising from it, but it is surprising what a number of trees can be gone over by a handy man in a few hours. Where it is desired to keep

riety, but the fact remains that hardly a single flower failed to perfect its fruit. I am aware the air was pretty dry at the time. What is also remarkable about the Apple crop here this year is that varieties that have never borne anything like a full crop before have one now. I allude to such as Blenheim Orange, Lord Suffield, Golden Pippin, and New Hawthornden, for instance. I do not know if I am correct or not in attributing the full crops of these uncertain (here) kinds to two reasons, but both must tend to assist towards that end. About the middle of February the trees received a thorough soaking of liquid manure from the farmyard tank, enough to reach every root, the weather at the time being very dry. The foliage is also better than hitherto. This, I think, is owing to the assistance the trees received. I am of the opinion that we do not pay sufficient attention to feeding fruit trees during what is regarded as the resting period. Certainly the present appearance of our trees and the crops of fruit show the advantage of the treatment accorded. I hope in the future to put it to a better test. Previous to December of the year 1890 our trees were rather heavily coated with Moss and Lichen, but by employing for two seasons a mixture for cleansing the branches of the Moss, &c., the bark of the stem and branches is now quite polished in appearance, not an atom of Moss or Lichen to be seen. So much have the stems swollen, that the bark has split in many places, giving one the idea that the trees were hide-bound. All this must benefit the trees, resulting in a fuller crop and finer fruit. The soil here is very heavy, overlying a bed of nearly clay, the chalk foundation being perhaps 6 feet deep in this particular spot. The soil is heavy and cold, but not exactly clay. As denoting the difference in the soil here and only four miles away, Devonshire Quarrenden here is not nearly ripe at the present time (August 17), while on trees at the distance named the fruit was ripe and gathered at the end of July. If this is not a case of soil variation and its effects, what is it? I think very much depends upon the cultivator as to the trees bearing annually, provided they are not situated in a low valley where heavy dews are so prevalent just about the flowering period. If the trees are properly attended to with regard to summer and winter pruning, so that the wood is always thoroughly matured, I think a most important point is gained, and after the experience of this season I shall not dread 6° of frost while the trees are in full bloom. Not nearly enough attention is paid to the summer pruning or pinching of the young growth. Shoots that must of necessity be cut out during the winter ought to be removed much earlier, thus admitting air and light to the inside of the tree. Where trees are heavily cropped and are perhaps making but few shoots, how very often do we see the roots exposed to the drying influence of sun and wind. Even half a wheel-barrowful of manure would do a deal of good if laid on the surface about the stem, first covering the roots with soil. Mulching is a detail in Apple culture which many persons fail to grasp. Too many sorts are often planted without first knowing if all will succeed equally well; I mean on a large scale with a view to profit. A much better plan is to ascertain which sorts are likely to succeed by observing the kinds in the neighbourhood and comparing the kind of soil at command. I think the soil has much to do with the colour in Apples. Here most sorts colour well if the branches are kept thin. It is not possible to colour the fruit well otherwise. Colour in market Apples is a point to which much attention should be paid. E. MOLYNEUX.



Flowering spray of Citron des Carmes Pear. Engraved for THE GARDEN from a photograph sent by Mr. A. V. Harcourt, Malwood.

wood, as upon this the flowers are produced. They should also be planted in good soil to induce them to make plenty of growth. The double-flowering varieties of the Peach, Cherry, and Almond also force well. They are of easy cultivation, and well deserve a place in the conservatory amongst other flowering plants. When grown for this purpose they should have the same care in cultivation as when grown for fruit. Young maiden plants may be obtained from the nursery; these should be potted in the autumn and placed in a cool house until required for forcing, when they should be removed to a warm house where they will soon flower, after which they should be placed in the cooler quarters, where they will continue in bloom for a long time. After flowering the plants should not be placed outside all at once, as is the usual practice with subjects that have been forced. They should be kept under glass and well attended to in the way of watering and keeping free from red spider, aphids, &c., until the summer, when they may be gradually hardened off and finally placed out of doors in a position where they can have the full rays of the sun, so as to thoroughly ripen their wood.

Red Currants hanging on the trees until October, for instance, and no wall is available for this, these summer-pruned trees answer the purpose very well. Whether it is due to the soil or what I am unable to say, but our trees have received only two dressings of manure during the last ten years, and still they bear abundantly, and as long as this continues to be the case they will not receive any. Soil made too rich would result in gross, immature growth, which is neither desirable nor necessary.—E. M., Swanmore.

## THE APPLE CROP.

THE reports of the scarcity of the Apple crop in so many localities have come as a surprise to me this year. From the quantity of fruit here of all sorts I was the more surprised that some places have none, or comparatively so. Our success is due mainly to being situated on a high hill in a breezy situation. Certainly the quantity of fruit of some sorts puzzles me not a little. One notable case is Irish Peach, as both the young trees and those established some thirteen years are bearing freely. While this sort was in bloom we had 7° of frost; the centres of all expanded blooms were as black as the proverbial hat. Under such conditions I expected to see no fruit on the trees of that va-

**The Jargonelle Pear.**—We find on inquiry in the markets that this excellent Pear has been pushed aside by, as we think, the coarser Bon Chrétien. Samples of it in the London market are rare, and, when they do occur, not always saleable, owing to the demand for the Bon Chrétien. Perhaps the markets may be left to look after themselves; but we think it a great pity that a Pear like the Jargonelle—one which has the rare quality of doing well in northern parts of the country as well as in the warmer districts—should



be pushed aside for no reason. There is no early Pear in England quite so good as a perfect Jargonelle, and therefore, if we cannot find such Pears in the market, we must take care to plant them in our own gardens. The private fruit garden should be quite independent of the market and market ways; for these fruits are systematically grown without regard to flavour. Will they carry well, look large and showy? are the questions generally asked about any new kinds by market growers. In the French, as well as in our own markets, Strawberries are grown without the slightest regard to any other quality than that of carrying well. For the future, therefore, those who care to have good fruit gardens of their own should take care to have what is eatable. One good result of this will be that visitors to, and frequenters of, country houses will get a different and better supply than what they meet with in London houses and hotels. Gardeners are very apt to look to markets and market growers as the standard of perfection; but this tendency should be controlled. The larger our markets grow, the more we see prevailing standards which suit them, but do not suit a discriminating taste. Market sorts are apt to be adopted in the nurserymen's catalogues; and so it happens now that one may look in vain in many a country place even for the Jargonelle Pear—the best in flavour of all early Pears. We hope that all who care for this Pear will not fail to remind their gardeners in autumn to plant one or more trees of it. In many districts an excellent position is the end of a stable or a high wall of any kind; while in the south it should not want even that protection.—*Field*.

#### MUSCAT OF ALEXANDRIA CRACKING.

FOR some years I have been much bothered with Muscats cracking, similar to the berries enclosed, just when they commenced to take on the amber tint. Three years ago Mr. Coleman, Eastnor, put it down to too much sap and deep roofing. Since then the roots have been lifted and borders well drained, but cracking continues. They have had no manure at the roots for weeks past, and have been protected from heavy rains, and the house kept as dry as possible. They are quite healthy, with the exception of a little spider on foliage, and both bunches and berries are large and well filled up. The cause of it or remedy in the pages of THE GARDEN would much oblige.—J. D.

\* \* This is a very singular case of cracking and difficult to find a remedy for. The berries do not split in the usual manner, but crack round the footstalks, somewhat after the manner of Melons when nearly ripe. There appears to be no defect in the formation of the berries, but the footstalks are not so stout as they ought to be, though it is not to this I attribute the cracking. It is very probable that the latter is another instance of the ill results of constantly maintaining a very high temperature for Muscats. As a matter of fact they need not, nor, if started during February, should have so much more heat than other mid-season and late Grapes require. What they most need is plenty of light, warm air and sunshine, a free use of fire-heat in order to maintain exceptionally high temperatures being altogether uncalled for, and if the ventilation is not well understood, may easily prove injurious. High or comparatively high temperatures, accompanied with plenty of atmospheric moisture and much feeding at the roots, doubtless swell the berries to a great size, but this is often at the expense of quality, the true Muscat flavour not being developed till late in the season, and after the expenditure of a considerable amount of fire heat. The berries sent by "J. D." were of good quality, and my remarks as to over-feeding and such like scarcely apply in this case, but I still think that cracking might be stopped if a good circulation of warm and fairly dry air is kept up constantly from the time colouring commences. The house ought never to be wholly closed, a chink of both front and top air being left on all night, and air admitted very freely whenever the weather is at all warm. On no account should the fires be

let out, a good circulation of dry air not being often possible without the aid of a little warmth in the hot-water pipes. Especially ought fire heat to be freely applied during dull, wet, or cold weather, air being admitted more or less according to the external conditions. No fixed temperatures ought to be attempted at this time of year, but the house should always feel comfortably warm and dry on entering. That at any rate is my test, and "J. D." will do well to adopt it.—W. I.

#### MOISTURE FOR FRUIT TREES.

IT has often occurred to me that the majority of fruit trees, including with these flowering shrubs, do not receive a sufficient quantity of moisture during the growing period. This most forcibly applies to Vines, Peaches, and all fruits grown under glass. Undoubtedly many of the failures to be met with frequently arise from this cause. Provided there is good drainage, it is doubtful if the cultivator can overdo the roots with moisture during the growing period.

Has anyone seen trees and shrubs more heavily covered with bloom-buds than they were this year? No doubt had the spring been a favourable one we should have had an abundant crop of fruit of all kinds. This abundance of bloom-buds did not arise from the hot summer, which caused the wood to ripen. My own opinion is that the abundance of moisture was an important factor in the abundant blooming of the trees. I am of opinion that many cultivators place too much reliance on dry, hot air and not enough on moisture. The former is essential, but the latter is more so. But when we can have the two in abundance, so much the better for the cultivator. Last autumn I resolved to see what effects the past wet, cold, sunless summer had on fruit trees and shrubs. I was the more induced to do so seeing I am located in a reputedly rather wet locality (West Dorset) adjoining Devonshire. Added to this, the situation is low, only a few yards from the river Ais; so much so, that in a rainy time the garden fires are put out by the water overflowing from the river. Notwithstanding all these disadvantages, our fruit trees bloomed most abundantly. Nor does this apply to those trees that had no fruit on them last year. In this garden I could point out some trees of Marie Louise, also other varieties and several kinds of Plums, that had a very heavy crop of fruit on them last year. Contrary to my expectations, they were full of bloom again this spring. Again, some Apple trees close by which were heavily cropped last year are again full of fruit. Gooseberries, again, were no exception; likewise Black and Red Currants. Flowering shrubs of all kinds are a mass of bloom, and all this after so sunless and rainy a summer.

As far as fruits under glass are concerned, I do not remember to have seen better crops than are to be met with generally this season. Last autumn one heard many complaints that the wood would not ripen. But this is not so. It may be said extra firing was resorted to, but this could not apply to cold fruit houses. I have a long, cold Peach case with Peaches, Nectarines, and some few Plums in it, and, quite contrary to my three previous seasons' experience, every tree has a full crop. So abundantly did many of the trees bloom, that on a short 1 foot long I counted from twelve to eighteen fruits. Plums set equally well. All this did not arise from a light crop last year; the trees were heavily cropped.

During the whole of last season I gave the usual quantity of water. The lights are fixed. Vines again are looking grand, both those whose roots are in outside borders as well as otherwise. Some people are under the impression that Vine roots where growing in outside borders need protection from rain in winter, and accordingly use various methods of throwing off the wet. My firm conviction is that this is quite unnecessary, unless in the case of borders where the Vines are forced early.

I have three vineries, the Vines in all of which have their roots in outside borders. These borders

are all raised to a more or less extent, facing south. The treatment they had received was as follows; In late autumn they received a coating of manure; on this were placed red tiles (roofing) conveying the water off the border. In spring these were removed. When I took charge (middle of April) I found them in this state. The Grapes in these houses were not satisfactory. The first season the wood did not ripen well and the Grapes shrank badly. When the autumn came round I obtained permission to leave part of one of the borders uncovered; this was followed by the best results. After this I gave up covering the borders, and although only two years have passed, the improvement in the Vines is marvellous. When I came to examine these borders there was not a root to be found within a foot of the surface; now, by top feeding in summer and plenty of water, the roots are close to the top. The most astonishing thing is that a small house here which has two old Vines in it whose roots are unrestricted, travelling into the kitchen garden, have given the best results. This I used as an argument that covering the border was quite unnecessary.

Undoubtedly more Vines come to grief from want of moisture at the root than otherwise. The roots should be kept near the surface, not driven into the cold subsoil. DORSET.

#### FIGS—NEW VARIETIES.

THE splendid collection of Figs from the Royal Horticultural Society's Gardens staged at the last meeting of the society was interesting and instructive to lovers of this fruit, as no less than three dozen varieties were sent. Some, of course, out of such a large number had but little merit, but there were several really fine varieties and quite distinct from older kinds. Such a collection as this would do much to show the utility of Chiswick and the advantage the society possesses. Those who can afford the time to go to Chiswick this month will be able to judge as to the growth and habit of the different varieties, as they are now in splendid condition.

Mr. Barron, in his valuable report on Figs and their culture at Chiswick, gives a list of sixty-six varieties, but no doubt some are synonymous or so closely related, that it would be undesirable to grow all of the kinds. Another great advantage of this grand collection is the testing of their merits as regards flavour, size, season of ripening, colour, and the best cropping varieties. These points are most valuable to the grower who can only afford a small collection. For instance, some varieties crop abundantly and also give a second crop, whilst others are shy fruiters. It would be interesting if a few of the free-fruited newer kinds could be given wall culture and their outdoor qualities tested. I am well aware that in the open only a few varieties succeed; but some of the newer ones may prove worthy of such a trial on walls covered with glass cases.

I should imagine the variety named Trifer would make a good outside Fig, but I am only able to judge from its growth indoors, its free fruiting qualities and earliness. Madeleine I have grown on a west wall with success, the trees being well protected in the winter. This is one of the varieties not much known, a green or pale yellow fruit of fair flavour. Another point worth attention in the selection of varieties is the behaviour of the trees when giving their first crop. I once had a small collection of new varieties brought by my employer from Spain, and a more troublesome lot I never saw, as it seemed utterly impossible to keep a single fruit of the first crop on them. The varieties certificated should prove a valuable addition to our list of reliable kinds, one of the best being Bourjassote Grise, a medium-sized roundish Fig with deep red flesh and one of the most delicious Figs grown. I had a great liking for Gourand Noir, a medium-sized fruit of great merit, skin dark purple, even darker than Negro Largo, with red flesh very sweet and rich. Monaco Bianco was a first-class Fig for flavour, very juicy and rich, fruit of good size, roundish, skin green with dark red flesh and stated to be a free cropper. Nebian



is also worth notice, fruit very large, skin deep green with bright red flesh, very rich and luscious, a free bearer, and later than others. Signora Bianca is a beautiful fruit of medium size, pyriform, with long neck, green skin, flesh deep red, very rich, and one of the most delicious Figs grown, a strong grower, and late. Poulette also deserves notice on account of its rich qualities, fruit above medium size, deep green skin with purple markings, flesh deep red, fruit when ripe very juicy and rich in flavour. There are others worth notice, but the above six possess great merit not for mere size, but for quality. For pot culture they would prove a valuable addition where Figs are cultivated for their good flavour and free-bearing properties. Where only a small space is devoted to Figs the first named would no doubt be a reliable kind, as it is a free cropper and of excellent flavour.

G. WYTHES.

**Grape Muscat Hamburgh.**—It is doubtful if there is any better flavoured black Grape than this. Madresfield Court is an exceedingly fine kind, but for flavour I consider Muscat Hamburgh is superior. Undoubtedly it would be more grown if it was not for its capricious disposition. To all those who appreciate high flavour this kind commends itself. Recently when at Rousden I noticed this kind doing good service in a mixed house. I remember it used to be grown grandly at Farnborough Hill.—DORSET.

**Judging Grapes.**—During the month of August judges often have some knotty points to settle in the Grape classes. For instance, in small shows where but one class can be made for black Grapes in two, or it may be three bunches, very often three or four sorts are exhibited. I saw an instance of this a day or two since. Very fine examples of Gros Maroc in every respect except flavour the judges placed first. Other sorts, as Black Hamburgh and Madresfield Court, the judges placed behind that named, owing to their but third-rate quality as far as appearance was concerned, although the flavour of both was undoubtedly superior to that of Gros Maroc. It cannot be said that Gros Maroc is really good to eat in August, but such points as size of bunch, berry and colour cannot be passed over. I mention this as an instance of the difficulty that is very often experienced by judges at small shows where the classes are limited to two, one for each colour. I always make a point, where possible, of placing ripeness when combined with colour before mere appearance. I always prefer well-coloured Buckland Sweetwater, when combined with fair size of bunch and berry, to poorly-coloured examples of Muscat of Alexandria, no matter how large in bunch and berry, in spite of the reputation of the latter. One often has to adjudicate upon Black Alicante in a collection of fruit. This Grape cannot be regarded as of a high degree of excellence at this time of the year. Black Hamburgh when in good condition should always be preferred to examples of Madresfield Court which are not quite up to the mark, in spite of the reputation attached to it. When both, however, are represented by the best of examples the case is different, because I do not think any black Grape can equal Madresfield Court in all points. The Muscat flavour which it possesses gives it such an advantage over the older variety, that some regard must be paid to this in awarding prizes.—S.

**Nicotiana affinis.**—In his account of *Nicotiana affinis* Mr. Wythes draws attention to a very useful plant, and describes very well its cultivation as an annual. It does not, however, seem to be well recognised that this plant is in reality a perennial, and what is more to the point, in many districts a hardy perennial. Grown as a perennial it comes into bloom much earlier, and is stronger than when it is treated as an annual. Large clumps may be freely divided early in the summer, and the plants thus obtained are better able to withstand the drought which is often so fatal to newly-transplanted annuals. With regard to its hardiness, it

stood here in a fairly dry border in the season of 1890-91 when such things as *Choisya ternata* and *Cistus lusitanicus* were killed outright. In districts where it is not hardy it might be treated like Dahlias.—WM. ED. NICHOLSON, *Lewes*.

## KITCHEN GARDEN.

### MAKING A KITCHEN GARDEN.

In answer to the query of "Old Reader" at p. 151 as to the formation of a kitchen garden from Grass land, I will give my experience, having had this to carry out at different times. In the formation of a garden of this kind mistakes are often made, and if care is not taken the soil may remain comparatively sterile for two or three years. It appears a very easy matter to form a good kitchen garden out of such a site as a Grass field, all that appears necessary being to trench it over, placing the top spit at the bottom of the trench and the bottom at the top. Now this is where the mistake is made, for unless the ground should be naturally good to a fair depth, this turning of the soil upside down to the depth of 18 inches or 2 feet may end in failure. What is wanted is a fair depth of fertile soil. Decaying turf, as all gardeners know, is a storehouse of food for growing crops, although in this respect it is not always a universal blessing, for often it is the home of root-eating insects, particularly wireworm, which is often to be found in new gardens formed from Grass land. This may not be the case with the Grass land that "Old Reader" intends to make his kitchen garden of, as wireworm is seldom present in large quantities on clay soils.

In the first place, it must be seen whether the land requires draining, as it is better that this should be done before the soil is disturbed. Drainage plays an important part in the well-doing of crops. Land that is ill-drained will never produce satisfactory crops, as besides keeping the soil in a cold state through its water-logged condition, it prevents that aëration so necessary for the well-doing of the different subjects that it will be called upon to produce. It is astonishing how backward the crops are on these cold, undrained soils when compared with those on well-drained ground. It therefore behoves those who may have the formation of a kitchen garden to first see to the drainage. The carrying out of such work need not be referred to in this article, as the formation of the ground decides such work. Drainage, however, must be well done, so that the water can have a free course. The work should commence now, so that the turf can decay before cropping takes place in the spring. Not that general cropping is the best for the first season at any rate. A crop of Potatoes is the best the first year, this getting the soil into good order for the following season's cropping. At any rate, early Potatoes might be planted, and these could be got off in time to allow of the planting of winter vegetables. All these things have to be taken into consideration, as very often people with limited experience are under the impression that the soil can be quickly got into condition for the reception of quite small seeds. Whether manure or other correctives should be added at the time of trenching will, of course, depend upon circumstances. It is plain that anything which would tend to improve the working of the soil, and also its fertility, will have its due effect upon the crops which will follow. If the soil be clay, anything which could be added to ensure its free working will certainly be of great benefit, as very often such soils are often in-

capable of producing the crops they should on account of being too heavy. As we all know, a free use of manure is of great advantage; so also are burned or charred soil, garden refuse, and last, but not least, road scrapings. This last is a capital corrective where good material can be had, as besides containing a fair percentage of horse-droppings, it is also composed of a fair percentage of gritty matter, which tends to keep the soil open. How it should be used will, of course, depend upon the quantity at disposal. When there is plenty of any of the materials mentioned, one and all may be worked into the soil as the work proceeds, leaving a fair dressing of the best, such as decayed manure and refuse for forking into the surface in the spring. If by chance there should be very little, and manure in particular, it had much better be reserved for working into the surface in the spring, so as to add to the surface fertility for the immediate benefit of the crops which may follow. By commencing the work now the decay of the turf will commence, and the surface be opened up to the action of the winter frosts and snow, so that all will be in readiness for spring cropping. What has to be considered at the present time is the keeping of the most fertile soil at the top and the burying of the turf sufficiently deep to cause decay, but yet not too far from the surface, although deep enough to keep it from growing through. What is known by gardeners as bastard trenching is the best to adopt, although it will differ slightly on account of the growing turf. In the ordinary course of bastard trenching the top soil in its entirety is kept on the surface, the bottom being forked over, at the same time adding manure. Any attempt at deep trenching, such as the old system of three spits, turning it upside down, would only result in failure, and very likely, as previously hinted, would make the surface soil sterile for some time to come.

In commencing the work take out a trench 3 feet wide, as there is nothing like having ample room for working, cramped trenches preventing the work from being carried out expeditiously. The turf should be taken off first to the depth of 2 inches, not more, and of course it will be the same with each succeeding trench. Now take out a good spit of the top soil, and take this and also the turf from the first trench to where the work will finish. The bottom soil should now be forked over, adding the correctives and also the top turf of the next trench, and on to this place the next spit of soil, which from being immediately under the turf will be in a fertile state. The work should be carried on in this way until the whole is finished. By the following spring this top soil will be well broken down, and into this should be lightly forked the manure and burned refuse. If it could be so managed to crop it with Potatoes, it would be all the better for the succeeding crops. Potatoes clean the soil, and the planting, hoeing, moulding up and so forth get the soil into good working order. If the whole could be turned over again in twelve months' time, there would be a good depth of pulverised soil. If any constituents, such as lime, should be lacking, these could also be added.

As regards the preparation of the soil for the orchard, it will depend entirely upon the class of trees it is intended to plant. For instance, if the orchard is to be on Grass and the trees which it is intended to plant are standards, then only stations need be formed at the distance apart decided for the trees. On the other hand, if the orchard is to be mixed and to include small fruits as well, then the whole should be treated as I have advised for the kitchen gar-



den. Stations for standards are generally formed about 6 feet over, and to the depth of 18 inches or 2 feet. The whole of the soil should be taken out, taking care when it is returned that the good soil is kept on the surface, the turf being placed just beneath the roots. The turf as it decays will feed the roots, as if placed too far down and the subsoil should be of an indifferent description, it is apt to attract the roots downwards. If any correctives are needed, they should be added at the filling-in. A. Y. A.

#### VENTILATING CUCUMBER HOUSES.

UNTIL I turned my attention to market growing I was a ventilator, as in a gentleman's garden it is more important to have a regular supply for a considerable period than to cut a great number of Cucumbers early in the season. There is no doubt that Cucumbers can be rushed on with heat and moisture. During the hot days of last June the growth was marvellous; small fruits one day would be large fruits fit to cut the next. I calculate that by the non-ventilating system with abundance of moisture about double the quantity of Cucumbers may be cut in a given time from the same space as when air is given. It should be understood, however, that in market growing large houses are mostly employed, and therefore there is not that sense of stagnation that is present when a small house is kept closed. In a house 100 feet or 200 feet long there is always a certain amount of circulation going on. For Cucumber-growing on the non-ventilating system, I prefer the houses which are span-roofed to run east and west, and then if the south side of the span is shaded with whitening and size, the plants may have the full light from clear glass on the north side. A house running north and south would require both sides shaded, and this would darken the house so much as to weaken growth, and the plants would sooner succumb to the forcing treatment. Under this system if the plants are to have any degree of permanency they must have plenty of space. The plants should be not less than 10 feet apart, as the growth after the plants are well started and on the trellis is exceedingly rapid, and if planted as near as they generally are in private gardens, the knife would always have to be in evidence, and this would be ruinous in effect. What is wanted in Cucumber culture is quick growth, and this the non-ventilating system gives in a very marked manner accompanied by colour and shape. It is just possible that a Cucumber grown so rapidly will not keep fresh so long, but one never hears complaints; perhaps the rapid sale prevents this, and certainly the fruit is beautifully fresh and green. A small house worked on the non-ventilating system would probably be stuffy, but this is not felt in a large house. Everybody has to make the best of the means at his disposal, and it should always be borne in mind that Cucumbers from Easter to Whitsuntide are worth at least double what they will be later on, and if the plants give way under the pressure (which if they have room enough they seldom do), even then it pays better to run them out and fill in again with young plants which are usually kept in stock in case of a blank appearing. E. H.

**Thick sowing.**—The evil of thick sowing is more general in the case of drills than in ordinary broadcast sowing. It is not at all uncommon for seedling plants to be found at the rate of fifty to the foot run, and then have to be thinned down to some three or four. That is a practice, of course, much to the profit of the seedsman, but it is costly and inflicts upon the gardener much needless labour. The chief excuse is found in the ordinary assertion, "Oh! it is easy to pull out, but very difficult to put in after growth." That may be true, but it hardly necessitates the waste of ninety per cent. of the seed or plan's. When, as is so often the case, the seedling plants are left thick in the drills, how soon they are starved or choked. In the case of Peas, we are told by writers to

dibble them in thinly, the strong growers from 3 to 4 inches apart. It is only in theory that such practice is followed. In reality the seeds are sown as thickly as ever, and no thinning follows unless the birds do it, and their practice is not good. The best Pea sowing almost always is found when a drill is used, as in this the seed delivery is easily regulated, and then what looks to be a thin plant is found later to give a robust, holding and abundant produce.—A. D.

#### TOMATOES IN THE OPEN AIR.

FOR the last three weeks I have been gathering Ham Green Favourite in quantity from plants growing in the open air trained to stakes. They are as well coloured and ripened as those that have been grown under glass. The difficulty of growing Tomatoes on a large scale so as to realise a profit from them is to get strong plants to set out at the right time. The bed from which I am gathering now contains between 500 and 600 plants. The seeds were sown in February, the plants pricked off into single pots, and afterwards shifted into 5-inch pots. It is this keeping the plants moving on that gives such valuable results. When the plants were set out towards the end of May, a dull, showery day was selected. Most of them had blossoms, but there was no fruit swelling. The land had been well manured and cultivated during the winter and was in good condition, as without good culture Tomatoes cannot be profitable. It is useless to set out small plants; they will set and bear plenty of fruit, but if cold and damp; disease sets in in September, if not earlier, and the crop is useless. The old red is undoubtedly a good cropper, but with me it is more liable to disease than either Conference or Ham Green Favourite. I had tons of the old red diseased last year, and many of the late fruits, splendid fruits to look at when gathered and apparently free from blemish, took the disease in ripening and were useless. In addition to setting out strong plants, it is a decided advantage to give the plants plenty of room. I find it is better to set the plants 4 feet apart each way and take up from three to four stems, instead of one. The outside shoots are trained up to stakes in the same way as is done with the central stem. A Tomato plant grown in this way when properly staked out is worked on the same principle as a Dahlia when exhibition blooms are required—one stake in the centre and from three to four other stakes round the outside at equal distances apart, so placed that air can circulate among the foliage and assist in the setting and swelling of the fruits. The advantage of this plan is that 100 plants will produce as many fruits as 1000 single-stemmed plants, and they are more vigorous and the fruits more even in size. So much pinching and stopping are unnatural, and undoubtedly weaken the plants, and though I have been in favour in some cases of this pinching for the sake of getting the fruit ripe early in the season, more recent experience has convinced me that where the plants can have room given up to them under glass in spring to get them strong, the more branches a plant has the better, provided they are not allowed to become overcrowded. E. HOBDAV.

#### SHORT NOTES.—KITCHEN.

**Gate House Pea.**—A local variety of great excellence. We grow it largely for successional crops. I have yet to find a better. Sure cropper and quite a showy variety.—R. GILBERT.

**Surpasse Tomato.**—This variety I have grown for many years. I am told by lovers of Tomatoes it is one of the best to eat uncooked. For outdoor culture in a fine hot summer it surpasses for cropping all I ever grew.—R. GILBERT.

**Bean Canadian Wonder.**—I should doubt if there is a better variety than this for open-air culture. It is vigorous, very productive, the quality is excellent, and the colour good when cooked. Not having tried it under glass, I do not know what its merits may be for this purpose, but I am

told that it forces very well. As a main-crop kind, I prefer it to all others I have hitherto grown. Like all dwarf Beans, it must have good soil or its productive powers cannot be fully appreciated.—J. C. B.

#### ORCHIDS.

##### CATTLEYA SCHILLERIANA.

A FLOWER of this plant comes from B. West. It is thick and fleshy in texture and charming in colour. It resembles that of the plant figured in Warner's "Select Orchidaceous Plants" under the name of C. Regnelli. The flower now before me measures  $4\frac{1}{2}$  inches across, the sepals and petals being about equal, the ground colour bronzy-green, profusely spotted with deep purple tinged with a brown shade. The lip is three-lobed, the lateral lobes white streaked with rosy purple on the outside, and flushed with the same colour. The plant first bloomed in the collection of M. Schiller, of Hamburg, about thirty-five years ago, since which time it has been repeatedly imported from Bahia, from which I infer that it must grow naturally in this neighbourhood. I have always grown it at the warmest end of the Cattleya house, keeping the atmosphere well charged with moisture during the summer season. It thrives better on a block of wood or in a small basket than in a pot, and does not like much soil about it; it likes plenty of light, but at the same time it requires shading from the strongest sunshine. During this time it should be kept moist at the roots. The block or basket in which it may be growing should be sprinkled regularly during the day, and at no season of the year should the plant be allowed to get dry. Want of attention to this fact, I think, accounts for its apparent scarcity in collections. It begins to grow early in the season, and blooms immediately upon its young growth, bearing from three to five flowers upon its erect scape. After a short rest it starts growing again, and about September the second crop of flowers is produced. These blooms, if properly cared for, will remain in full perfection for three weeks or a month.

W. H. GOWER.

**Masdevallia Roezli.**—This magnificent member of the Chimæroid group was introduced by Mr. Sander, of St. Albans. Its flowers are very large, with a pale ground colour; but its sepals are so profusely marked with black spots, that very little of the ground colour can be discerned. A magnificent variety is now flowering with Mr. Dorman, of Sydenham.—W.

**Masdevallia troglodytes.**—This is a somewhat rare kind, which has now been known to us for some fifteen or sixteen years. It has some affinity with M. Houtteana, but from this species it is quite distinct. A nice plant is now flowering in Mr. Dorman's collection at Sydenham. The flowers are white on the outside and rich reddish-brown within. It is a native of New Grenada.—G.

**Masdevallia severa** is a very distinct looking form which I recently saw flowering in Mr. Wm. Bull's nursery, by whom it was introduced to cultivation. It is one of the Chimæra set. From the typical form, however, it is quite distinct, bearing smaller flowers, which have narrower sepals. The ground colour is pale yellowish, very densely spotted with reddish brown. Like all this set of plants, it requires more warmth than those of the coccinea group.—W.

**Odontoglossum vexillarium superbum.**—This undoubtedly is the most distinct and beautiful variety of this grand species which has ever been found. It is now in bloom in the collection of Mr. Dorman, The Firs, Laurie Park, Sydenham.



The flowers, rather below the average size, are of a bright rosy pink, and having at the base of the lip a large triangular blotch of dark purplish red, in front of which is a zone of pure white. This variety, I believe, first flowered in the collection of Sir Trevor Lawrence at Burford Lodge, Dorking, but that now flowering with Mr. Dorman is equally as good. — W. H. G.

**Cypripedium Youngianum.**—This is a very handsome hybrid, raised by Mr. Sander, of St. Albans, and flowered by him for the first time about two years ago. It was raised between C.

known as *C. Youngianum superbum*, which is more strongly marked. — W. H. G.

**Saccolabium cœleste.**—C. Edwards sends me some nice blooms of this exquisite Siamese gem. The tips of those marked No. 1 are much deeper in colour than those of No. 2. Loose flowers of this plant are not quite the thing to enable one to say which are the most beautiful. Both forms will have their admirers, and both forms have been well figured; the lighter flowers in the "Reichenbachia," series 2, t. 30, and the No. 1 variety in the "Orchid Album," t. 361. This plant should be kept in a

each between 2 feet and 3 feet long and 5 inches wide, their firm texture and rich green colour in themselves enabling the species to rank as a striking plant. Whilst the head of flowers is held sufficiently above the leaves for its full beauty to be seen, it is near enough to gain all the advantage a deep green background of foliage always gives. The whole umbel of flowers is about 18 inches in diameter, that of each flower being 8 inches, the segments of the perianth being linear and of the purest shade of white, as is also the funnel-shaped tube in the centre. This *Pancratium* is one of the oldest stove plants in cultivation, having been introduced from the West Indies in 1759. It is of the easiest cultivation and may be grown for a long time without being disturbed at the root. Several potfuls have been in the Palm house at Kew for many years. The plants should be given good-sized pots, those, say, 12 inches in diameter serving for three or four fully-developed bulbs. During the period of growth and when in flower, water should be freely supplied, but at other times but little is needed. The flowers are exquisitely fragrant.

## FERNS.

### FERNS FOR INDOOR DECORATION.

I AM asked by Mrs. Shipley what kinds of Ferns are suitable for room decoration. She says she has a small house with a little warmth, and she wants to grow some plants which will stand well indoors. I will just name a few kinds which will make a good display in her fernery and provide suitable plants for the dwelling-house. For the decoration of the house, the plants should not be kept too long indoors, and it would be well to remove them for two or three days into a shady part of the greenhouse from the fernery before putting them into the dwelling-house. The genus *Phlebodium* contains one or two beautiful species for this purpose. *P. aureum* is especially valuable, making fronds some 3 feet to 6 feet in height, deeply pinnatifid, and of a bluish-green colour, the stout rhizome being clothed with large scales. *P. sporodocarpum* is another beautiful plant, which grows some 2 feet or 3 feet high, and the fronds are very glaucous. Of the Ribbon Ferns (*Pteris serrulata*) there are many varieties of great beauty, all of which are very suitable for room decoration. *P. tremula* is largely used. There is a beautiful crested variety of this called *Smithiana*, which stands well indoors. *P. longifolia* is another species of great beauty, and so also are *P. cretica* and its variety *albo-lineata*. The variety *Mayi* is even more valuable. Turning from these to the Maiden-hair Ferns, several make delightful ornaments in a room. Among these are *Adiantum formosum*, a tall growing species with beautiful jet-black stems and rich green pinnæ; *A. affine*, *A. tenerum*, *A. glaucophyllum*, and *A. cuneatum*. Amongst the Lomarias will be found several fine plants for this purpose, *L. discolor* being amongst the most beautiful. For this, however, a certain amount of room is necessary. *L. gibba*, *L. fluviatilis*, a lovely plant, more especially when its fertile fronds are of full size, and many other kinds might be named. *Neottopteris australasica*, with its broad simple fronds, forms a very striking object. *Onychium japonicum* is another plant of a light and graceful nature. The Aspleniums are a large family, among them being many plants which are very suitable for places of this description, *A. bulbiferum*, *A. dimorphum*, *A. Fabianum*, and *A. præmorsum* being conspicuous amongst the larger growing kinds; while such kinds as *A. fragrans*, *A. Bolangeri*, *A. pulchellum*, *A. Richardi*, *A. myriophyllum*, and *A. formosum*



*Pteris cretica.*

*superbiens* and the variety of *C. philippinense* known as *C. Roebolini*, and is named in honour of Mr. Young, of Linnet Lane, Liverpool. The dorsal sepal is white, with numerous dark purple veins along it; lower sepal of good size, white, but with paler green nerves and fewer of them; petals broad and not twisted, drooping, some 4 inches long; the ground colour creamy white, flushed with rosy flesh towards the tips, and near the base yellowish green and spotted with deep purple. The lip very much resembles that of its parent, *C. superbiens*. This very elegant plant is now flowering in Mr. Measures' collection, The Woodlands, Streatham. Beside it also in bloom is a variety

temperature which does not fall below 65° in winter, and having no pseudo-bulbs to draw upon for moisture through its resting season, it must be kept sufficiently moist to preserve its leaves from turning yellow. — W. H. G.

***Pancratium speciosum.***—Of the stove bulbous plants in cultivation, there is none perhaps, when *Eucharis amazonica* is left out, that can be said to surpass this *Pancratium* in beauty. In almost every way it may be said to rank as a perfect garden plant. In the Palm house at Kew it may now be seen grandly in flower. The leaves are



are all very handsome, small-growing kinds. *Todea africana* is also another bold-growing plant with stout leathery leaves, well suited to withstand any amount of draught, as also is *Dicksonia antarctica*, which will be found useful when small. The above-named plants will make up a very nice collection to draw from, and they may be all easily grown into good useful specimens. They should be potted in moderately-sized pots, which must be well drained. They should be grown in a nice moist atmosphere and be occasionally syringed overhead.

WM. HUGH GOWER.

#### SHORT NOTES.—FERNS.

*Oleandra neriiformis* (T. Bester).—This is the name of the Fern you send. It is of quite a shrubby habit, and should be grown without support. It may be exhibited amongst a collection of ornamental fine-foliaged plants if Ferns are not excluded.—W.

*Specimen of a Tree Fern* (J. Hummings).—I cannot tell what your Fern is. You say it "comes from Brazil and has a prickly stem." I daresay it is one of the *Cyatheas*, but I cannot determine which species. Probably it is *C. arborea* or some closely allied kind.—W.

### STOVE AND GREENHOUSE.

#### TUBEROUS-ROOTED TROPÆOLUMS.

I AM asked by "H. E.," who does not grow these in a satisfactory manner, to say something about their management. Now is a very good time to begin with them, as naturally they begin to grow in the month of September or October, growing all through the winter and flowering about April. I used to have at one time a great quantity of these tubers under my care, but of late years they have not been seen so frequently. The pots for these bulbs should be specially well drained. I have found it is by far the best plan to place the tubers at once in their flowering pots, as they do not like shifting. Make the pot only half full of soil at the time of starting, and fill up the other half at about twice through the winter. The bulbs do not dislike this burying in any way. For potting them I like to use one half good light fibrous loam, and the other half a mixture of peat, leaf mould, and a little sand. The tubers should be about half buried in this, and the pots should be stood in a shady place at the warm end of the greenhouse. The soil should be kept just moist until the tubers begin to shoot. Some kind of trellis, which should be put up as soon as the tubers are planted, will be necessary for the plants to climb on. Flat wire trellises were much the fashion years ago, but I object to these, and if wire is to be used, an umbrella-shaped trellis is the best. I prefer sprays of Larch or Spruce, and upon these the plants display themselves to the best advantage, the rich scarlet and yellow flowers tipped with purple of *T. tricolor* being freely produced. In *T. azureum* the flowers are violet-blue, and in *T. brachyceras* they are yellow. While the plants are growing an occasional dose of weak liquid manure will be found of great advantage. I prefer this to mixing manure with the soil. After blooming, the plants should be carefully tended to allow the tubers to finish off properly. When the leaves begin to turn yellow, less water should be given, and the supply should be gradually lessened until the plants have died down. The pots may then be laid upon their sides and left dry until the end of the month of August, when they should be

turned out and preparations made for starting them into growth about the end of September. Treated in this manner I have had them grow and flower beautifully.

W. H. G.

#### ROMAN HYACINTHS FOR EARLY FORCING.

DESPITE the fact that during the autumn and winter months we have in *Chrysanthemums* alone an almost unlimited supply of white flowers, there is always a scarcity, so to speak, of pure white flowers. It is at times like these, and especially from October to January, that the pure white fragrant spikes of these early Roman Hyacinths are so much in demand and meet with a ready sale. In their purity and fragrance they are not surpassed by any other flower during the time stated, especially when we compare the ease with which they may be grown to perfection, combined with their general utility. Another item of importance, particularly to growers of such things in quantity, is that they are quickly turned to account when abundance of bottom heat is at command—an essential in the quick production of their useful spikes of flowers. But while heat plays so important a part later on, we must not lose sight of the equally important fact that to get the flowers early, an early start must be made in procuring and potting the bulbs. This indeed is of primary importance not only with these, but with all bulbous-rooted plants intended for forcing during the ensuing winter. It is very satisfactory to note the good condition of the earliest consignments. Larger I have seen certainly, but, taken all in all, the bulbs are of excellent quality. This was generally expected as a result of the good weather in May and June, a time when so many bulbs are maturing themselves, and given careful treatment from potting onwards, good results should naturally follow. If not already done, procure the bulbs without further delay. It is also worthy of note that the best quality are not only best, but cheapest, as these frequently give two and three spikes each; whereas the smaller sizes usually produce but one, and where space is limited, quality should stand before quantity. As soon as the bulbs are to hand, preparations may be made for potting them. The soil may consist principally of good loam fairly rich, but not too heavy; add to this some leaf soil and sharp sand. The soil should be sufficiently moist at potting time to cause the bulbs to start roots at once; while if over-dry, the chances are that the bulbs may still remain some time dormant, which would mean a decided drawback to their earliness. When well rooted, water may be given in plenty and that without fear. In potting I prefer to pot the whole of the season's crop at one time, or as near to this as it is possible to do it. Some prefer to pot in batches to produce successional batches of flower, but this latter can be better regulated by their introduction into heat than in any other way I know; indeed, they have a decided advantage over later potted bulbs, inasmuch as they will have made a maximum of roots, than which there is no greater or surer aid in all early forcing of bulbous plants. The later portions will, however, when treated as I have just suggested, require attention now and then to be sure that no mischief is being caused to any flower-spikes by the weight of the plunging material, and any that are pushing remove at once. In potting them, some 5-inch or 6-inch pots will be found as convenient as any, inserting as many as five or six bulbs in each according to size, burying them almost completely, and making them very firm in the soil. This last is needful to keep them in position, as if neglected, the bulbs will sometimes lift themselves out of the soil. When potting is completed, place them on a hard bottom of coal ashes, and cover either with the same material or cocoa-nut fibre; if the former, 4 inches or 6 inches deep will suffice, but if the latter, they should be covered fully 8 inches. Unless coal ashes are procurable that have been some time exposed to atmospheric conditions, I advise the exclusive use of the cocoa fibre, and

even where ashes are plentiful and very cheap I prefer, as a precautionary measure, to place a handful of fibre over each pot before putting on the ashes, which may contain an amount of sulphur sufficient to mark the tips of the leaves, and thus render them unsightly. Once plunged they will be safe enough for the present, while the average rainfall at this season of the year will keep them sufficiently moist for all purposes. Where very early flowers are required, say for the middle of October or thereabouts, a small batch may be introduced into warmth in a month or so from potting time, and placed on a gentle bottom heat of 75° to 85°, being covered for the time being with fresh cocoa fibre. It should be stated, however, for the benefit of those less experienced in these matters that these very early batches can rarely, if ever, be persuaded to produce their average length of stem. It is so with other things besides these that are what may be called overforced, but where left a fortnight or so longer produced results far more satisfactory. In those instances where early October flowers are an absolute necessity, this can only be done by securing the bulbs at the earliest possible moment and setting them going without a day's delay. A very large number, I have no doubt, will be satisfied with getting flowers any time during November and onwards. When first placed on the bottom heat and before being covered up the whole should receive a thorough watering, allowing them to remain uncovered during the night, placing the fibre on early next day. From this time a moist, warm temperature must be maintained, and with the bottom heat above-named growth will quickly ensue. When the growths have attained a height of about 6 inches the bulbs may be taken from the fibre and stood in the same house in a darkened spot for a few days, giving a thorough watering. By degrees the foliage will assume its proper hue, and the plants may receive more light. When the flowers begin to expand, a lower temperature will suit them best and keep them in presentable condition for some time. E. J.

**Fuchsias.**—There would seem to be differences of opinion with regard to some of the older Fuchsias, for in Mr. Fry's paper on the subject, read at the last meeting of the Royal Horticultural Society, and noticed in a condensed form in THE GARDEN, p. 150, that gentleman is, according to the report, responsible for the statement, that "in 1830 *Fuchsia globosa*, one of the handsomest and hardiest Fuchsias, was raised near Edinburgh." Now according to the "Dictionary of Gardening," *F. globosa*, which is there classed as a variety of *F. macrostema*, is said to be a native of Chili, but the fact is also mentioned that a seedling from it (*F. Riccartoni*) was raised at Riccarton, near Edinburgh, about 1830. It is probable that this last is the variety referred to, and not the ordinary *F. globosa*. Mr. Bunyard thought some of the new varieties had a bad habit, and in this respect nearly everyone will, I think, agree with him, for with Fuchsias, as with many other classes of plants, the one thing aimed at seems to be the production of huge blooms, while grace, symmetry, good habit, and freedom of flowering are all to a great extent ignored. The very large double blossoms which constitute the bulk of those sent out are many of them positively ugly, and if the plant is moved about at all, the flowers, from their weight, quickly drop.—H. P.

**Cyphomandra fragrans.**—In the large temperate house at Kew, the most noteworthy flowering plant just now is a specimen of this fragrant *Cyphomandra*. It might almost be termed a small tree, being 10 feet in height and having a main stem a foot in circumference. The majority of the branches assume a spreading, almost horizontal direction in growth, the whole plant being 6 yards through. This habit is admirably adapted for showing off the flowers to best advantage, for they are borne in racemes 6 inches to 8 inches long, and hang perpendicularly downwards beneath the branches. About a dozen flowers may be seen on



the raceme in various stages at one time, the younger ones being of a violet-purple, which gradually changes to green as they become older. It remains in bloom for several weeks, the flowers at the base of the raceme falling before those at the apex expand. At the present time some hundreds of these racemes may be seen. The species is one of remarkably quick growth, the specimen here noted having been planted out in its present position about four years ago, when only 3 feet high and with a stem scarcely as thick as one's finger. For quickly filling a space in a large house this plant, considering its great beauty and distinct character, would be very valuable. For those, however, who could not accommodate a specimen of the size described, it may easily be kept within bounds by pruning. It is a native of Brazil, and belongs to the natural order Solanaceae.

## TREES AND SHRUBS.

### LITTLE-KNOWN TREES AND SHRUBS.

SOUTHERN ENGLAND, particularly the maritime counties, is unusually rich in specimens of the rarer or less common trees and shrubs, a fact that may be partially explained away by the favoured climate, but particularly the more enterprising turn of English nurserymen in the introducing and disseminating of new forms of trees and shrubs. Of late years many valuable additions to these have been made, occasional specimens of which are now and then to be found ornamenting the grounds of a few at least of the estates in Southern England. When visiting old gardens and grounds it is always pleasing to fall in with specimens of the less common trees and shrubs, particularly when these are in a thriving condition, as then one may pick up some information regarding the surroundings that have proved suitable for the cultivation of the particular species.

*CLERODENDRON TRICHOTOMUM* is certainly one of the most valuable additions to our shrub list that has been made for a very long time. It is of thick bushy habit, with bold dark green leaves and purplish-white flowers that are deliciously fragrant. That it is quite hardy in England has been conclusively proved in several widely different parts of the country, and where it has formed nice bushy specimens and flowered well from year to year. Here it thrives luxuriantly in light gravelly peat. Another highly ornamental shrub and one that when better known is sure to attract considerable attention is

*CESALPINIA JAPONICA*.—This is of curious growth, being armed with prickles, while the foliage is unusually soft and pleasing. It would seem to be quite hardy in Southern England at least and grows freely enough. The yellow and plentifully produced flowers are very ornamental.

*PAVIA MACROSTACHYA* (the Buckeye) is another big-growing shrub, or rather small tree, that one does not see half often enough. The profusion of Hyacinth-like flowers renders the tree in July and August one of particular beauty, and as it is of free growth, quite hardy and easy of propagation, it is sure, when better known, to find favour with lovers of hardy trees and shrubs. The comparatively new

*CYTISUS SCOPARIUS ANDREANUS* is undoubtedly one of the most ornamental flowered shrubs that our gardens have been enriched with for many a day. Although only a variety of our common Broom, in which the wings are of the richest golden brown, this pretty plant is sure to become widely disseminated in a very few years. It is quite hardy, and has bloomed with me profusely even in a very young state. For beauty of foliage,

THE RINGLET-LEAVED WILLOW (*Salix babylonica annularis*) is well worthy of cultivation, it being one of the most curious, and at the same time most desirable of the extensive family to which it belongs.

*STYRAX JAPONICA* must find a place in every well-managed garden, if only for the pretty pure white and sweetly-scented flowers. A note from cultivators as to how it has stood during the past two winters would be of interest. Here in Kent it does well and grows stout and strong in light gravelly peat.

THE CRESTED BEECH (*Fagus sylvatica cristata*) has the leaves bundled at the ends of the twigs, thus imparting a curious, but by no means objectionable appearance. A tree of it here is certainly of great interest. What I have under the name of

*INDIGOFERA DOSUA*, but which may probably be a slight variety of the better-known *I. Gerardiana*, is at present the most showy shrub in the nursery borders. The pea-green foliage and racemes of rosy pink flowers are both pretty and effective.

CHRIST'S THORN (*Paliurus aculeatus*) is not very well known—a pity, for its Acacia like leaves and quantities of yellow flowers cause it to attract attention.

*CORNUS BRACHYPODA* is sure when better known to become a general favourite. The foliage is ample, and the profusion of yellowish white flowers renders the tree one of great interest.

*EUCRYPHIA PINNATIFOLIA*, if only for its beautifully cut foliage, is well worthy of attention, while the pretty white flowers cause the plant in July and August to be especially valuable. It seems to do well in the open border in light stony soil.

*RHUS GLABRA* (the smooth Sumach) is, if only for its panicles of scarlet flowers, a medium-sized shrub that planters would do well to make a note of, it being quite hardy, of free growth, and neat in appearance. It might be well to mention that the female form is distinctly preferable, the male having greenish yellow flowers.

THE AZOREAN PORTUGAL LAUREL is very unlike our commonly cultivated kind, being of open habit, having larger leaves, and with the bark of the shoots of a conspicuous pinky tint. It seems to be quite hardy and grows freely enough.

*VIBURNUM DENTATUM* (the Arrow-wood) can be highly recommended as a distinct ornamental shrub, having pretty white flowers, which are well set off by the dark green, deeply-veined leaves. It is perfectly hardy.

These are a few of the less commonly grown trees and shrubs, and which, from their being very ornamental, should be included in the lists of such for autumn planting.

Holwood.

A. D. W.

*Indigofera Gerardiana*.—This beautiful shrub well merits the notice accorded it on p. 132, and while it is an object of great beauty every year in the open border at Kew, there are districts where it cannot be depended upon in such a position, but even then it is just the thing for a wall, as it forms quite a mass of light pinnate leaves which renders it very attractive, while about August the charming purple blossoms are borne in great profusion. The white-flowered variety, also alluded to, is a good companion to the above, and is equally free flowering. The fact that the white form under the name of *Indigofera floribunda alba* was awarded a first-class certificate by the Royal Horticultural Society last year is also mentioned, while a singular feature in connection with it is that the same award was twice bestowed upon it, first in 1884, and again in 1891. In both instances the exhibitors were the same, viz., Messrs. Veitch and Sons. Like many other plants belonging to the same order (Leguminosae), this succeeds in dry sandy soils better than many shrubs.—H. P.

*Lespedeza bicolor*.—About the middle of August this commences to flower, in which stage it is, though less showy than some of its allies, very pretty and well worth a place in the garden, especially when the season of blooming is borne in mind, for plants of a shrubby or half-shrubby character that bloom in August are very limited in number. The *Lespedeza* reaches a height of about 4 feet, and usually consists of several upright

stems, clothed with trifoliate leaves and terminated by numbers of purplish coloured blossoms. The stems die down to the ground, or nearly so, every year, and fresh ones are pushed up in the spring. The roots of this descend to a considerable depth, and consequently it resists drought well. One feature in connection with this *Lespedeza* puzzles me, and that is why it is in most publications regarded as synonymous with *Desmodium penduliflorum*, a totally different plant. The *Desmodium* is the more ornamental of the two, but as it does not commence to flower till the other is nearly over, a place may in most gardens be found for both. The *Desmodium* reaches a height of 6 feet or even more, while the long wand-like shoots arch over in a very graceful manner, especially when they are laden with crowded racemes of rosy purple, Pea-shaped blossoms. When the weather is favourable this forms a beautiful autumn picture, but early frosts often rob the plant of a good deal of its beauty, and in some seasons very few flowers expand. Given liberal treatment and a fine September, it will then prove to be a great centre of attraction in the garden.—T.

### HEATHS IN FLOWER.

THERE are many districts within a short distance of London where the Heaths form a grand feature in early autumn. As a garden plant, however, the Heath and its numerous distinct varieties might be made more use of, not alone in the wild or semi-wild garden, but in cultivated portions thereof, either in beds, clothing a dry spot or sloping bank, as an edging to the larger *Ericaceae*, or forming a groundwork, from whence specimens of some of its allies may be allowed to spring. In small gardens the Heath lends itself to some effective grouping, as there is a considerable range in height assumed by the different varieties, for the dense little Moss-like forms are, as a rule, from 4 inches to 6 inches high, while some of the more vigorous ones run up about a yard. Not the least attractive feature about the Heath is the time it remains in bloom, not only on the plant, but also when cut and placed in water. With regard to soil it is in no way particular, but where very stiff and clayey, the incorporation of some decayed leaf-mould will be of service, and a top-dressing of the same is of great assistance if it is hot and dry. A walk round any of the nurseries where these plants are grown during the flowering season will reveal the fact that there are several very beautiful varieties, differing not only in stature, but also in the colour of their blossoms and other features. Of varieties with white flowers, there are two or three well-marked forms, notably *Searlei*, a free-growing kind with large spikes of pure white blossoms. It is later in flowering than most of the others, and in some seasons will continue to bloom till stopped by sharp frosts quite late in the year. Another is *alba minor*, much smaller growing. This forms a dense mass of quite an erect habit, while *rigida alba* is totally different, being of a more spreading style of growth, while the spikes of pure white flowers, which are more massive than those of the last, are disposed in an irregular manner. In mentioning *pubescens alba*, attention may be directed to the peculiar pubescent character of the foliage, which imparts to it quite a greyish hue, so that at all seasons it can be readily detected by this feature alone. This is by no means the only variety in which foliage distinctions play a prominent part, as there are two yellow-leaved forms, both very bright and pretty. In one of these, usually known as *aurea*, the foliage is of a rich golden hue, while in the other it is more of an orange with a bronzy tint. To this last the name of *cuprea* is sometimes applied. In both the golden hue is much more effective where the plants are fully exposed to sun and air than is the case if they are at all shaded. The variety *variegata* has white leaves interspersed with those of the normal green tint, and is curious when closely inspected, but by no means striking. A noteworthy form is *pygmæa*, which forms a dense cushion-like mass of a rich deep green colour, and but rarely flowers. It is quite Moss-like in appearance, and as an edging to the others or a rock-



work plant is just at home. The rich tint of its foliage is very different from that of any of the rest. Numerous coloured forms are also in cultivation; a few especially notable ones are Alporti, which is a good companion to the white Searlei, as both are a good deal the same in habit, and they are also late flowering, but in Alporti the blooms are purple. A very bright form is coccinea, while tenuis is slender in all its parts, but forms a dense pleasing mass with deeply tinted flowers. In habit dumosa rubra is a counterpart of alba minor, except that the blossoms instead of being white are of a purplish-red hue. The last to mention is flore-pleno, remarkable from the fact of there being so few of the Heath family with double blossoms, for I am only acquainted with one other, viz., the Australian Epacris onosmæflora or purpurascens. In both the blossoms are like little rosettes, those of the English representative being deep pink, while in its Australian relative they are white. Some of the larger Ericaceæ, such as Azaleas and Rhododendrons, have double blossoms, but the above two are all that I can recall among those that can be classed as Heaths. The Cornish Moor Heath, Erica or Gypsocalis vagans, also flowers somewhat about the same time as the Heather. This is a free, vigorous growing kind, that reaches a height of about a couple of feet, and bears densely packed spikes of pale purplish red blossoms. In some the colour is much deeper than in others, that known as rubra being the best. There is also a white-flowered variety, alba. Erica multiflora is a near ally of the above, but the flowers are not borne for such a long distance along the shoots as in the Cornish Moor Heath. In any case Erica multiflora is valuable from the fact that its rosy-red blossoms are produced after those of nearly all the others are past. T.

#### HARDY HEATHS.

WE should take more hints from our own wild plants and bring the hardy Heaths of Britain as an artistic element into the flower garden. They mark the season so well, and are lovely now. Why we should have such things as Coleus and the even more wretched Alternanthera grown with care and cost in hothouses, and then put out in summer to make our flower gardens ridiculous, while neglecting such lowly hardy things as our own Heaths and their many pretty varieties, is a thing that would require some explaining away. But many people do not know how happy these Heaths are as garden plants, and how delightfully they mark the seasons, and for the most part at a time when people leave town. In the home counties now many beautiful kinds are in bloom, and where grouped in bold and artistic ways, their effects are really charming. A singularly pretty Heath garden is that of Sir P. Currie at Hawley. In front of his house he has kept, instead of a lawn, a piece of the Heath land of the district almost in its natural state, save for a little levelling of old pits, &c.

In such places the native Heaths of Surrey and Hampshire sow themselves, and nothing can be more beautiful. Where, as in many country places, these Heaths abound, there is no occasion to cultivate them, although we cultivate nothing prettier; but the forms of these Heaths are charming, and certainly deserve a place in the garden or wild garden. In places large enough for bold Heath gardens it would be charming to plant them, but a very small place indeed is often large enough for a few beds of hardy Heaths. Once established, they need very little attention. To some it may be necessary to state that most of our hardy Heaths break into delightful forms, white and various coloured. The common Heather has many charming varieties, also the Scotch Heath. These forms are quite as free, some even more so, than the wild sorts, and give delightful variety in a Heather garden, which need not by any means be a rocky or pretentious affair, but quite simple; for Heaths are best on the nearly level ground. Though they grow best, perhaps, in peat bogs and wastes, it would be a mistake to suppose that only such soils

can grow Heaths well, because we have seen them in Sussex in soils the very opposite to what they have in Hampshire, though certainly on heaths they seem to form their own soil by decay of the stems and leaves for many years. Of course, if rocky banks or large rock gardens already exist, choice Heaths form often their very best adornment, but such things are by no means necessary. Some of the best and most successful beds we have seen were on the level ground, as in the late Sir William Beaumont's garden in Surrey.—Field.

**Catalpa bignonioides.**—This Catalpa, better known by the specific name of *C. syriaca*, stands out conspicuous as one of the very few trees that can be found in bloom by the month of August, while it is certainly the showiest of them all. It possesses many desirable features and is unsurpassed as a medium-growing lawn tree for standing singly. It develops a broad, yet rounded head, clothed with ample foliage, while the terminal panicles of blossoms are disposed a good deal as in the Horse Chestnut. As in the case of the last mentioned, the individual blooms are wonderfully pretty on close inspection, those of the Catalpa being white, spotted and marked with purple and yellow. It is also known as the Indian Bean Tree, from the long Bean-like seed-pods, which are, however, produced but sparingly in this country, though in warmer districts they are very numerous and form a distinctive feature. Another point greatly in favour of this Catalpa is that it is a capital smoke-resisting tree, and is consequently one of the limited number of trees that are available for planting in the neighbourhood of large towns. It may be met with in a thriving state in various soils and under different conditions, so that it is by no means particular in this respect; still, more luxuriant growth and richer tinted foliage result when it is planted in a deep free soil and not subject to drought during the summer. A second species, or probably a form of this last, is *C. speciosa*, which has been highly spoken of in America as a quicker-growing tree of a hardier constitution than *C. bignonioides*, but whether it will form such a handsome specimen when old remains yet to be seen. To the lover of golden-leaved trees, the yellow-foliaged variety of the common Catalpa has much to recommend it, for it is of a pleasing colour and does not burn by exposure to the full rays of the summer's sun. The Eastern species—*C. Bungei* from China, and *C. Kämpferi* from Japan—are smaller growing than the preceding, and as far as can be judged at present, are neither of them likely to attain any great degree of popularity.—T.

#### GARDEN ENEMIES.

IN a short paper in THE GARDEN lately on the above subject I noted in connection with queen wasps that a gardening friend in Sussex and myself had paid respectively for over 1600 and 1650, and the natural query on comparing notes was, how came it that these insects mustered in such force in the spring and early summer of 1891? The query was not satisfactorily answered any more than why the spring of 1892 should have witnessed such a marked decrease in their numbers. Personally, the number paid for in the present year was only a tenth of last season, and although wasps, like all insects, have their favourite hunting grounds and appear to patronise different localities more or less at various times, the reports to hand do not chronicle any great number of queens at any given place this year. It is always well to make early search for nests and get these taken the first opportunity, or a loss of choice fruit will be the result of neglect in this direction. In notes on Dahlias some time ago I mentioned that earwigs were both numerous and troublesome this year in the flower garden, and the remark is equally applicable to fruit, especially Peaches and Nectarines, on walls. Great numbers have fallen victims to the Bean traps, and I think we shall stamp them out before the bulk of the fruit changes sufficiently to be susceptible to their attacks. They were un-

fortunately still "in evidence" during the ripening up of Early Beatrice and Hale's Early Peaches. Only those who have very old walls to deal with know what it is to be really bothered with earwigs. With clean smooth walls they have no winter lurking places except at the base, and under such circumstances can be trapped before they ascend the stems of the trees or the walls. The most troublesome fly this year has been the bluish-grey insect that attacks the Plum, Apricot, and Currant. Though not so hard to kill as some of the darker-hued aphides, this Plum fly is a great nuisance, and increases at a wonderful rate, faster it seems to me than either the green or black fly. Thrips are troublesome, a considerable percentage of blooms of border Carnations, notably those of Mme. Roland, whose colour soon shows symptoms of an attack, are disfigured by them. I have had worse years for red spider, although on portions of our old walls it has required a liberal and frequent use of the garden engine to keep it in check. Whilst on the subject of insects I may be excused for drawing attention for just one paragraph to a member of this great family, that, although somewhat pugnacious, must be classed among friends rather than enemies. Bees have done remarkably well this year; indeed, were it not that a very heavy storm shattered the Lime bloom just when it was at its best, we should have established almost a record with honey. As it is, two and three-quarter supers from each bar frame hive have not been uncommon "takes," and the honey is remarkably good. E. BURELL.

Claremont.

## GARDEN FLORA.

### PLATE 872.

#### THE BROOM AND ITS ALLIES.

(WITH A COLOURED PLATE OF CYTISUS ANDREANUS.\*)

"BROOM" is the name commonly given in this country to *Cytisus scoparius*, which certainly may lay claim to being considered one of the most beautiful of our native shrubs. Beesom, Bisom, Bizzom, Brum and Genest are given, as well as other names, in Britten and Holland's "Dictionary of English Plant Names," but not one, except that used at the commencement of these notes, has anything but a limited and local application. Plants belonging to other genera are also called Broom; for example, the yellow Spanish Broom (*Spartium junceum*), but these are ignored in the present paper, which is restricted to those members of the genus *Cytisus* which are in cultivation in this country, and which are worth a place in the garden or pleasure ground. The greenhouse kinds of *Cytisus* are also passed over.

The genus occurs throughout the greater part of Europe, Western Asia, North Africa, and the Canary Islands. According to Ben-  
tham and Hooker, it comprises some thirty-eight species, all of which are shrubs mostly with yellow flowers; a few have white flowers and still fewer purple. An attempt is here made to reduce the garden synonymy of many of the species to something like order, and this has only been possible by a careful study of a large series of differently named plants grown under similar conditions. Loudon, in his "Encyclopædia of the Trees and Shrubs of Great Britain," published fifty years ago, wrote as follows:

The species recorded in books are numerous, but if they were all brought together and cultivated in the same garden, we question much if a tithe of them would be found specifically distinct.

\* Drawn for THE GARDEN by Champion Jones in the Royal Gardens, Kew. Lithographed and printed by Guillaume Severeys.











The Laburnums were formerly classed under *Cytisus*; they now constitute a genus apart. The Dalmatian Laburnum (called *Cytisus Wel-deni* by Loudon and others) now forms another genus, and its correct name is *Petteria ramentacea*.

*CYTISUS SCOPARIUS* has deep golden yellow flowers, larger than those of any other species in the genus. If it were rare and difficult to grow, one can imagine what a sensation it would create as a garden plant. Many an ugly barren spot might be made beautiful by sowing Broom seeds upon it, and in dry gravelly places probably finer effects may be produced, at next to no trouble and cost, by the Broom than by any other shrub cultivated in the British Islands.

Though it is at present comparatively neglected, yet in former times it was one of very great importance in rural and domestic economy. The branches are eaten by sheep and cattle, and on poor gravelly soils formed, before the general improvement of grass lands which has taken place within the last century, the principal herbage. One of the principal modern uses of the Broom, both in Britain and on the Continent, is to form brooms

or besoms, for which purpose, as the specific name would imply, it appears to have been used from time immemorial. The young shoots were formerly used as a substitute for Hops in brewing beer, and the flower-buds, just before they become yellow, were pickled in the manner of capers (Loudon).

greenhouse or conservatory has come under the notice of the gardening public for many years, and as its propagation and cultivation are so simple, it is certain to become a general favourite. All the plants first distributed were grafted on Laburnum stocks.

*Cytisus purpureus albus.*

The roasted seeds have been proposed as a substitute for Coffee. In South-eastern France and in parts of Southern Europe, a fibre obtained from the twigs was formerly much used in the manufacture of cloth and cordage; but the increase of railways and the facilities for obtaining more abundant and cheaper materials made from cotton and hemp have all but caused that particular industry to become extinct.

Now and then, although a native plant, the Broom suffers during winters of exceptional severity, probably to a greater extent in rich garden ground than in poor soils where the growth would be less vigorous. In a paper, read in 1882 by Colonel H. M. Drummond Hay at a meeting of the Dundee Horticultural Association, the following interesting remarks occur:—

The common Broom also, which one would suppose to be hardy, was in many places, both on the low grounds and on the hills in my neighbourhood (Seggieden, Perthshire), almost entirely killed during the winter of 1880-81, whilst the White Broom (*Cytisus albus*), a native of Portugal, remained uninjured.

The following names for *Cytisus scoparius* occur in gardening books: *Genista scoparia*, *Sarothamnus scoparius*, *Sarothamnus vulgaris* and *Spartium scoparium*.

*C. SCOPARIUS* VAR. *ANDREANUS*, a coloured plate of which is published herewith, only differs from the type in the rich colouring of the keels, i.e., the lower petals. It has been stated in some gardening publications that the seeds of this come true, but all the seedlings I have yet seen have proved when in flower to be undistinguishable from the common wild plant; the seeds, too, from which the Kew batch of seedlings was raised were ripened on pot plants, which flowered under glass long before any Broom was to be found in blossom in the open air; under these circumstances cross-fertilisation with the type could not possibly take place. *C. Andreanus* was discovered growing wild in Normandy, in 1886, by Mons. Edouard Andre, the famous landscape gardener, and a coloured plate appeared during that year in the *Revue Horticole*, under the name of *Genista Andreana*. No more charming plant for the decoration of the

For quick work and flowering in March, &c., this is quite allowable, as treated thus, larger denser heads, and consequently a greater profusion of flowers, are obtained in a shorter time than when the plants are grown from cuttings. Where, however, a group is required to occupy a permanent position the specimens should be on their own roots, as the Laburnum stock soon outgrows the scion and the plants cannot be long lived when grafted on stocks so different in habit and structure from the common Broom.

*C. SCOPARIUS* VAR. *ALBUS* has flowers of a very pale yellow. Flowering twigs of this pretty variety were exhibited at the meeting of the Royal Horticultural Society on June 10, 1890, by Mrs. Robb, of Liphook, who has proposed for it the appropriate name of Moonlight Broom.

*C. S.* VAR. *PENDULUS* is a dwarf form with very large golden yellow flowers, and of prostrate or pendulous habit; it is a suitable plant for rockwork or similar positions where the taller growing types would be out of place. In some catalogues this occurs under the name of *Cytisus prostratus*, an appellation which rightly belongs to a widely different plant.

*C. S. FLORE-PLENO* is mentioned by Loudon. This I have never seen; perhaps it is now lost to cultivation.

*C. ALBUS* (the white Spanish Broom) is a native of Spain and Portugal, and flowers in May. It is of very rapid growth; in three or four years from seed it often makes bushes 5 feet or 6 feet or more in height and as much through; when covered with its white blossoms there are few more beautiful objects in the garden. This species has a number of synonyms; amongst them are *Cytisus multiflorus albus*, *Genista multiflora*, *Sarothamnus albus*, *Sarothamnus parviflorus*, *Spartium album* and *Spartium multiflorum*. The variety *incarnatus* when in full flower is hardly distinct from the type, but earlier is conspicuous by the reddish purple tinge of the unopened buds.

*C. ARDOINI* is a native of the Maritime Alps; it occurs on the hills near Mentone at elevations of from 3500 feet to 4000 feet. It is a dwarf shrub of prostrate habit, barely exceeding 3 inches in height, and bears a profusion of deep golden yellow flowers in April and May. It makes a charming rock plant.

*C. AUSTRIACUS*, an Eastern European species, makes a compact leafy bush about 2 feet in height; the yellow flowers are borne from July to September in terminal clusters. This passes under the names of *C. banaticus* and *C. serotinus* (the plant to which this last name rightly belongs is a mere form of the next mentioned species). *C. austriacus* var. *leucanthus* is a variety with flowers of a paler yellow than the type. *C. Rocheli* is a synonym.

*C. BIFLORUS*, a native of Eastern Europe, is a neat growing bush from 2 feet to 4 feet in height;



the yellow flowers appear in May, and are borne generally in twos, sometimes in threes or fours, in the axils of the leaves almost the whole length of the long twigs. It is perfectly hardy, and is a good plant for the shrubby border. Amongst some of the many garden synonyms of this species are the following: *C. canariensis*, *C. caucasicus*, *C. elongatus*, *C. leucanthus* (the true *C. leucanthus* is a form of the preceding species), *C. medicaginoides*, *C. ratisbonensis*, *C. ruthenicus*, *C. serotinus*, *C. supinus*, *C. euralensis*.

*C. CAPITATUS* is widely distributed throughout Central and Southern Europe; it is a compact habited shrub with leafy branches bearing in July and onward clusters of yellow flowers at their tips, and attains a height of 2 feet. A year or two ago this species—grafted on tall stems of *Laburnum*—was sold by some nursermen as *Cytisus nigricans nanus*; I have also seen it named *C. calycinus*.

*C. DECUMBENS*, a native of Eastern Europe, is a dwarf prostrate species with large pale yellow flowers, and is a pretty and desirable rockery plant. It is by no means common in cultivation. This species has also been described under the names of *Genista Halleri* and *G. prostrata*. As stated under *Cytisus scoparius pendulus*, the latter synonym is sometimes wrongly used for that plant.

*C. HIRSUTUS*, from Southern and Eastern Europe and Asia Minor, is a dwarf yellow-flowered shrub 1 foot to 2 feet high, and blooms in June and July. It is suitable for the front of the shrubby border, or for making a low mass in an open, sunny spot. Some of the names under which I have seen this in gardens and nurseries are *C. falcatus*, *C. polytrichus*, *C. Tournefortianus*, *C. triflorus*, *C. uralensis*.

*C. LINIFOLIUS*, a native of South-western Europe, is very distinct in aspect from all the species already mentioned; it is an upright-growing shrub a few feet high, with Rosemary-like leaves, and yellow flowers which are produced in early summer. It is the least hardy of the kinds mentioned in these notes, all the rest with the exception of *C. monspessulanus*, which with *C. linifolius* would do in the south and west of England, being probably as hardy as our common Broom. *C. linifolius* makes a pretty bush, and where it does well is sure to be admired. It is found in books under the following names: *Genista linifolia*, *Spartium linifolium*, and *Teline linifolia*.

*C. MONSPESSULANUS*, sometimes known as *Madeira Broom*, is a native of the Mediterranean region. It is a very quick growing, yellow-flowered species, and blossoms in May. Some of its garden synonyms are *Genista candicans*, *Teline candicans*, *Genista triangularis*, and *G. triquetra*; these last two names rightly belong to a very different plant.

*C. NIGRICANS*, one of the handsomest species in the genus, has long terminal erect racemes of yellow flowers which are freely produced in July and August; under favourable conditions it makes a beautiful bush 6 feet in height. The specific name was given to it by Linnaeus on account of the plant turning black when dried. In a wild state it is widely distributed in Eastern Europe. In some catalogues—mostly foreign ones—it is named *Lembotropis nigricans*.

*C. PRÆCOX* much resembles the white Spanish Broom in habit. It is a hybrid between that plant and the following species (*C. purgans*). It bears a profusion of cream-coloured flowers in early summer, and is one of the most easily grown and most ornamental of hardy shrubs. When seeds of this are raised, very few of the plants prove like the parent; the vast majority resemble closely the white Spanish Broom. Cuttings, however, are easily struck, and it is desirable to keep up a stock by this means, as old specimens which have outgrown their position or have become unsightly from any cause do not bear severe pruning. Young ones do better in every way.

*C. PURGANS* makes a low bush not more than 2 feet or 3 feet in height, and produces an abund-

ance of golden yellow blossoms in April and May. In habit it somewhat resembles *C. albus*, but the branches are shorter and more rigid in old plants. It is a native of Central and Southern France and Spain. Other names under which this species is known are *Genista purgans*, *G. spartioides*, *Sarothamnus purgans*, *Spartium purgans*, and *Spartocytisus purgans*.

*C. PURPUREUS*.—This is usually found in nurseries grafted on tall stems of *Laburnum*. It makes an ornamental specimen so treated, but it is generally not long-lived. On its own roots it makes a beautiful procumbent rockery or border plant, and bears a profusion of purple flowers from May to July. There are also varieties with white and rose-tinted flowers. *C. purpureus* is a native of Eastern Europe, and, according to Loudon, was introduced to British gardens just a century ago.

The so-called purple *Laburnum* (*L. Adami*) is a graft hybrid between *Cytisus purpureus* and *Laburnum alpinum*, the so-called Scotch *Laburnum*.

*C. SESSILIFOLIUS*, a native of Southern Europe, is a charming shrub with small, glossy green, almost stalkless leaves and short, erect, terminal racemes of yellow flowers. It is of upright habit and attains a height of from 4 feet to 7 feet. It is also known under the names of *Cytisus quinquefolius* and *Lembotropis sessilifolius*. N.

## THE WEEK'S WORK.

### THE KITCHEN GARDEN.

**RAISING CAULIFLOWERS.**—Of late years the practice of raising Cauliflowers in the autumn, or rather the latter part of August until the first week in September, for the earliest supply has been given up on account of the belief that equally good or better results can be had by raising plants early in the year in heat and growing them carefully on. As this latter entails a lot of extra labour at a time when other work is pressing, the practice of raising plants at this season has its advantages. Where the plants fail it must either be attributed to too early sowing or to the plants being too much coddled during the winter. The first of September is a good time for sowing the seed, this allowing ample time for the plants to become large enough before winter sets in. A good seed-bed being half the battle in securing healthy plants, this must have due preparation, as where at all lumpy the seeds germinate but very indifferently. A south border is a good position for the seed-bed, and as it is essential that the soil should be in a light and friable condition to secure a healthy and even plant, other material should be added to make up any deficiency. It not being advisable to water the seed-bed after the seeds are sown on account of the surface being apt to become baked, the drills or surface of the bed should be watered over-night. The seeds if sown early the following morning, also taking the precaution to stretch a net over the bed as a safeguard from the depredations of small birds, the seedlings will not be long in appearing. Slugs being apt to clear young Cauliflowers off quickly, a look out must also be kept for these. Directly the plants are large enough, they must be pricked out into their winter stations. Where the plants are pricked out into frames the soil should be placed on a hard ash surface; 2 inches or 3 inches of decayed manure should be laid over the bottom, and on this the same depth of loamy soil, into which the plants must be pricked out. Where the hand-lights are of the usual size they will accommodate nine plants, the surplus, excepting the four corner plants, being removed in the spring to other quarters. The varieties adapted for sowing now are the old Walcheren, Early Dwarf Erfurt, Large Asiatic, and Early London.

**SPRING-SOWN ONIONS.**—In all probability these will be later in ripening up than usual, the late spring having kept them in a backward condition. To assist them in bulbing up, it is advisable to now go over the whole bed and bend over the tops, this

slightly checking growth and also hastening the ripening. It is also advisable to bend the tops all one way, so as to expose the bulbs to the sun as much as possible. The silver-skinned for pickling being the first to ripen up, these must be drawn directly the tops change, for if this should be neglected they quickly start into growth again, when of course they would be spoiled. For pickling these must be very hard, and to assist this end give them the protection of a light fully exposed to the sun.

**CARDOONS.**—It being necessary that Cardoons should be well grown previous to blanching commencing, it would assist them greatly if the plants could now have a thorough soaking of liquid manure. Blanching should be deferred until a good plant has been secured. When well grown, this vegetable is highly appreciated.

**CELERIAC.**—This is very often apt to become neglected either from want of water or through suckers being allowed to grow. If planted on the level, a good supply of water will be needed if the weather should be dry, a soaking of liquid manure also being advantageous if the plants are not making much headway. If any suckers should be seen, these must be promptly removed and the soil pressed about the base of the plants. It must be remembered that no earthing up is needed for this crop, the plants never making such satisfactory progress as when the base of the plant is merely level with the surface.

**PARSLEY FOR WINTER.**—Parsley, where provision has been already made for maintaining a supply throughout the winter months by either late sowings or pricking out the plants where they are intended to remain, will now be growing apace, and all that will be needed will be to keep it free from weeds. In the majority of instances, however, the supply will be depended upon from sowings made during the early spring months; but as plants from this sowing will be now very vigorous, and as these are apt to be injured by comparatively light frosts, the plants must be so managed that this will be obviated by cutting over a portion. It is not yet too late to prick out any fairly strong plants into low brick frames, or anywhere where they may be provided with a rough shelter in time of need. The seedlings, if duly pricked out into fairly rich and moderately firm soil, also taking the precaution to have them well elevated, will form stocky useful plants.

A. YOUNG.

### ORCHIDS.

LAST week some reference was made to the occupants of the East India house, and also to some of the Cattleyas and their treatment in the intermediate house. The weather has been very favourable to the growth of all plants in these houses; the nights have been warm, and artificial heat has scarcely been needed. The *Dendrobiums* in a house by themselves have been luxuriating in quite a tropical temperature and plenty of moisture in the atmosphere. We may expect a thunderstorm after such a stifling heat as this. It would clear the air and might be followed by cooler nights. As soon as the cooler weather sets in, the cool Orchids ought to be carefully looked over, and any plants needing repotting should be seen to at once. September is a good month to repot these plants if the roots have to be much disturbed. Take the free-growing *Odontoglossums* for instance, such as *O. crispum*, *O. triumphans*, *O. luteo-purpureum* and all the varied forms of these, *O. Pescatorei*, *O. Halli*, &c. When these plants are first imported, they are placed in comparatively small flower-pots for the size of the plants, and when repotted the roots are not disturbed, the plants being merely placed in a size or two larger. This goes on year by year until the plants and flower-pots are of large size and the centre of the potting material becomes a mass of decay, and unfit for the roots of the *Odontoglossums*. If nothing is done, the plants soon show symptoms of decline. The right treatment is to turn the plants out of their pots and remove all this decaying matter. Save all the healthy roots uninjured and repot the plants in



the best fibrous brown peat, mixed with freshly-gathered Sphagnum Moss, using rather more Moss than peat; clean potsherds should be mixed with it. The *Odontoglossums* do not like to be disturbed at the roots, and the operation should be carefully performed. We are also very careful to thoroughly clean the Moss from all extraneous matter and any slugs that may be in it; it is also well washed in clean rain water. The pots used are either new ones or the old ones well washed in warm water and thoroughly dried before using. The pots should also be filled about three parts of their depth with clean drainage. If the pots are large, I invert a small one inside of each, so that the bottom of this smaller one will be about at the depth the drainage should be. Place some larger pieces of drainage first to fill up the space that is left between the two flower-pots and smaller pieces on the top. Some clean Sphagnum should be put in first in the form of a thin layer. Pot the plants firmly and press the compost well into the base of the pseudo-bulbs. The base ought not to be left exposed. From any old plants that may have got into bad condition the sour decayed stuff should be washed out. *Masdevallias* also in time get into bad condition, but they may be parted out into numerous smaller pieces, which may be planted singly into smaller pots, where they will make a more healthy growth. I remember many years ago visiting the great Manchester summer exhibition of Orchids and other plants, and greatly admired immense masses of *Masdevallias*, such as *M. Veitchiana* and *M. Harryana*; but when I visited the garden from whence they came some time after, the same season, I found all the plants in 5-inch and 6-inch pots. They were grown in these small pots, and twenty, thirty, or fifty plants were packed closely together in immense flower-pots or large square boxes painted green on the outside. This was for show purposes only. The plants made their growth and flowered in the small flower-pots. I do not advise disturbing any plants in the middle of their growth. I fancy a good time to repot them is when they are just starting to grow from the base of the last formed pseudo-bulbs. If the plants are repotted early in September they have time to become thoroughly established before the winter. Any insect pests should be removed before repotting the plants. We dip the plants in a mixture of diluted tobacco liquor with some soft soap in the water. The plants are laid on their sides for an hour, and the leaves are carefully sponged over with tepid rain water. Yellow thrips attack the plants whenever the weather is hot, and it is always safe to dip them as a preventive even if no traces of parasites are to be seen. The treatment of plants that have had all the old potting soil shaken out from the roots, or that may have had the roots washed, should be similar to that of newly-imported plants; they must not be exposed too freely to the air. Keep the house rather close where such plants are, and the atmosphere should be well on the moist side. Do not give the plants very much water at one time; it is better to merely damp the surface daily with a syringe or apply the water through the fine rose of a water-pot to encourage the growth of the Sphagnum Moss upon the surface. I have seen the surface so covered with healthy green Sphagnum Moss, that it had to be clipped with a pair of shears. We must also be careful that the house is not kept too close and moist, else the half-formed growths may damp off in the process of formation. *O. nebulosum* is the species which suffers soonest from a damp, close atmosphere in autumn. It is only the recently repotted plants that require to be kept close, and that only until they become established. *O. Edwardi* and others now in growth should not suffer from want of water; at this season, they are making plenty of roots which speedily absorb the water. *Oncidium macranthum* requires careful attention at this season; the roots push out over the surface of the potting material rather than into it, and they should be lightly sprinkled once or twice daily with rain water. Slugs are very fond of these succulent young roots, and must on no account be allowed to get near them. The temperature of the cool house now is

50° to 55°, the *Cattleya* house 60° to 65°, and the East India house is seldom below 70° at night. All the houses have free ventilation night and day.

J. DOUGLAS.

#### PLANT HOUSES.

**BULBS.**—The receipt of the bulb catalogues will remind us that the season has again come round when these must have attention. It is a great mistake to defer giving the usual order for a few weeks longer. The better plan by far is to secure the quantity at once which is likely to be wanted. When one makes the selection personally for any particular purpose, it does not do to be led away with size merely if it does not combine with it solidity and weight; nor does it pay to be led away with appearance altogether, particularly in the case of *Hyacinths*, for oftentimes those which possess the roughest exterior and are not quite up to the average in size will give the best results in spikes. The cheapest markets will not always give the best results, but rather the reverse. A fair price will naturally be more likely to secure the best quality of bulbs, thus being really the cheapest in the end. As soon as received, those required for the earliest flowering should be potted up, for it is useless to expect good results when forcing early if the bulbs have not been potted up in good time, so as to secure plenty of root-action in advance. Good soil should be chosen, of which loam ought to form the constituent part; some leaf-mould and well decomposed manure either from an old Mushroom bed or that from the farmyard when it will crumble to pieces after exposure will be found to do good service. Artificial manures can be used, but there is the risk of encouraging leaf growth too freely if these be applied in a liberal manner. Too rich a soil in any case is not so good for this reason. A sharp watch should be kept for wire-worms, otherwise these will at times give trouble around the base of the bulbs by eating the roots. I have previously advised the cautious use of ashes for covering up with after potting; this need not be repeated now.

In the selection of varieties it is best to depend mainly upon those sorts which have in the past given the most satisfaction. I would rather confine myself to a few well proven kinds in greater quantity respectively than choose a larger number of sorts with less of each. Those which are found to be the most called for will, as a matter of course, receive the best attention from the growers. When trying fresh sorts, a small number of each the first season will be sufficient to form an idea as to their suitability. Note should be particularly taken of the suitability of many of the *Daffodils* for pot culture. Of these mention should be made of the common double, poeticus ornatus, and incomparabilis *Stella*, all of which are cheap enough for any purpose; whilst of varieties that are yet all too scarce, and consequently somewhat more expensive, particular mention should be made of bicolor *Horsfieldi*, one of the best of all for pot culture. Golden Spur, Emperor and Empress should also be noted, also *Bulbocodium* (yellow Hoop-petticoat), an extremely handsome and suitable kind for pots to stand in jardinières and rustic baskets. Of miscellaneous bulbs note should be taken of *Lachenalia Nelsoni* and the yet rarer *L. pendula Aureliana*; a few each of these will with care soon give a fair stock. The *Montbretias* are also excellent for pot culture and may thus be grown where they do not succeed out of doors. The *Belladonna* and *Guernsey Lilies* claim attention where a good supply of flowers is required in the early autumn. The early varieties of *Gladioli*, other than *The Bride*, should also be grown for spring blooming. These are exceedingly useful for conservatory decoration or in a cut state. When the consignment of bulbs arrives, see to it that they are not long left in their bags if potting cannot at once be completed. It is better to lay them out in a rather dark, cool and dry place meanwhile.

**BULBOUS PLANTS** in hand should not be overlooked. Such, for instance, as *Amaryllises* of the choice hybrid kinds which have arrived at a flower-

ing size will now have completed their growth and should be freely ventilated. These plants are liable to be attacked by black thrips if not looked after closely. When any are detected, careful sponging should be performed with a moderately strong insecticide. This will not do any harm, in fact, if the foliage be dusty or dirty, even if there be no insects to clear off. *Clivias* or *Imantophyllums* will also have completed their growth by this time. These will bear to be kept cooler by a few degrees than those of the *Amaryllis* during the next five or six months; an ordinary greenhouse will suit them when well established. These also should be kept as clean as possible, but not so dry at the root as in the case of deciduous bulbs. *Pancratiums* and *Hymenocallis* as soon as they have flowered should now be encouraged to make a good leaf growth. In our own case both are now growing freely, being well supplied with water and kept in a brisk atmosphere well charged with moisture. *Eucharis amazonica*, where now making leaf growth, should also receive encouragement, so as to perfect it during the next few weeks. These plants will then throw up a good supply of spikes for the Christmas season. Where the mealy bug or scale has got a footing in any of the foregoing instances, use every possible means to get rid of these pests before winter sets in.

JAMES HUDSON.

#### FRUIT HOUSES.

**KEEPING RIPE GRAPES.**—Grapes keep better in some localities and in some houses than in others, the worst positions being low-lying spots with clayey sub-soils, and the worst form of houses those with low, flat roofs. Anything approaching a stagnant atmosphere must be avoided as much as possible, and extremes of temperature are also very injurious. When the nights are very cold, air being necessarily freely admitted, the berries become very cold, and it is scarcely possible on close, warm days to prevent moisture from condensing on them. Keeping a little warmth in the hot-water pipes and the air warm, dry and buoyant accordingly, is very needful in the case of ripe Grapes that are to hang for some time longer, and those black varieties that are liable to lose colour should also be shaded rather heavily. Houses with running sash ventilators are the worst to manage, especially in dull, wet weather, shutting them up nearly or quite close when it is raining being a sure way to invite sweating, that is to say, a condensation of moisture on the berries. This injures the bloom and the skins, and causes an early decay. In all such cases it is advisable to protect the openings for about 18 inches down the roof with boards blocked up well clear of the rafters, this rendering it possible to admit plenty of air and yet exclude rain. Front air should also be admitted very freely, and if some of the end squares of glass are removed and galvanised wire netting substituted, stagnation in the atmosphere will be further guarded against. Measures taken to exclude wasps either from the houses or bunches are a very frequent cause of the premature loss of the crop. Anything in the shape of cotton netting or canvas that will exclude wasps and flies also shuts out fresh air to a dangerous extent, while muslin bags for enclosing the bunches are so many death traps. Either trapping the wasps and flies in wide-necked bottles half filled with a mixture of beer, water and sugar, or, better still, using wasp-killers, as supplied by most horticultural sundriesmen, is the best remedy for wasp attacks. In any case a close look out must be kept for either cracked or decaying berries, as unless these are cut out, decay will quickly spread to the rest of the bunch. The borders both inside and out should be kept in a uniformly moist state, allowing them to become dry under the impression that watering may injure the crops being a great mistake, the effects of which will be most apparent next season.

**RIPENING GRAPES.**—All late Grapes ought now to be colouring rapidly, as unless such is the case they will fail to ripen properly. The mere fact of their colouring well, however, is not sufficient



They must have sufficient warm, dry air about them to bring about the requisite chemical changes, it being most important that the saccharine matter be fully developed; watery Grapes neither keep well nor give satisfaction when eaten. During cold nights and dull, sunless days the fire-heat ought to be turned on, so as to keep the night temperature from falling below 60° with both front and top air admitted, or sufficiently so to keep up a good circulation. During fine warm days admit abundance of air, black varieties especially standing in need of this, or otherwise they fail to colour properly. The latter should also have a good canopy of strong healthy leaves, Gros Colman being the only variety that bears exposure to the full light and sunshine without being injuriously affected by it, but even this is all the better for having strong healthy foliage as long as the colouring is going on. This now very popular Grape requires a long period to ripen in, the colouring sometimes going on till near November. Berries carrying a thick bloom, in addition to being the most attractive in appearance, also seem to keep better than those with a thin bloom, and in order to be sure of the former, a close, moist atmosphere must be sedulously guarded against. It is a good circulation of dry air that lays on the bloom, too much moisture and stagnation having the opposite effect. White Grapes require much the same treatment as black, only that Muscats should have a rather higher temperature. The bunches ought also to have more light and sunshine playing about them, but slinging them up or suddenly exposing them to strong sunshine is liable to brown or otherwise disfigure the berries. First tie back some of the leaves and only gradually expose to the full sunshine.

**FIGS.**—These require abundance of water just now, especially when the borders are somewhat confined. The latter should also have liquid manure given them rather freely with a view to assisting the earlier trees to mature the heavy second crops they are carrying, while any that have not been forced will swell out their later fruit to a full size if they are properly attended to. It is not advisable to allow trees in pots that have been hard forced to produce a third crop. They will most probably attempt to do that, but it will weaken them considerably, and they will fail to do so well next season accordingly. Instead of fruiting them a third time, the better plan is to pick off all small fruit now showing, and to rest them as much as possible. Those in pots ought now to be fit for standing out in a sunny position, and any permanently planted should have all the air possible admitted to them. Keep them well supplied with water at the roots, and if red spider is troublesome mix a handful of sulphur in a can of water and syringe with this two or three times, afterwards ceasing syringing altogether. Crowded Figs never fruit satisfactorily, and trees on back walls if much shaded rarely bear many fruit. Therefore, keep the young growths very freely thinned out to the extent even of keeping them nearly clear of each other. Unless both light and air reach the shoots they do not harden sufficiently to bear fruit.

#### PRACTICAL.

#### GRASS WALKS.

ONE delightful chance which English gardens have and no others possess is that of having grass walks of the finest texture; and none are so delighted with these as the foreigners who cannot enjoy them as we do. At Holwood, the other day, we were very pleased to see the great range and the delightful charm of the walks there. Generally they are not nearly used enough in gardens. Of course, round the house we must have good firm walks, and may have too many; but once free of the house, it is surprising how one may break into the graceful lines of grass walks without injury to anything. Some people urge that they like dry walks in winter. We are not quite sure that the gravel path is so much drier than a well-made grass walk; but, as people generally use their gar-

dens in summer most, it does not matter so much about this. Even in heavy soils grass walks may be delightful throughout the greater part of the year, and dry ones are, of course, as dry as need be at all times. It is not only the charming effects of grass walks that is in their favour, but they are a great economy. Lately, in a district where good gravel is not to be had without carting it a long distance and paying heavily, we did the best we could with local materials to make walks through some pleasure ground. The effect was poor, and the cleaning difficult. After struggling with it for some time, we resolved to lay down grass walks. We laid turf down carefully, and got very presentable walks even the first year. After laying down the turf we put some prickly branches over, to prevent it being used for a month or two. These grass walks can be cleaned with one-fourth of the labour and the promptitude which the gravel walks used to take; and we are persuaded that in many other gardens, where there are now gravel walks, a much better and happier effect would be got by turf walks. Where there is much extent of mowing, it is economical to use a donkey or a pony, and, once at work, it is easy to mow a few miles of grass walks. But, free of the garden, it is rather in the rougher parts of the pleasure ground and about the park that grass walks might be made with the most charming results if they are carefully taken in the most picturesque direction. The line of ground should be studied both for ease in walking and mowing, and for the sake of the surrounding views. We are convinced that nothing in the whole of country gardening pays so well as well-considered grass walks. Another point worth mentioning is that, by reducing our gravel walks to the most necessary area, we effect great good, and grass walks in many positions where gravel walks are used enable us to do this. If, as we hold, the walks about the house are reduced to their absolutely necessary dimensions, it is surprising how much the old and wearisome trouble of hoeing, &c., is done away with. In our own case, in a rather large garden, we never allow the walks to be hoed. We find the ordinary traffic suffices to keep them clean, with, perhaps, one dressing a year of poisonous stuff. The old toilsome labour of ripping up walks, raking, and hoeing which used to be seen in so many gardens need not, happily, go on. It only made matters worse by softening the walks for the weeds, and was a serious labour for the men in the hottest season.—*Field.*

## FLOWER GARDEN.

### THE CARNATION AND PICOTEE AT ERFURT.

CARNATIONS and Picotees are very extensively grown in the grounds of M. Ernest Benary at Erfurt, and a comparison between them and our English productions cannot fail to be both interesting and instructive to amateur cultivators of these flowers. The collection comprises many thousands of plants grown in pots and flowered on stages, protected overhead by glass lights. A very much larger number of seedlings is planted out and flowered in the open garden. M. Benary is a wholesale seedsman, and his one object in growing Carnations is to obtain seed. With this end in view the very best varieties are grown, but there does not appear to be any well-marked standard of excellence, such as florists have set up in England, defining with accuracy the colours, markings, and formation of the flowers. In this respect a considerable latitude is allowed as regards colour; on the other hand, much importance is attached to the form of the flowers; those with broad, smooth and well-formed outer petals contained in a long well-formed calyx are preferred. Seedlings with short, badly-formed calyces, having flowers with small, rough petals, are rejected in Germany, as they ought also to be in England. M. Benary has, as a matter of business, to supply different qualities of seed, viz., first, second and third quality. The entire stock of the first quality is saved from the plants cultivated in flower pots and grown on the

stages under the aforesaid glass covering when in flower and during the ripening of the seed. They are all named varieties or selected seedlings, propagated because they are supposed to be superior to existing named varieties. The glass structure is very simple and at the same time efficient. A substantial wooden framework of a span-roofed form is erected with glass lights over it to throw off the rains, the sides and ends being quite open to the weather. The plants are placed singly in 7-inch pots and arranged on shelves one above another in tiers, the available space beneath the glass roof being utilised to the best advantage. The thousands of plants in full bloom, each flower-stem supported by a neat stick, form a beautiful sight taken as a whole, and a critical examination of the individual flowers gives a day of pleasurable enjoyment to the Carnation amateur. The method employed here of fastening the stems to the sticks is excellent. Curtain rings an inch in diameter are cut through at one place with a pair of scissors or some such instrument, and the cut ends of the ring are pressed into the stick in opposite directions, the stem being loose in the ring. Three rings are needed for the tall stems, two being sufficient for the shorter ones. The extent of this collection may be imagined from the fact that it takes five men a period of six weeks to layer the whole of the named and selected varieties. After carefully inspecting the entire collection, the following were noted as being of such colours and markings as would commend them to British cultivators. There is likely to be a misunderstanding between German and English cultivators as to the correct designation of certain sections, which a few words of explanation may clear up. For instance, our bizarres and flakes are at Erfurt designated ribbon Carnations, and the yellow ground varieties with red markings or flakes of colour, with us called fancies, in Germany are sold as flakes. A large number of seedlings is on trial, and yet unnamed; the greater number would be placed among what are termed fancies in England. Those under names comprise a rich and varied assortment of distinct and beautiful varieties, and the one I would venture to place first on the list is the beautiful yellow self Germania, so well known in England. It was raised in M. Benary's nursery from seed in 1884, the seed parent a good yellow self named Ernest Bail, and was placed in commerce in 1887. Marguerite Ruder is a heavy red-edged Picotee, the flowers large, of good form, the plant of free growth. Fanny Tromsdorf has pretty flowers marked with narrow irregular lines of pale purplish-lilac, the flower well formed, growth vigorous. Agnes Stürcke, medium-sized flowers, heavily edged with red, of good form and vigorous growth. Mme. van Houtte is pretty well known in England as a good yellow ground Carnation, heavily edged with purple and red, a novel variety, plant of free growth. Eleanor is a very distinct yellow ground, with slaty-coloured markings, plant of free growth. Albert Whale, yellow with rosy-pink coloured edge, a good florist's type of Picotee. Stadtrath Bail, a large well-formed flower of a clear yellow colour, heavily barred with red lines; this was well exhibited at the recent Carnation exhibition in London. Richard Tryan, yellow ground fancy Picotee, heavily marked with deep red. Andreas Auchenbach, a distinct variety heavily marked with lines of purplish-red in two colours. Rose Pinckert, yellow ground, very prettily marked on the margin with rose. Friedrich Wagner, yellow ground, marked with two shades of dull red. Seydlitz has flowers of good form, very heavily flaked, and spotted scarlet. Flora, pale rose flake, pure white ground, a charming variety. Van Dyck, steel-blue, flaked rose, large flowers of good form. Scharlach, a vigorous growing good scarlet self. Julius Bassermann has pale pink flowers of good form, flowers very freely produced. Eichendorff, maroon-crimson self. Wieland, crimson flowers of good form. Clothar, large deep rose-coloured flowers of good quality. Grandeur, a fine variety with scarlet flowers. Theodor, large flowers of a deep slate colour. White Lady has large white flowers of good form, the plant vigorous and of dwarf habit, a fine free-flowering variety.



Torquato Tasso, a tricolor bizarre, curiously marked with red, slate and crimson. Schlieben, buff ground, the margin of the petals flaked with red and slate colours. Christopher von Brocken, well-formed flowers of a reddish-buff ground, heavily marked with crimson flakes. Brockhaus has flowers of a buff tint, marked with slaty coloured flakes. Gustav Freytag, buff self, flowers well formed; the plant has an excellent habit. George Ebero, large, well-formed flowers of a deep purple.

A type of Carnation now but little known in England, the Painted or Dainty Ladies, is also rather extensively grown. There are several varieties, pretty and distinct in the shades of colour on a white ground. Parkinson describes this type in the "Paradissus." Mr. Bradshaw's Dainty Lady had flowers of "a fine bright pale red colour on the upper side from the edge to the middle, which mixture is of wonderful great delight." With the many fine and distinct varieties now in cultivation, the Dainty Ladies have fallen into the background, but they are open to improvement, and some of those cultivated by M. Benary are very pretty. Vautier has a pretty rose colour on the surface of the petals, which fades out as the flower gets old, leaving a pure white self. Defregger is purplish-red. There are something like a dozen varieties of various shades of colour in this section. The greater number of Carnations grown are seedlings planted out in the open ground. There are large breadths of these seedlings grown in the fields where other seeds are harvested. From these are obtained the second and third quality seed, which ripens well out of doors in the warm, dry autumn of this part of Germany. The plants from which the second quality seeds are obtained are all seedlings, but many of them are worth selecting to name; all are perfectly double and of distinct colours, selfs, bizarres, Picotees, flakes, fancies, &c.; these are obtained from the seed saved under glass. A certain quantity of seed is sown from a plant to be experimented upon, and the seedlings are planted in a bed by themselves with a plant of the seed-bearing parent at one corner of the bed, and where large numbers of plants have been treated in this way, an excellent opportunity is afforded to study the variations of seedlings, as the parent plant and its progeny are seen in flower under the same cultural conditions. A few of the best seedlings are propagated by layering and grown in pots to be flowered under glass; and if they come well out of the test of another year's comparison with the best named varieties, they are named and grown to produce the first quality seed, and when sufficient stock is obtained are grown in the form of plants.

Being interested in the Carnation and Picotee, nearly the whole day was spent among them, leaving but little time for a minute study of the many other branches of this great seed business; but a hurried look round the various collections of indoor and outdoor plants grown to produce seed was sufficient to show how very carefully the work of selection was managed. The strain of Gloxinias is admirable, and it is very remarkable how true they come from seed. Several span-roofed houses are set apart for the cultivation of these plants to produce seeds. One house is filled entirely with superbly grown plants of the Emperor Frederick, a variety with rich scarlet flowers with white margin. The second house contained Defiance, a dark velvety blue-purple, and the third an almost equally beautiful light blue variety named Celestina. These three come true from seed. Other houses contain a rich assortment of the crassifolia type, the flowers large, well formed, and of a great variety of colour. There is also a distinctly spotted type, the flowers of which have numerous dark spots surrounded with white, or some colour other than the ground colour.

Immense numbers of Petunias are grown, both single and double varieties, and no one who has not seen the thousands of plants grown for seed by a large firm like this can form any conception of the variety of colour to be found in them. The process of saving seeds from single varieties to produce double flowers is extremely interesting.

Begonias, both single and double, are also largely grown, and the best varieties only find a place here. As we are naturally proud of our English strains, it might be thought unfair to make comparisons; but M. Benary has obtained what has probably not yet been seen in England—varieties distinctly striped with various colours, like flaked Carnations. But to give anything like a detailed account of the work of seed-saving in this immense establishment would fill a number of THE GARDEN. It is easy, however, to see that M. Benary acts upon the principle, that whatever is worth doing at all is worth doing well. It is also evident that much trouble is taken with the smallest details of the work of the establishment, nothing being left undone

by the late Mr. Willsmith. Can any reader say what is the difference between this and the one sent out under the name of Carrier? I can see no difference, although they are growing side by side.—J. CROOK.

### LILIUM LEICHTLINI.

It is now over ten years since a coloured plate of this beautiful Lily was given in THE GARDEN, and so truthfully was its every feature there portrayed, that a glance at it would convey more than any written description however long. At the present day it occupies much the same position that it did ten years ago, viz., one of the prettiest of the more uncommon Lilies, but one that is somewhat particular in its cultural requirements. The flowers of *L. Leichtlini* are of a pleasing shade of rather pale yellow, copiously spotted, especially towards the centre, with red, while the exterior of the bloom is prettily flushed with the same hue. The petals reflex after the manner of those of the Tiger Lilies, but no description can do justice to the manner they are poised on slender stems in so delicate a fashion that they are stirred by every breeze. Another feature, and that a very desirable one, in connection with the blooms is that they remain in perfection longer than those of most Lilies, and at no time do they fade after being open a few days, as some Lilies do. *L. Leichtlini* is one of the Lilies that are sent here from Japan during the winter months, but only in limited numbers, and as it is not a particularly good traveller, the bulbs do not always reach this country in a satisfactory condition. The bulbs are compact, flattened somewhat on the top, and bear a good deal of resemblance to those of *L. Batemanniae*; in fact when thoroughly dormant some bulbs cannot be distinguished therefrom, while, on the other hand, one may feel confident with regard to some of them. *L. Leichtlini* commences to grow earlier in the season than *L. Batemanniae*. It succeeds best in soil of a somewhat sandy nature, that, though thoroughly drained, is not dried up at all during the summer. A peculiarity sometimes noticeable in *L. Leichtlini*, as well as in two or three other Lilies, is that when the flower-stem first starts into growth, it will, instead of growing at once in an upright manner, proceed underground for some little distance before making its appearance. This same curious feature



*Lilium Leichtlini.* From a photograph sent by Mr. A. D. Fort, Stoke Newington.

that will tend to the improvement of the quality of the seeds, or the method of distributing them to every country in the civilised world.

J. DOUGLAS.

**Begonia Princess Beatrice.**—Among the many plants used for flower garden ornamentation this holds a foremost place. It belongs to the semperflorens or shrubby section. Just now I have two beds of this Begonia and a very pure white dwarf Lobelia mixed together in the flower garden in splendid condition. The pinkish white blooms and stems of the Begonia contrast well with the white Lobelia. This Begonia continues blooming a long time and is not affected by either rain or sun. Beautiful as the large-bloomed, tuberous-rooted kinds are, this is equally as useful in the flower garden. It used to be largely grown at Heckfield

is also very noticeable in the case of the Neilgherry Lily (*L. neilgherrense*). A Lily possessing many points in common with *L. Leichtlini*, but at the same time differing from it in several particulars, is that known under the names of *L. pseudo-tigrinum*, *L. jucundum*, and *L. Maximowiczii*, and, in addition, is frequently regarded as a variety of *L. tigrinum*. It is altogether a far more slender-growing plant than any of the Tiger Lilies, while another notable feature is the total absence of bulbils in the axils of the leaves, which form so prominent a feature in the case of *L. tigrinum*. The flowers of *L. Maximowiczii* are vermillion, spotted with black, and in shape a good deal like those of *L. Leichtlini*, but the flower-stalks are not quite so long and slender.

H. P.



## WHITE FLOWERS FOR CUTTING.

THE list of easily grown and beautiful hardy flowers suitable for cutting given by Mr. Burrell has, fortunately for those who require a large quantity of cut white flowers, by no means exhausted the number of plants suitable for this purpose.

THE WHITE MALLOW (*Malva moschata* alba) used with its own foliage has few rivals for producing a truly artistic effect, and its lovely white flowers continue to expand for several days after being cut. It is easily raised from seed. I find it gives the best results when the seed is sown where the plants are to remain, as from the nature of its long, fleshy tap roots, it is very impatient of disturbance at the root.

SWEET PEAS.—I think Mr. Sankey a great improvement on the old white variety; its bold flowers are very effective, and the remarkable length of its flower stems gives it an additional value; this and Scarlet Invincible have this season been more in demand with me than any other variety.

GYPSOPHILA PANICULATA is a very pretty and graceful perennial easily raised from seed sown in the open; its slender branching stems with their tiny starry flowers give a charming, light and graceful appearance to arrangements of cut flowers.

ANEMONE SYLVESTRIS in the early summer and *A. japonica* alba in the autumn are also very useful flowers in the light arrangements so much in vogue just now; both are of easy culture, and once established in the herbaceous border will improve in appearance and in quantity of flowers every season. By the way, a passing remark on

ANEMONE CORONARIA THE BRIDE may not be inappropriate just now, the season for purchasing the roots being close at hand. This I consider one of the best varieties of the coronaria type. It is a strong, robust grower; its white flowers are borne on stout stems, and it throws up plenty of foliage, which, being much lacinated, comes in very useful for mixing with cut flowers, as it is ready at a time when suitable foliage is somewhat scarce.

GLADIOLUS COLVILLEI ALBUS, generally known as The Bride, is another exquisite flower for cutting. The corms are planted at various periods during the autumn and early winter and in different aspects. This may be had in bloom for a considerable time. I lift the corms of this as soon as the stems have died away.

CAMPANULA PERSICIFOLIA ALBA is a grand thing for tall vases. This is, again, an easy plant to grow, but it well repays liberal treatment. There is a double form of this, but I much prefer the single form. A good white form of Canterbury Bell is extremely useful where bold flowers are in demand. These come fairly true from seed. Sown early and transplanted a good distance apart, the plants will throw immense heads of flowers.

ANTHERICUM LILIASTRUM MAJUS is as yet a somewhat uncommon flower, but certainly deserves a place in every collection.

MATRICARIA INODORA PLENA is a great favourite with many, its only drawback being its straggling habit of growth. A liberal treatment is requisite for this plant, or the flowers do not fill up their centres properly and have a very weedy appearance. When raised from seed a vigorous weeding-out is necessary, as many seedling plants throw very inferior flowers.

CARNATIONS are always welcome and at the present time in great demand. In addition to the old white Clove, there are many good white varieties, of which no difficulty should be experienced in keeping up a stock. But the fact cannot be too often pressed home, that if the Carnation is to be grown as a hardy flower, it is in the majority of places absolutely necessary to layer some portion of the stock every season. During the last two winters, although we are not favoured either with soil or position that could be considered at all suitable for Carnation culture, we have had no perceptible losses among our layers, while every plant above two years old was killed outright.

RANUNCULUS ACONITIFOLIUS PLENUM (Fair Maids of France) is another easily-grown plant not half enough cultivated. Its double flowers are produced early in the spring, when flowers are valuable.

There are many more plants with white flowers that may be used for cutting. Among these may be noted *Narcissus ornatus*, the old double white *Narciss*, planted in a moist corner of the garden and allowed to spread in its own fashion, *Galega officinalis* alba, Everlasting Peas, *Pyrethrums*, summer *Chrysanthemums*, &c. WINTONIAN.

## SCENTED CARNATIONS.

It has been remarked in the pages of THE GARDEN that Carnations are in danger of losing one of their greatest charms, namely, a delightful scent. It is important to urge that they should be scented, because by far the majority of present-day kinds—I allude chiefly to garden selfs, whether English or French—are as scentless as Barone's Rothschild Rose. It is true that these fine kinds appeal to us strongly through other channels, by reason of such merits as vigour, freedom of flowering, fine form, rich colour, &c., and they find much favour; but the crowning charm of all which we seek too often in vain is that of scent. All who look for the natural charms of Carnations must surely deplore the want of scent in the modern varieties, and the sooner we remedy the evil the better. Carnations doubtless have not become all but scentless at one step. In the improvement of recent years the charm of scent has been ignored or forgotten. This proves how observant and watchful we should be, lest whilst doing good in one direction by developing and bringing out the finer qualities of a flower we disregard natural charms. It is not predicting too much that in another decade scentless Carnations will be the rule, and a scented kind a very rare exception. This must happen if we rely upon those who keep on raising new kinds from a scentless source. A little wholesome agitation did much good in bringing to the front the merits of self Carnations, and now that we are satisfied upon the point and convinced by results of trials, let us agitate for scented Carnations. We shall not be successful perhaps in inducing the orthodox florist to make the slightest deviation from his narrow way, but the love of Carnations is making headway. Many of its lovers have no aspirations beyond fully enjoying and appreciating the flower, and to these we must look. GROWER.

Lilies at Bournemouth.—I have lately removed from Dorsetshire to Bournemouth, and have a small villa garden of about half an acre. The soil here, which is nothing but sand, is totally unfit for Roses or Dahlias or any other gross feeders, but, on the other hand, it is the very thing for Lilies. So far as I can judge from a cursory glance, it is exactly the same soil as that in which Mr. G. F. Wilson does such wonders. I had a very large collection of Lilies at Monkton Wyld, but as I was not present when we moved, an enormous number were left. My object in writing is to tell you what Lilies seem to resent disturbance and what do not appear to mind a change of scene. First, the queen of all Lilies, *Lilium auratum*, does not appear to feel moving at all. I never had such heads of bloom as I have had this my first year here, and numbers have still to flower. Then, again, that grand Lily, *L. giganteum*, has given me a superb spike of lovely flowers. This bulb flowered last year at Monkton Wyld, and as it has again bloomed this year, it would seem not to resent disturbance. *L. elegans* and *L. davuricum* have bloomed well, and the varieties of *speciosum* (*L. lancifolium*) promise to bloom well. On the other hand, *L. candidum* (the lovely old white Madonna Lily) has scarcely bloomed at all and has not grown in the least. I am bitterly disappointed, as of all the Lilies it is the most charming. *L. tigrinum* is now blooming beautifully, and *L. Harrisii* also flowered. I have not yet, either here or at Monkton Wyld, succeeded in blooming *L. Kramerii*. With regard to cultiva-

tion, I am confident that Mr. G. F. Wilson is right when he says that manure is not necessary for Lilies. No manure or strong soil has touched these Lilies here, and those that have bloomed have been superb. When they are growing they require plenty of water, and that is all they need. Of course, after acres of garden that I possessed at Monkton Wyld, to be reduced to a bare half acre is a great trial. Still, I hope to be able to grow Lilies, Gladioli, and all bulbs to perfection, and that, after all, is something.—JOHN B. M. CAMM, *Knole Lodge, Bournemouth.*

## NEW CARNATIONS AND PICOTEEES.

I THINK that as a general rule Carnations and Picotees are always seen in finer quality at the annual exhibition of the Carnation Union at Oxford than at any other held during the year. This is probably owing to the fact that the judges are generally northern men, who appear to set up a higher standard of quality than is generally regarded in London, where size rather than purity in the ground and regularity and brilliancy of marking seem frequently to find favour with those who award the prizes. The highest quality should, in particular, be characteristic of the new varieties, and I always look forward with interest for the new flowers that are certain to put in an appearance at the Oxford exhibition.

Messrs. Thomson and Co.'s fine scarlet bizarre C. H. Herbert, a flower of large size with a fine shell-like petal, was remarkably bright in colour, but wanting in purity of the ground, a failing in most of the scarlet bizarres shown this season, probably owing to the dullness and coldness which characterised the month of July. Like s.b. Dr. Hogg (Turner), this is a large flower, finely coloured, but they both lack the richness seen in a brilliant Robert Houlgrave, which, though small in size, atones for its lack of substance by its startling vividness of colour.

Of new crimson bizarres, John Cliff is superb. It was, I think, raised by Mr. Dodwell at Oxford. It is a flower of fine shape and substance and brilliant in the extreme, and is bound to take a high place in its class. Another fine new c.b. is Lord Salisbury, an example of which appeared in the collection from Messrs. Thomson and Co.; the bloom of it which was shown was young, but it was full of substance and singularly bright and attractive. When grown another season its appearance will be looked forward to with interest. There are no more telling flowers in a stand of Carnations than richly tinted c.b.'s; there is a regal refinement about them that always attracts.

Of new p.p. bizarres, in which case pink takes the place of the rose found in the crimson bizarres, and purple that of the crimson a new flower of very fine promise is Chaundy's Fred Phillips; it is a large, full flower of fine shape, smooth and well formed in the petal, and attractive in colour. Mrs. Barlow (Dodwell) is a very refined flower with definite markings, full of substance, and very smooth; this is of a good habit, a desirable quality probably not wanting in Mr. Chaundy's new flower.

Among newer purple flakes Gordon Lewis takes high rank, the ground colour pure white and the flake very deep and bright. Another very fine flower in this class is Oscar Wilfrid, one of Mr. Dodwell's raising. It rivals Gordon Lewis in purity and brilliancy, but is of a different tint. Add to these George Melville, which was the parent of both the preceding, and therefore not so new, and I think the three finest p.f. Carnations in cultivation are named.

Of scarlet flakes, a grand variety named Claudian, shown by Messrs. Thomson and Co., created quite a sensation. It is a large full flower of the finest shape, the white ground quite pure, with a very heavy and brilliant scarlet flake. It was awarded a certificate of merit. The same award was made to two new s.f.'s shown by Mr. Chaundy. One is Guardsman, which has in its flake a brilliancy suggestive of military scarlet, and it is admirable in all other respects. Another is William Dean, a full flower of excellent form, rich in colour, and most attractive. Of all the rose flakes shown



at Oxford, and there were many fine ones, nothing pleased me so much as Whitehead's John Keet, by no means new, but very fine. Lakins' Lovely Maria and Thalia (Douglas) were also in fine condition. Sybil, an old flower sent out twenty years ago, was also in good character.

In the Picotee classes, the rose edges, heavy and light, largely predominated, and they were generally very fine in colour. Among the heavy rose edges, Dodwell's Little Phil stood supreme. It is a flower of the finest quality, with an edge of bright pale rose something between medium and heavy, the marking perfect. A superb bloom of it was selected as the premier Picotee in the show. Equally beautiful is Norman Carr, another of Mr. Dodwell's, also very pure in the ground; flowers large, full, and smooth; largely shown on this occasion and in all instances very good. A very fine seedling heavy red edge was shown by Mr. Dodwell, the petals remarkably good and the colour bright in the extreme; but Mr. Dodwell hesitates to name a flower until he has thoroughly tested its constancy. Payne's Amelia, Calypso, and Imogene are three fine and distinct heavy purple edges, the two latter especially, and certain to take a high place as exhibition flowers.

Selfs and yellow grounds were such a strong feature, that notes on the novelties in these classes shall be given in a succeeding paper. R. D.

#### HYBRID PENTSTEMONS.

THE hybrid Pentstemons, which include all those varieties which have had their origin in Pentstemon gentianoides, are amongst the gayest of summer flowers. They are, as a rule, possessed of good habit and constitution, and always figure among the most striking plants in those gardens where justice is done to them. In favoured localities many varieties are perfectly hardy in the open ground, and where such is found to be the case they should be allowed to remain, inasmuch as these flower much earlier and decidedly more freely than young plants. Sometimes it happens that the old plants are cut back by the severity of the winter, but if not damaged at the root the early days of spring will see them bristling with young shoots at the base, these making rapid headway when warmer weather arrives. On the other hand, in very severe winters, even with the protection of a cold house or frame, the whole lot may be killed. Of this latter I had an experience in the winter of 1879-80, when I lost about 1500 fine plants, all well rooted in store pots, from the simple fact that no heat could be given them. The winter, however, was a severe one, some 25° of frost being registered, and though exceptional, it serves to demonstrate that on the whole the stock plants or cutting pots must be out of the reach of frost to be considered safe. The best way of keeping up a supply of these plants is to secure plenty of stout vigorous cuttings at this season of the year, or as soon after flowering as the plants will produce suitable material. The formation of good cuttings may be hastened by taking out the earliest flowering spikes as soon as these are on the wane, and when the cuttings are 3 inches or 4 inches long, insert them in sandy loam, and place in a cold frame till rooted, giving the necessary attention to shading, watering, and ventilation. When rooted give them full exposure to thoroughly harden them for the coming winter, or if rooted sufficiently early they may be potted off singly and allowed to pass the winter in pits or frames from which frost is excluded. Such plants as these by the time they are required in spring should have three or four strong breaks and be very vigorous, and in time will make a much more superior display in the flower garden than those whose propagation is deferred till spring, and when they have to be pushed along in heat to secure even presentable plants. It is well worthy of consideration that plants required for propagating purposes should not be planted in the flower garden proper, but in some secondary position where they may be operated on at the right moment. In large gardens there are plenty of such places, the foot of a Rhododen-

dron bank, or the front of a shrubbery border, and so forth, and in these positions when stock is secured, the old plants may be allowed to take their chance, when with the assistance of a handful of short litter about them at the base many will probably survive the test, and, providing early flowers in consequence, well reward the experiment.

E. J.

#### TOP-DRESSING CHRISTMAS ROSES.

A SURFACE dressing of some kind—leaf-mould is probably the best material—is undoubtedly beneficial to Christmas Roses, but more harm than good will be done if the crowns are covered with it. I have a short border planted with all the kinds in cultivation, as I wished to form a correct opinion of their respective merits. Two years ago I had a surface dressing put on, and the man who did the work covered the crowns rather thickly. I did not notice at the time how the work was done, but later on I found out to my cost. The top-dressing was put on early in spring before the plants began to grow, and for a time they did very well; but the summer was very wet, a lot of rain falling in July and at the beginning of August. I saw there was something wrong. Many of the leaves drooped when the sun came out, like Cabbage when it has clubbed, and then I found that the base of the leaf-stalk was decayed. This in some instances spread to the heart of the plant, which ultimately completely rotted away. The greatest sufferer, as, owing to the fleshy nature of foot-stalks, might be expected, was maximus, whilst caucasicus sustained no injury—a proof of the exceptionally enduring character of this Christmas Rose. This species, for a species I hold it to be, keeps its foliage through the winter better than any other member of the family. In the case of light soils, top-dressings are decidedly helpful in aiding the plants to bear periods of hot weather, and an annual surfacing of leaf soil is good for land that is naturally tenacious and wanting in organic matter. New roots are every year put forth from the crowns in autumn, and these travelling for a time near the surface are protected and nourished by the top-dressing. J. C. B.

#### THE FLAME FLOWER.

(TROPÆOLUM SPECIOSUM.)

SEVERAL years ago an amateur friend, who does not pretend to any great knowledge of hardy flowers, received some roots of this from Ireland. The beauty of this Tropæolum had been described in glowing terms, and my friend, being anxious to see it bloom, asked for my advice in the matter of soil and situation. I selected three positions in his garden for trial, one being on a north wall which an old Walnut partly overshadowed, another on a west wall with nut trees in front, through which gleams of the afternoon sun passed, and the third where the sun came after midday. In the two first positions the plants did very well, but best where the sun came a little. In the exposed place they started into growth, but from the time the sun acquired power they gradually withered away. The best plant made 9 feet of growth the same season and bloomed quite freely, which I consider to be very good for newly-planted roots. In the north aspect, although the plants looked very healthy, they were not so strong as on the west wall and gave but few flowers.

This trial, though on a small scale, proved that this Tropæolum may be grown very well south of London, but that success depends on a judicious choice of situation. Soil, of course, counts for much. This should, I think, be rather light, say fibrous loam two parts and one of leaf soil. This compost will not be liable to come into a close condition, and the tubers are able to extend freely in it. I think that in most gardens it would not be found difficult to find a situation sufficiently cool and moist to suit the needs of this charming hardy climber, which in the warmer districts of this country is rarely seen in good condition. There is certainly something peculiar about this Tropæolum. It happened that

my friend left the neighbourhood late in the autumn. He took up the roots, giving me a portion of them. Not having a place ready, I put them in pots and kept them just moist through the winter. In spring I could not find a vestige of them, and I found those taken away and laid in in the open ground had shared the same fate. The tubers were in excellent condition, the plants having made capital growth the previous summer. I cannot understand why they decayed. Probably the roots should not be transplanted in autumn, but in spring, just before they commence to grow. It is customary to pot the greenhouse kinds early in autumn, but they make their growth during the winter and early spring; whereas *T. speciosum* remains dormant through the dull months. J. C. B.

**Centaurea macrocephala.**—Some say this is more curious than beautiful, while others think it highly ornamental. It is quite distinct from almost every other plant growing in our hardy plant border. Some large patches in full bloom have a fine effect, as they are associated with Delphiniums and white and red Phloxes.—DORSET.

**Antirrhinums for bedding.**—These constitute a lovely class of plants within everyone's reach who has a frame or cool house to winter them in. Antirrhinums are so easily raised from seed that I wonder there are so few beds of them in the flower garden, as I consider them far superior to many of the bedding plants that suffer from the slightest frost and require so much house room for seven months out of the twelve. Of course, with plants from seed, distinct colours cannot be relied upon, or the plants of one height. At Kew there are now some very fine beds of Antirrhinums. I have a very useful dwarf white variety. It was raised in Scotland and it is a mass of bloom about 1 foot high. This I raise from cuttings in the autumn and winter in a cold frame, planting out in April. I have a deep scarlet equally useful. The only difficulty is that the plants run to seed early in the autumn if the old bloom spikes are left on the plants. The flower-spikes should be removed weekly, and the plants will continue to bloom till late in the autumn, when cuttings should be inserted in sandy soil in a cold frame and sparingly watered till rooted.—G. WYTHES.

**Sweet Peas.**—Few flowers have more non-distinctive colours than Sweet Peas, and the newer forms seem only to create greater confusion. I wish the floral committee of the Royal Horticultural Society would refuse to certificate any more new varieties unless they are presented in the form of very clearly defined self colours. Of course Sweet Peas are very pretty in gardens when grown in clumps or rows for the express purpose of making the garden gay. Still, they are chiefly grown for the production of flowers suitable for cutting, and there can be no doubt that both for bouquets and for vase and table decoration the flowers are found pleasing and popular. We have in Sweet Peas now enough of variety, such as it is, to satisfy anyone. What we want is more decided variety, good clear self hues. Were it intimated that only such new forms would secure honours from the floral committee, we should be saved from a yet further flood of varieties which exhibit no advance on what we have, and for all ordinary purposes are valueless. If we can have them, get good yellows, good blues, good deep crimsons, and purer whites. There is in these few colours alone a wide field open for raisers to work in.—A. D.

**Viola cornuta.**—While I wish every success to those who are doing so much for the improvement of the tufted Pansy, allow me to put in a plea for this valuable species. It was by reason of Mr. John Wills bringing this flower to the notice of the public as a bedding plant some thirty years or so ago that so great an impetus was given to the introduction and improvement of the Viola for the flower garden. When in Lincolnshire a short time since I saw a patch of *V. cornuta* that was so attractive as to recall to mind the service it rendered to decora-



tive gardening many years ago. It is still unrivalled for its hardy and enduring character, its dense tufted growth, and its particular hue of mauve. It certainly did good service in the flower garden for many years, and it was not until advanced forms of the *Viola*, such as *Perfection*, *Euchantress*, *Magnificent*, *Blue Bell*, and others were introduced that it ceased to be so much grown. Almost from the first attempts to utilise *Viola cornuta* in the flower garden complaints were brought against it that it bloomed but sparingly. This was probably largely accounted for from the fact that in some localities it seeded freely, and the energies of the plant being devoted to the production of seeds, the head of bloom was limited in quantity. But continuity of bloom can be secured by cutting off the seed-pods, and a gardener I know who has always grown *V. cornuta*, and has it in bloom from April until November, adopts the practice of clipping off with a pair of scissors all flowers inclined to seed, with the result that others are rapidly produced. He sets a boy to do this once a fortnight, and the result is an excellent succession all through the months above named. *V. cornuta* will outlive a very large number of the new varieties of tufted Pansies constantly being introduced, too many of which are of little value in the flower garden.—R. D.

#### NOTES ON HARDY PLANTS.

**Agrimonia odorata.**—This is a somewhat strong and coarse-growing plant, but it is one of the most deliciously perfumed plants I know when strongly grown, each stem tipped with a spike of small orange-yellow flowers, which last from the month of June well into autumn. Not only do the flowers exhale a fine aromatic odour, but the leaves, especially when moist with dew or rain, have a pleasing smell too. It chances to be growing with me at the junction of several walks, and many people have asked me when passing the point what it is that smells so nice. There are plants fit to be grown in the garden that may not be commended for their showiness, but for their quality of rich perfume, and this is one. Of course, those who have their wild gardens and their woodland walks may grow it and enjoy it equally well in such places. Stature 2 feet.

**Campanula peltiformis.**—This is one of the most distinct varieties of *carpatica*. The chief distinction is in the form of the flower, as implied by the specific name. If the other varieties of *carpatica* and the type may have their bell flowers described as cups, the flowers of this variety may be described as saucers, and so proportionately larger are its flowers than those of the typical *carpatica*, that this description applies to the size as well as the form. Small plants flower well at a stature of but 3 inches or 4 inches, but left alone for a few years in rich light soil, wherein the annual root-stems can feed and move freely, the plant attains a height of upwards of 18 inches, and for weeks in midsummer it is simply a heap of delicate mauve or sheeny grey-purple. It is a great favourite, and one of the hardiest and most reliable of the finer *Campanulas*—at any rate for lightish soils. It is a free seed-bearer, and I have raised seedlings in abundance, among which are all shades of colour from white to the typical purple of *carpatica*, many with very much larger flowers in the way of *turbinata*, and but few approaching in any degree the form of the parent plant. It may be rapidly propagated if dealt with in summer when the root-stems are succulent and active, for it is well known that the roots of many of the smaller *Campanulas* dwindle in winter in a curious manner, though they do not die unless disturbed; hence the importance of propagating and establishing young stock in the growing season.

**Shortia galacifolia.**—Respecting this plant it has been asked, "Why not grow *Shortia galacifolia* in preference to *Galax aphylla*?" My reasons would be because, though nearly allied, for garden purposes they are distinct in their aspects and uses; further, because, though the *Shortia* has larger flowers, as a plant it is less persistent and

effective in winter. Again, the *Shortia* is but yet under trial in this country as regards open-air culture. It is true that well-grown and beautiful specimens of *Shortia* have been exhibited, but I believe they had been nursed to an extent that would place them outside the line of hardy treatment. In the case of *Galax*, we are certain of a beautiful and highly-coloured plant of hardy constitution, which grows freely when once established under suitable conditions; and though the same may be said for the *Shortia* by some people, and quite correctly, there is the significant fact that those who are growing the *Galax* well have hitherto failed with the *Shortia*. I am sure I shall be quite safe in strongly recommending both these beautiful species, especially where the right treatment can be hit upon. I believe that both are partial to a somewhat peaty or porous soil and a slightly damp (yet sweet) or boggy place. The full sunshine is essential in the open air for the development of their foliage colour.

**Narthecium ossifragum** = *Tofieldia palustris* (Huds.) = *Anthericum calyculatum* (Lin.).—Wilding though this is, nobody can deny that it better merits a place in the low or boggy places of our rock gardens than many dainty and costly exotics, which find their way into similar and more favoured situations. Like many other things, it is to be had in vastly superior form under cultivation than generally met with wild. It is known by the names of the Scotch and Lancashire *Asphodel*, and just now it shows up as a veritable gem. It has a stature of but 6 inches, yellowish green foliage, sheathing well at the base, securely sustaining the dainty little scapes with their crowded spikes of tiny yellow stars. Moreover, it grows freely, running on the surface by means of a thin, dark green rhizome, which of itself places the plant in evidence all the winter through. It may either be grown alone, or set over a group of bulbs, such as *Chionodoxa*, *Snowdrops*, or the moisture-loving small *Narcissi*. These, of course, might have occupied the place, but they would have retired for the year by the time that our present plant shot forth its spear-like points. It is really worth a trial by those who can give it the accommodation of a damp corner in full sunshine.

**Arum maculatum.**—Many less showy and interesting plants have been introduced to the pleasure garden than this (at least when highly cultivated), whether in reference to its beautiful foliage in early spring or its crimson fruits in August and September. Just now its stout scapes of 1 foot or 1 foot 3 inches high are topped, drumstick-like, with massive clusters of bright scarlet berries the size of horse beans. In spring-time it has monster leaves, heart-shaped, with large black spots or splashes. It is needless to reckon upon special culture in the way of boggy conditions, as I know many suppose there should be for this species. I have long grown it in an ordinary border, simply selecting a special spot where the water runs down a series of small inclined walks and becomes intercepted by another walk at right angles; along this walk edge the *Arum* has been grown for years. The term high culture used above implies more in the way of lifting and replanting the bigger tubers where they are intended to make a show. By doing this annually about September, after the birds have taken all the scarlet fruit, and rubbing away the small offset tubers from the large ones, a fine crop of berries may be annually had.

**Berkheya (Stobæa) purpurea.**—I have several times praised this plant, but I think it struck me this morning as being more beautiful than ever in the bright sunshine succeeding dull rainy weather. The silvery sheeny purple heads are quite 3 inches across, and a great number had opened during the morning, and as this is about the first gush of bloom, there are no spent or seed-heads to detract from the good effect of the fresh flowers. The winged, angular, and spiny flower-stems reach a stature of 3 feet to 4 feet. My plants are growing in simply an old garden walk, where all the material is of a sandy and stony character; indeed, hardly any soil exists there. I mention this because I know many of my friends

have failed to get the plant to live. I cannot say that under these conditions the plant has shown any tendency to die off in winter, but I rather fancy the results would be different if the plants were grown in an ordinary or more moist border. I know some people who have been disappointed with this plant when they have seen but one or two heads of bloom on possibly a plant not established. I can, however, speak well of the plant when strong and healthy. J. WOOD.

Woodville, Kirkstall.

#### LILIUM CHALCEDONICUM.

THIS, usually spoken of as the scarlet Martagon Lily, need not be confounded with any other, for the blossoms are of a striking vermilion-red colour, while they are the latest to expand of the various members of the Martagon group, usually referred to as Turk's-cap Lilies. It is quite an old-fashioned Lily, that may at times be met with in grand condition in some cottage garden, while if great pains are taken with it success by no means invariably results. It is one of those Lilies that very much resents being disturbed at the roots, so that when it is in a flourishing state the best advice that can be given is to let well alone, even at the risk of overcrowding. The bulbs of this Lily are rather large and loosely put together, so that if handled at all roughly many of the scales will be broken. While some Lilies may be shifted much later in the season than others, *L. chalcedonicum* is not one of them, for vigorous root-action commences very early, and while the roots are but few they are very stout, so that the loss of even one or two is a serious matter. The first season after this Lily has been planted the show of flowers is, as a rule, very limited, while the foliage often dies off prematurely, but the following year if the bulbs are undisturbed one may reasonably hope for better results. While some hardy Lilies are very useful in many places when grown in pots, *L. chalcedonicum* is one that cannot on any account be recommended for the purpose, for among other considerations the roots are of such a deep descending nature that they greatly resent being confined in pots, and when planted out a deep soil is necessary to their well-doing. The petals of *L. chalcedonicum* are remarkable for their thick wax-like character, being, considering their size, more massive than those of any other species, unless it be the Japanese *L. Hansonii*. *L. chalcedonicum* is usually regarded as one of the parents (*L. candidum* being the other) of the charming buff-coloured *L. testaceum*, which is one of the most distinct Lilies we have in our gardens. It is a grand stately Lily, attaining a greater height than either of its parents, and if planted early, will, as a rule, flower in a satisfactory way the first season, while the blossoms remain in perfection a long time. H. P.

**Propagating Alternantheras.**—There is no season like the present for securing a stock of these for the ensuing year. The growths are abundant, and a few hundreds may be taken from a bed with a sharp knife or scissors without being missed, and what is of the greatest importance to all concerned is the fact that the growths available now are of the best possible material, being firm and vigorous. Anyone who has not adopted this method should give it a trial. It surpasses growing on plants in pots for propagating, while the chances for lifted plants later in the season are not worth considering in comparison. Having detached the cuttings, insert them in shallow boxes of sandy soil and place them in a spent Cucumber frame or any manure frame just losing its heat, keeping them well watered and shaded from sun till rooted, when they may receive air according as weather permits, eventually as the winter approaches bringing them into the stove or warm greenhouse, giving them a shelf near the glass. In this position they will grow rapidly. Indeed by adopting this method I have by Christmas had much finer plants of these useful subjects than are usually bedded out in June, so that it need hardly be said that abundance of splendid cuttings



are available the moment they are needed for propagating in January or February. Having secured so early a start, and that with excellent cuttings, there need be no fear of having enough and to spare, besides which the plants from their greater age and size will cover more space when bedded out. Last, but not least, with the adoption of late summer cuttings, damping off during winter rarely ensues, while with old plants it is the generally looked-for result, often placing the gardener with limited resources in an unpleasant fix as the bedding season approaches and stock is deficient.—E. J.

## NOTES OF THE WEEK.

**Eomecon chionantha**, a new Chinese Poppy, is flowering very freely this year, more so indeed than we have seen it hitherto. The flowers are pure waxy white with a bunch of golden anthers in the centre. The leaves, of a soft yellowish green, are very ornamental all through the summer. A coloured plate of this appeared in *THE GARDEN* of Jan. 26, 1889, p. 76.

**Allium pulchellum**.—This is just now making a grand show on the rockery where it has been growing for many years. It is nearly allied and has much the same habit as *A. flavum*, but the flowers instead of being yellow are bright, deep rose-red, more or less drooping, and always in large heads. It increases very fast, and if taken up annually and replanted, the bulbs an inch or so apart, it will soon make large tufts.

**Strawberry Marechal MacMahon**.—On p. 135, "J. C.," in writing of the merits of *Marechal MacMahon* Strawberry, says he feels sure that plants on a north border could be relied upon to supply fruit up to August. I have gathered fruit from a north border up to August 20. I am very much surprised that so little mention has been made in *THE GARDEN* of this useful late Strawberry, but it does not seem at all popular. It is also very prolific and bears good-sized fruit with very few small ones.—E. SEMPER, *Scarbey Hall Gardens, Brigg*.

**Tuberous Begonias**.—A few years ago when writing to you on the subject of tuberous Begonias I said I hoped to get them with several flowers open at once on erect stalks. I now forward you a few stems from a seedling I raised last year. The plant is dwarf, with dark leaves, branches freely from the tuber, and carries its flowers perfectly erect and well above the foliage. The stems never bend over, even when old. There are four or five such spikes as those I send you open at once. I wanted to take the plant to the Royal Horticultural Society's show at Chiswick, but this hot weather spoiled some of my best doubles.—W. SHIRLEY, *Southwick Personage, Fareham*.

\* \* Mr. Shirley sends very beautiful, strong, single-flowered Begonias of fine sulphur and soft yellow colours. One is a superb salmon-red.—ED.

**Early Apples**.—I have not grown the Beauty of Bath, but, of course, I must after what Mr. Crump says about it at p. 156. I have been pinning my faith to the Gladstone and Irish Peach as my first early Apples, the Gladstone ripening at least a week before Irish Peach. The trees are much the same as regards habit, and should be cautiously pruned, as Mr. Crump advises. The Gladstone, I think, is best eaten from the tree. The Irish Peach should be gathered a few days before eating. It then is superior to Gladstone in flavour. I beg to send you a sample of both for your opinion, as I should like Mr. Crump to make a quartette of his selection by adding the Gladstone.—R. FENN, *Sulhamstead*.

\* \* The Irish Peach is by far the better flavoured Apple of the two sent.—ED.

**Zinnias**.—Few annuals are more satisfactory than these when well cared for. Zinnias, whether planted in beds, rows, or singly, are always effective in the flower garden. Another point in their favour is that they bloom well into the autumn, and the flowers, which are valuable for cutting, do

not suffer from inclement weather, but retain all their freshness and gay colouring when many other bright-flowering subjects present but a sorry appearance. Plant the Zinnias in rich soil in full exposure, for they like to bask in the sun's fiercest rays, merely requiring a surface covering to protect the roots and plenty of moisture at all times. We have just been reminded of their great value by a gathering of both large and pompon-flowered varieties from Messrs. Stuart and Co., Tavistock Street, Covent Garden, who grow them largely at Nice for seed. The blooms sent embrace shades of colour from the richest scarlet to pure white. There were also some remarkably clear yellows and a magenta-coloured variety, which would in the mass be very effective. Now that Zinnias can be had true from seed in the various colours, masses of the different shades in the flower garden would be very telling. In the pompon varieties there was also the same diversity of colour, and these, seeing they last so well when cut, deserve extended cultivation.

## SOCIETIES AND EXHIBITIONS.

### ROYAL HORTICULTURAL SOCIETY, CHISWICK.

#### Meeting and Conference.

Two large marquees were on this occasion erected for the exhibits. That devoted to Ferns, more particularly with accessories in the form of *Gladioli*, *Cactus Dahlias*, and herbaceous plants was exceedingly well filled in all parts, but in the other there was room for a few more exhibits, the competition for the substantial prizes offered for tuberous Begonias not being what was expected. Although this was the case in the competing classes it left nothing to be desired in the non-competing groups, which were thoroughly representative of the Begonia in all its varied forms.

Particular note should be made of the large and very varied collection of shrubby Begonias, with others also, both in species and varieties, some being rarely seen, which were staged from the Kew Gardens collection. Messrs. Veitch and Sons' exhibit was highly instructive, as it contained such a variety of species and hybrids raised therefrom by the firm who were the first to attempt the hybridisation of the tuberous Begonia from species of their own introduction. In both of these instances the plants were well grown, exemplifying what may be done with the wide race of Begonias when under good cultivation.

Messrs. Laing and Sons exhibited a superb assortment of plants of the double tuberous-rooted kinds of their own raising. These show a marked advance this season, the flowers being large and erect, the colours varied, in size larger than many *Hollyhocks*. These were accompanied by cut blooms of both single and double kinds grown in the open air, with plants also of the shrubby varieties. Messrs. Cannell and Sons had a marvellous display of cut blooms of their strain of the double tuberous-rooted section set up in a most attractive style in bunches with a groundwork of Fern fronds. These were particularly noteworthy for fine form and variety of colour.

The Ferns made a grand show of themselves, the British species and varieties being particularly well represented. These exhibits should tend to instruct the lovers of Ferns as to the number of our hardy kinds suitable for almost any garden.

Fruit, although specially called for in the way of Plums and Apricots, did not meet with a ready response. It is not altogether surprising that this should be so as regards Plums, which are this year a somewhat partial crop; whilst it is quite a fortnight too early to have them thoroughly well represented as to ripeness and perfection. The branches from Messrs. Lane and Son, Berkhamsted, were a fine feature, being completely laden with fruit to breaking down, and consisted of all the best market sorts. The only miscellaneous

exhibit of Apricots was that from Mr. Wythes, who also showed a quantity. These were neatly arranged in baskets.

#### Orchid Committee.

A first-class certificate was awarded to—

**CATTLEYA BARONESS SCHROEDER** (*Cattleya Trianae* × *Laelia Jonghiana*).—This is another beautiful addition to its class; the markings very distinct, sepals and petals of the colour of a good form of *C. Trianae*; the lip finely fringed with a white edge, the inner portion of a fine golden colour extending into the throat. From Baron Schroeder.

This was the only award made, a few other things in small plants being shown.

#### Floral Committee.

First-class certificates were awarded to—

**NEPHROLEPIS DAVALLIODES MULTICEPS**.—This is another distinct looking Fern, apparently of dwarfer growth than *N. d. furcans* and more subdivided in the fronds. It is of more elegant growth also, and paler in colour as shown. From Mr. H. B. May.

**PTERIS TREMULA VARIEGATA**.—A prettily variegated variety of this fine old Fern, somewhat more erect in growth and smaller in its parts, the silvery markings well defined. From Mr. H. B. May.

**PTERIS REGINÆ**.—This in habit comes nearest to *P. serrulata*, but is more elegant even than that good old sort. It is a variegated form, well defined with silvery markings; the fronds supported on stout foot-stalks. From Mr. H. B. May.

**PTERIS REGINÆ CRISTATA**.—This is a crested form of the preceding, more compact also in its growth, the variation quite as distinct. From Mr. H. B. May.

**ASPARAGUS DEFLEXUS**.—This is a valuable addition to the decorative class, being particularly well suited to basket culture by reason of its pendulous habit, the shoots extending to 5 feet and 6 feet in length when well grown. From Mr. Hudson, *Gunnorsbury House, Acton*.

**BEGONIA MARIE LOUISE**.—This variety belongs to the Rex class, and is remarkable for its dwarf habit and the distinct and effective colouration of its leaves, the central portions of which are of a bronzy brown with white radiating nerves, the remainder of a bright green with silver-white spots spread all over the surface. From Messrs. Veitch and Sons.

**BEGONIA MME. ALAMANGY**.—Another distinct addition to the Rex class, the leaves being deeply serrated, the inner portions of a deep bronzy-green with broad margins of silvery variegation. From Mr. W. Marshall.

**BEGONIA SEMPERFLORENS RUBRA**, also shown under the name of Sutton's Crimson Gem.—The habit is that of the type, but the foliage by exposure assumes a deep bronzy-red colour, the flowers being of a paler red. From Messrs. Vilmorin and Messrs. Sutton and Sons.

**HELENIUM GRANDICEPHALUM STRIATUM**.—A promising and distinct addition to its class, with Aster-like flowers of a deep orange shade with lighter striated markings. From Mr. Thomas Ware.

**TILIA PLATYPHYLLA**.—A very fine variety of the Lime tree, much freer in growth than the common kind, with remarkably large leaves of leathery texture. From Mr. Leach, *Albury Park, Guildford*.

Awards of merit were made to—

**ADIANTUM ELEGANTISSIMUM**.—A variety of slender growth, with finely divided fronds, the pinnæ rather long than otherwise. From Mr. H. B. May.

**ATHYRIUM SETIGERUM VICTORIE**.—A variety of peculiar and novel growth, not altogether handsome, but no doubt very distinct, the fronds narrow and crested. From Messrs. Birkenhead.

**BEGONIA EARL CRANBROOK**.—The flowers large, of a deep orange-scarlet.

**BEGONIA DUKE OF FIFE**.—Deep crimson, very full.

**BEGONIA LADY GERTRUDE**.—Full pink, with a light centre.



**BEGONIA PICOTEE.**—Buff centre, with narrow Picotee-like edge of a deep pink.

**BEGONIA LORD ESHER.**—Large crimson-scarlet. These are all fine additions to the double tuberous kinds, the flowers possessed of remarkable substance, being borne nearly erect, thus showing to advantage.

**BEGONIA BERTHA MACGREGOR** (Rex type), with deeply serrated leaves, broad silvery margins and dark bronzy centre. All the above Begonias from Messrs. J. Laing and Sons.

**COLEUS DISTINCTION.**—A variety with remarkably dark velvety foliage, more like that of a Gesnera, the habit sturdy and vigorous. From Mr. J. Morris, florist, Acton.

**CAENATION MRS. LEOPOLD DE ROTHSCHILD.**—A very promising addition with flowers after Miss Joliffe, but darker and with fringed edges and somewhat larger; the perfume is that of the Clove, between a variety of which and Miss Joliffe it has been raised; the habit is excellent, bidding fair also to be a perpetual bloomer. From Mr. G. Reynolds, Gunnersbury Park, Acton.

**GLADIOLI PRIVATE SECRETARY**, deep rose border with light centre; Mr. Hobhouse, large salmon, and Mr. McAllister, a pale straw-yellow, very distinct. All three are fine kinds, the spikes long, the flowers of the best quality. From Messrs. Kelway and Son.

**PHLOX ECLAIREUR**, a rosy purple; Phlox La Soleil, rosy pink, light centre; and Phlox Michael Cervantes, a pale blush with large rosy eye. All are distinct acquisitions to these valuable garden flowers. From Messrs. Paul and Son, Cheshunt.

Awards were also made to Begonias growing in the open border at Chiswick. These came from Messrs. Sutton and Sons and Messrs. Vilmorin. Remarks upon these will be made in due course.

#### Fruit Committee.

On this occasion the following first-class certificates were awarded—

**FIG BLACK DOUBRO.**—Fruit of medium size, purple, but not of first-rate flavour. It is a free-bearing variety. From the Society's gardens.

**TOMATO CHALLENGER.**—This is a variety of uniform shape, bright red in colour. The quality is good and it is said to be a heavy cropper. From Messrs. Collins and Gabriel.

From the gardens of the Royal Horticultural Society Mr. Barron exhibited two varieties of white Grapes, one Oreg Tardovany, a good all-round variety; and Veluvna, somewhat resembling Foster's Seedling in appearance; also very fine examples of the following Apples from trees grown in pots: Queen, Cellini Pippin, Ecklinville Seedling, Yorkshire Beauty, Lady Sudeley and Worcester Pearmain, all very finely coloured and finished. From Mr. William Roupell came examples of the following Grapes: Gros Colman from a rod grafted on Muscat of Alexandria; Diamant Traube, said to be an excellent white companion to the Black Hamburg, Grizzly Frontignan, Dr. Hogg, Purple Constantia and Prunavis Frontignan. Messrs. H. Lane and Sons, nurserymen, Berkhamsted, sent a collection of branches of Plums in fruit from trees which were formerly pyramids, which have been allowed to grow up into size. Quite dense clusters of fruit were seen of Belle Louvain, Czar, Angelina Burdett, Victoria, Orleans, Sultan, Dymond, Jefferson's, Cox's Emperor, Belgian Purple, Curlew, Wydale, Poupard's, Belle de Septembre, Pershore, Reine Claude de Count Hatten, Autumn Compôte, and Sandall's, showing that at Berkhamsted there are Plums in spite of the general failure of crops. Several baskets of Apricots were sent by Mr. Wythes, Syon House; these were arranged very neatly in punnets. The prizes offered for Plums did not apparently meet with any response, but two collections of Apricots (three dishes in each) were shown; these came from Mr. Miller, Ruxley Lodge, Esher, and Mr. Wythes, the prizes being awarded in the order named—Kaisha, Moorpark, and Hemskirk being the best sorts.

#### Begonias.

The show of tuberous-rooted varieties was as weak as that of Ferns was strong, and had it not

been for the contributions of cut blooms by Messrs. H. Cannell and Sons, and of plants by Messrs. J. Laing and Sons, there would have been a poor display of these popular plants. Messrs. H. Cannell and Sons had some 126 bunches of doubles in eighty varieties. Chief among them were R. B. Parsons, rose, Lady Addington, Sir J. Pender, Miss Nicholson, Mrs. C. West, A. F. Barron, Mrs. Falconer, yellow, very good; Mrs. French, sulphur; Sir J. D. Hooker, Mrs. G. J. Goschen, Rosebud, very pretty; Mrs. E. J. Ewing, &c. A collection of Begonias other than the tuberous type came from Kew; it was extensive and largely representative. Among the species and varieties were Haageana, Ingrami, peltata, albo-picta, nelumbæfolia, incarnata var. propensa, Arthur Malet, with its pale liver-coloured leaves; weltoniensis, natalensis, semperflorens and varieties of it, argenteo-guttata, one of the Rex type; Margaritæ, sanguinea, Duchartrei, &c. Messrs. Veitch and Sons, Chelsea, had a smaller, but most interesting collection, containing many novel types, such as socotrana, coralina, parvifolia, Arthur Malet, Winter Gem, Evansiana, one of the Rex type; Marie Louise, a dwarf-growing Rex type, small leaves, very free and handsomely jewelled; argyrostigma, rubella, insignis, Wighti, fuchsoides, Dregei, &c., and last, but not least, an interesting hybrid between Rex and socotrana, showing the characters of both. Mr. William Marshall, Bexley, was the only exhibitor of six fine-foliated Begonias of the Rex type. Prominent among them was a very handsome and distinct variety named Mme. Alamangy, having somewhat dentate leaves, silvery, the centre dark olive-green. Messrs. J. Laing and Sons' Begonia exhibit consisted mainly of well-grown and finely-flowered examples of their superior strain of the double tuberous kinds, amongst which were included those sorts to which certificates were awarded. This exhibit made a fine display, showing the marked advance of the past few seasons. With these were included some variegated forms of the B. Pearcei type, which are also promising, also cut blooms of both single and double kinds from the open border, the flowers of excellent quality. A group of the Rex type and others of the flowering race were also staged here; B. Arthur Malet, B. gogoensis and B. coralina were some of the best. Photographs also were shown of their Begonia grounds. Awarded a silver-gilt Flora medal.

#### Ferns.

The collections of British Ferns contributed by amateurs of the United Kingdom, and representing the best varieties of British species, were numerous and thoroughly interesting, but had it not been for the extensive and almost priceless contribution from the Clifton Zoological Gardens the show would have been a failure. The best collection of ten plumose varieties came from Clifton; this and all of them being arranged by Dr. E. J. Lowe, F.L.S. Chief among them were Polystichum angulare var. divisilobum robustum, P. a. plumosum angustum, P. a. inaccessum, P. a. Offa, Athyrium Filix-femina plumosum Molyi, A. Filix-femina clarissimum, Scolopendrium vulgare Bodeni and S. v. Coburni. Second, Mr. C. T. Drury, F.L.S., who had Athyrium Filix-femina superbum, A. Filix-femina plumosum Druryi, A. Filix-femina superbum cristatum, Polystichum angulare, &c. With ten cruciate or narrow varieties, no restriction of species, the Clifton plants were again first, Mr. Lowe staging Polystichum angulare Hydra, P. a. aculeatum graminoides, P. a. cruciatum ornandens, Athyrium Filix-femina Evelynæ, A. Filix-femina cruentum angustum, A. Filix-femina notabile, A. Filix-femina ornatum, A. Filix-femina cruciforma, &c. With ten varieties of Athyrium Filix-femina, Clifton was again first with excellent, ornamentissimum, decoratum, Stella, intericium, prominens, exoniatum, and others; this collection as well as the preceding containing some exceedingly handsome varieties. Clifton was again to the fore with ten varieties of Polystichum aculeatum and hybrids of it, having gratum (hybrid), montanum, polydactylum, Abottæ, plumosum, cruciatum, &c. With sixteen varieties, no restriction as to species,

Dr. Lowe was again to the fore with Lastrea Filix-mas Padleyi, very fine; L. probacea, cristata Belperi; Scolopendrium vulgare crispum Kitsonæ, Polystichum angulare attractum, P. a. centiceps, P. a. permeritum, P. a. fuscum, P. a. Meduse, and Athyrium F.-f. bellatulum. With sixteen dwarf or congested varieties, no restriction of species, Dr. Lowe staged an extremely interesting group, having Athyrium F.-f. Foens, A. marium decorum, A. minimissimum decorum, A. Vernoe Jonesi, and A. unicum cruciatum, Scolopendrium vulgare Nymphae, S. v. collarum, S. v. corolla, S. v. muricatum reflexum, &c. With eight varieties, no restriction as to species, Clifton was again first with Athyrium filiforme angustum, Scolopendrium crispum (fertile), Polystichum angulare latifolium decoratum, P. a. revolvens, &c. Clifton was also first with eight varieties of Nephrodium F.-mas, staging among others abbreviatum, gracile, Ellacombei, and others. With ten varieties of Scolopendrium vulgare, Dr. Lowe was again to the fore with deleseroides, sagittatum grandiceps, cumulans, sagittatum Jonesi, crispum pendens, jubatum, saccinum, the leaves pale yellow, a very distinct variegated variety, &c. Clifton also contributed the best varieties of Polystichum angulare, having longi-pinnulum, acutilobum fascians, insignitum, latifolium angulare, stipulatum, &c. With eight crested or capitate varieties Clifton took the first prize with Polystichum angulare decorandum, P. a. accumulare, galeatum, densilobum, cristatum, &c. With four varieties, restricted to species not shown in some of the preceding classes, Clifton was again placed first, with Adiantum capillus-Veneris Lowiæ and Lucasi, Osmunda regalis cristata, and Lastrea spinulosa cristata; second, Mr. W. Marshall, Bexley, with Polystichum alpestre flexile, P. Dryopteris, P. Phegopteris, and Allosorus crispus. With four varieties of Polypodium vulgare, Mr. W. Marshall was first with cornutum, trichomanoides, cambricum Prestonii, and semilacerum. From Clifton also came eight rugose or muricate varieties, which included Scolopendrium vulgare ostentare, muricatum maritum, m. ornatum, m. sub crispum, Sylvia, muricatum undulatum, bi-marginatum, &c. Clifton also furnished the best four Adiantums. With ten wild varieties of Aspleniums, including Ceterach, Dr. E. J. Lowe was placed first.

The awards for single plants were as follows:—

Best specimen, Mr. W. Marshall, with Polypodium vulgare trichomanoides. Best variety, Mr. C. T. Drury, with Athyrium Filix-femina plumosum, very handsome. Best variegated, Dr. Lowe, with Scolopendrium crispum succinum. Best Athyrium, Mr. Drury. Best Scolopendrium, S. crispum exdulm, Dr. Lowe. Best Nephrodium, Filix-femina Padleyi, Dr. Lowe. Best Polystichum, inaccessum, Dr. Lowe. Best Osmunda, cristata, Dr. Lowe. Best Adiantum capillus-Veneris, Dr. Lowe. Best Asplenium Ceterach cristatum, Dr. Lowe. Any errors in the nomenclature of the foregoing Ferns must be accounted for on the ground that in not a few instances they were indistinctly named, and apparently only with a view of affording information to specialists. It was extremely difficult to pick out the actual plants selected as the tests, and the judges appeared to find this an arduous task also.

In the way of miscellaneous collections, Messrs. W. and J. Birkenhead, Sale, contributed a large one containing many interesting novelties, such as Athyrium setigerum Victoriae, A. s. cristatum, A. Girdlestoni grandiceps, Scolopendrium crispum fimbriatum of Cropper, ramocristatum majus, Lastrea cristata fimbriata, L. æmula densa, L. cristata, a British variety, very rare; Asplenium trichomanoides confluent and a variety named incisum, Polypodium trichomanoides, Blechnum Maundersi, &c. Mr. H. B. May, Edmonton, had Pteris reginae var. cristata, P. reginae, P. tremula variegata, a beautiful variety with silvery variegation, Adiantum elegantissimum, Nephrolepis davallioides var. multiceps, &c. Mr. Drury also had a remarkably choice collection, the names of some of the most striking being given under the class for twelve plumose varieties. A collection of Polystichums was also sent by Mr. W. Roupell, Brixton.



## Miscellaneous Cut Flowers.

In the Fern tent Messrs. Kelway and Son, Langport, showed twelve boxes of spikes of *Gladioli* numbering over 100, many of them very fine, such as Mr. Hobhouse, bright salmon; Mr. McAllister, pale yellow; Private Secretary, bright carmine, with broad markings of sulphur-yellow; Duke of Devonshire, The Marquis, Sir T. Lawrence, Baroness Burdett Coutts, Baron Schröder, Duke of Edinburgh, Dorothy Tennant, Grace Darling, Lord W. Beresford, Rev. H. H. D'Ombrian, Electra, Duchess of Fife, Prince Henry, Mr. Fowler, Duchess of Edinburgh, &c. They also had bunches of hardy cut flowers and *Gaillardias*. From Mr. T. S. Ware came a collection of *Hollyhocks* in spikes (very promising seedlings indeed), *Phloxes*, &c. Messrs. Pitcher and Munda had a collection of bunches of hardy flowers. Messrs. Henry Cannell and Sons had a large and interesting collection of decorative and *Cactus Dahlias*, and Messrs. Paul and Son, Cheshunt, several boxes of cut *Roses* remarkably good for the month, among them *Madame Victor Verdier*, J. S. Mills, La France, Ernest Metz, a beautiful Tea; Prince C. de Rohan, Victor Hugo, very bright; Mrs. J. Laing, T. B. Heywood, evidently a fine autumnal *Rose*; Alfred Colomb, L'Idéal, a lovely button-hole *Rose*; Marie Rady, Comtesse de Nadaillac, Baroness Rothschild, Bourbon Mrs. Paul, Prince Arthur, Queen of Queens, Francisca Kruger, Oliver Delhomme, now not often seen, but very fine; Mme. Gabriel Luizet, Lady Arthur Hill, pretty in colour but not an attractive shape; Charles Gater, &c. Messrs. Paul also had a very good collection of herbaceous *Phloxes*, including such varieties as Mme. Henri Jacotot, Eclairer, Jean Bart, Chant-Populaire, Wm. Robinson, Albert Crousse, Souvenir de Beranger, Purité, one of the best whites; Claudot Iris, a distinct hue of pale purple; André Schwartz, Boule de Feu, Mars, and Comtesse de la Castree. Some really fine flowers of large-flowering *Chrysanthemums* were staged by Mr. McMillan, Trinity College, Elinburgh. These were very pure in colour and well formed. The sorts were Mme. Desgrange, G. Wermig, Edwin Molyneux, Puritan, Stanstead White, Mrs. Irving Clarke, and Boule d'Or, the three first-named being the finest (bronze Banksian medal). Mr. J. Hudson, Gunnersbury House Gardens, sent a remarkably fine collection of *Cape Pelargoniums*. They were very fine specimens, some of them measuring 5 feet 6 inches high and as much through. The following kinds were included in this exhibit: *Quercifolium*, capitatum, radula and radula majus, filicifolium odoratum, fragrans, Scarlet Unique and Rollisson's Unique, denticulatum majus, Pretty Polly, Little Gem and Pheasant's Foot. A silver *Flora* medal was deservedly awarded.

## NATIONAL CO-OPERATIVE FLOWER SHOW.

THE seventh annual celebration of the National Co-operative Festival took place at the Crystal Palace on the 20th inst., and among the many items of the programme, the carrying out of which extended over 12 hours, one of the most important was the flower show, which on this occasion filled the east end of the transept, and required the services of sixteen judges to make the awards. This show, commenced in 1886 in the conservatory of the Royal Horticultural Society at South Kensington—a small and decidedly poor one—was followed by a rather larger and improved display in 1887. In 1888 the first of what is now an annual series was held at the Crystal Palace; that year, the exhibition took a decided step forward both in extent and quality, and each succeeding year has witnessed a decided growth, the entries in the classes become larger and the competition keener. Those who witnessed the first two shows held at South Kensington, and are able to compare them with that of Saturday last, must admit that the advance is a startling one. It is certain that as soon as the awards at the first two exhibitions served to indicate that quality, the result of

good culture, was favoured by the judges, the exhibitors were not slow to comprehend the significance of this, and vegetables and flowers of high quality now find a place on the exhibition tables. One indisputable, but beneficial result of the institution of the flower show as a part of the programme of the day's proceedings has been to call into existence a numerous body of co-operative gardeners, for the competition in the various classes is open only to members of industrial co-operative societies, and in some of the sections to the members (or their gardeners) of the Agricultural and Horticultural Association, Ltd., which is conducted upon co-operative principles. The schedule of prizes, which this season contained 250 classes, is divided into seven divisions, each geographically limited, so that a cultivator in the more favoured districts of the country does not compete with one living in a cold and northern county. The great advantage of this is seen in the fact that a comparison can be instituted between, say, the productions of the counties of Cumberland, Northumberland, Durham, and Westmoreland, representing the northern district, and those of the southern district, which includes Surrey, Sussex, Kent, Hants, Wilts, and the Isle of Wight.

A survey of the various classes showed that there were sixty one collections of vegetables from all parts of the country, and that many of them contained subjects of excellent quality, especially those grown in the southern parts of the kingdom. Scarlet Runners and French Beans were represented by long and handsome pods. The Ne Plus Ultra type of the former and Canadian Wonder in the latter were decidedly to the fore. Good Longpod and Broad Windsor Beans were numerous; Turnip-rooted and long Beets also. Capital white Cabbage; Carrots in their sections of Early Horn, Intermediate and Long Surrey, the two last very nearly alike in not a few instances; Cauliflower; Celery, red and white; Parsnips, very fine indeed; Onions, the winter type represented by Giant Rocca and other Tripolis, and the spring type by Rousham Park and others of the White Spanish section; Peas by Duke of Albany generally; while Turnips, Radishes, Vegetable Marrows, herbs, &c., were all very numerous. The Potatoes were in some instances very fine indeed, but a good deal of mixing up of round and kidney types prevailed, the long ones of some varieties being picked out and shown as kidneys, the difference between kidneys and rounds evidently not being sufficiently understood. Of white kidneys, International and Snowdrop; of red kidneys, Mr. Bresee and Edgocote Purple; of white rounds, Sutton's Seedling and Satisfaction; and of coloured rounds, Reading Russet and Lord Tennyson, were the best.

Cut flowers were very numerous, and, with the vegetables, supplied the bulk of the exhibition. *Gladioli*, *Dahlias*, *Lilium auratum*, delightful bunches of Sweet Peas, *Salpiglossis*, Stocks, Asters, African Marigolds, *Petunias*, zonal *Pelargoniums*, *Verbenas*, *Mignonette*, and *Phlox Drummondii* were all of high quality. A class for three bunches of annual *Chrysanthemums* brought coronarium (double) and carinatum (single and double). Bunches of Carnations were good also. In the class for six bunches of annuals, *Chrysanthemums*, African Marigolds, Asters, Stocks, Sweet Peas, *Linum grandiflorum coccineum*, *Malope grandiflora* and such-like striking subjects were shown in fine character. Plants in pots consisted of various annuals, Asters, Lilies, Lobelia, Musk, Nasturtiums, Begonias, Coleus, Ferns, &c., some of them remarkably well grown; but the difficulty experienced in conveying the plants to the place of exhibition necessarily curtailed the quantity. In the gardeners' classes some very good fruit was shown—Black Hamburg, White Muscat, and other Grapes, Peaches, Nectarines, Plums, Figs, &c. The best three dishes of cooking Apples consisted of Peasgood's Nonsuch, Emperor Alexander, and Lord Suffield; of dessert, Emperor Alexander, Juneating, and Duchess of Oldenburg. The best collection of farm produce came from the Woolwich Arsenal Co-operative Society. The Horticultural College at Swanley sent a collection of fruit, vegetables, &c., not for competition.

The formal opening ceremony took place in the Egyptian Court after the judging was completed, Col. Taylor presiding. Mr. E. O. Greening (the hon. secretary) stated that the 300 exhibition tables, furnished by the Crystal Palace Company had to be supplemented by others, and that the entries in every department of the show except fruit showed a great increase upon last year.

## PUBLIC GARDENS.

**Park for Willesden.**—At a meeting of the Willesden Local Board, a letter was read from the Ecclesiastical Commissioners stating their willingness to contribute £100 towards the purchasing of Harlesden Park and recreation ground. The offer was accepted, and the thanks of the Board were tendered to the commissioners for their handsome contribution.

**Another park for Brighton.**—Queen's Park, which was presented to Brighton by the Race Stand Trustees, was publicly opened by the Mayor and Mayoress, Mr. Alderman and Miss Ewart. The trustees purchased the park, which is eighteen acres in extent, for £13 500, and also contributed £4000 towards the cost of improvement, while the town had to provide £8616.

**Paddington Recreation Ground.**—There is some reasonable prospect of the Paddington Recreation Ground being saved from the builders. In fact, the whole amount of the purchase money is now, if we understand rightly, subscribed. The latest news is that £48,000 out of the necessary £50,000 had been obtained, and the Hampstead Vestry has just voted £2500, provided the ground is kept as an open space. There should be no difficulty in securing this promise, and Paddington, Mr. Beachcroft, and the public generally will have cause for mutual congratulation.

**Proposed purchase of West Wickham Common.**—This week Mr. F. H. Tulloch, A.M.I.C.E., an Inspector of the Local Government Board, held an inquiry at Beckenham as to the proposal of the Local Board to borrow £4637 to execute certain public and private street improvements, and to contribute £100 towards the purchase of Sir John Lennard's manorial rights of West Wickham Common, with the view of preserving it as a public open space for ever. The Local Board was represented by Mr. A. H. Baker, and Mr. Buchanan and Mr. Ritherden, of the Commons Preservation Society, attended. Mr. Baker said that, as regarded the proposed contribution of £100, it met with the unanimous approval of the ratepayers of Beckenham, many of whom used the common for walks and drives. Some of the trees on the common were known to be over 800 years old, and if the purchase was not completed before September, the common would be given over to the speculative builder, and this magnificent piece of woodland be lost to the public for ever. Towards the purchase price, £2000, £1200 had been privately subscribed, and £500 had been contributed by the Corporation of London, who proposed to come down and hold a formal opening in September. The inspector said he would report in favour of the proposed contribution.

**Grubs in garden.**—In reply to "Anderton Hall," the box which you sent containing grubs which are injuring the crops in your garden reached me safely, but I could not find a trace of any grubs; they must either have escaped or been pounded to pieces by the potato rattling about in the box during transit. Please send more, and pack the contents of the box so that they cannot knock about when the box is moved. —G. S. S.

**Names of plants.**—J. Williams. — *Odontoglossum Schlieperianum*; 2, *Miltonia spectabilis*; 3, *M. Morelana*; 4, *Promenaea stapelioides*. — W. Backhouse. — 1, *Stanhopea tigrina*; 2, *S. grandiflora*; 3, *Oncidium dasystyle*. — H. Ogden. — 1, *Vanda Kimballiana*; 2, *Ornithocephalus grandiflorus*. — S. Griffiths. — *Oncidium pulvinatum*. — M. B. — *Cattleya amethystoglossa*.



## WOODS AND FORESTS.

## WOODLAND NOTES.

**ROWAN BERRIES.**—The wealth of berries on the Rowan or Mountain Ash far surpasses anything that has been noted for a great number of years. Big or small, confined or free, in shade or sunshine, every tree is literally weighed down with the unusually large bunches of berries; indeed it is quite common in the Kentish woodlands to find branches and the tops of trees snapped across by the weight of fruit with which this season they are laden. At present they present, where at all plentiful in the park or woods, an unusually bright and charming appearance, the colouring of the berries being remarkably rich. In the early season, too, the Rowan trees were exceptionally showy, with their flattened heads of by no means inconspicuous whitish flowers, this season in particular having been peculiarly suitable for the production of both fruit and flowers. Already, however, the birds are robbing the trees of half their beauty. One cannot help thinking, when viewing some of the heavily berried trees, that the Mountain Ash might well be planted in greater numbers than it is at present. No tree is more readily raised or grown, and it is all round one of the most accommodating that is to be found in our woodlands.

**THE BURR OAK** (*Quercus macrocarpa*) succeeds well in very different situations, and I think it might with great advantage be more frequently planted than it is at present. The leaves constitute the greatest beauty of the tree, they being so large and neat, deep green above and almost silvery beneath, the latter colour being shown off to advantage when they are tossed about in a storm. There is no special treatment that I know of wanted by the Burr Oak, but it likes plenty of room for development, the twigs seeming to die off when the tree is crowded or overhung by others of larger growth. Like many others of the American Oaks, the one under notice is worthy of being extensively planted.

**DESIRABLE IVIES.**—To the keen observer in our woods and plantations the common Ivy will be found to vary considerably, not only in so far as creeping is concerned, but in the shape of the leaves and vigour of the individual kinds. The many handsome varieties of the Ivy that have of late cropped up, some of which are, however, of little value for the real use to which the plant has at all times been applied, cause us to consider before ordering particular kinds for particular uses. Some grow but slowly, others seem to have lost their creeping nature, while not a few are exceedingly handsome. Where Ivy is planted against a house, and consequently will require annual clipping, choose only the smaller-leaved kinds, such forms as the Irish Ivy, with its leaves fully 8 inches long, being badly suited for such a purpose, they getting cut in half and thus presenting a ragged and unsightly appearance after being trimmed. There is another favourite kind, *H. Rægneriana* or *colchica*, in which the leaves are large and of great substance. *H. conglomerata* is of very small and neat growth, and peculiarly suitable for rock gardening. *H. arborescens* and *H. cordifolia* are Tree Ivies, while there are numbers of both gold and silver-leaved forms, many of which are of inconstant character, and therefore to be avoided, while others are of sickly and weakly growth.

**PRUNING BROKEN BRANCHES.**—It often strikes me that this department of forest management does not receive the attention it deserves. If there is anything more than another that tends to make a park and the woods of an estate look well, it is paying strict attention to the pruning and clearing of all wind-twisted and dead and dying branches. But this is not all, for by carefully and judiciously pruning off broken and dead branches from a tree, its value both now and hereafter is certainly increased. Allow the ragged wound, caused by a branch being split or torn from a tree by the wind, to remain without dressing the edges and so permitting the ingress of water, and very soon decay will set in and the stem of the tree become damaged in consequence. Dead branches and knots are quite as injurious, for the wood of the tree growing around these causes the planks and boarding cut from such to be almost worthless for building, &c. The knot soon gets loose and falls out once the boards have begun to season. By coating the amputated branch or wound with tar or paint, great benefit will be derived by preventing still further the taking in of water.

**ORNAMENTAL WILLOWS.**—Clumps here and there of some of the more ornamental Willows have a decided effect in adding beauty to the outskirts of plantations, or even to the sides and margins of woodland drives. What can be finer than a mass of the golden Willow (*Salix aurea*), especially when seen with the afternoon sun upon it? The red-twigged Willow (*S. Carteriana*) is perhaps not one whit behind it, while the still better-known Bedford Willow (*S. Russelliana*) is another of particular interest and beauty. Of the most brilliant orange colour are the branches of *S. Bosfordiana*, and a great acquisition is the having of a few specimens on any estate. The Royal Willow (*S. regalis*), too, is one of particular beauty, of very free growth, and, like many of the family, by no means exacting as to the quality of soil in which it is planted. But there are others as well as those mentioned that, for ornament, are well worthy of being planted. Such an one is the vermilion-barked *S. sanguinea*, probably the most distinct of the whole family.

**GROUPING OF CONIFERS IN PLANTATIONS.**—It is extremely pleasing to come quite unawares on a group or single specimen of the newer and less common conifers in the woodlands, and such as one occasionally sees on a few of our well-laid-out plantations. Not long ago I had occasion to pass through a very extensive wood of Larch, the trees being on an average 70 feet high and growing on reclaimed peat bog, and was delighted with the great breaks in the forest that had been cut out and planted with a numerous assortment of the newer conifers. These clumps had been so arranged, that on turning the corner of one of the wide grassy drives that intersected the wood one came upon finely-developed specimens of the Hemlock Spruce (*Abies canadensis*), the Indian Cedar (*Cedrus deodara*), and such-like ornamental trees. The idea is good and worthy of being imitated, but especially where the woods are used for pleasant drives, such as are too seldom seen. In this particular instance a great amount of care had been bestowed on the grubbing out of the old Larches and making up of the ground with clean road-scrappings, &c. The individual trees, too, had been allowed plenty of room, and this, with the well-prepared soil and shelter afforded by the adjacent Larches, had told favourably on the growth of the specimens, they being unusually free of growth and

clean and healthy in a way that one does not often see.

**THE WINGED ELM** (*Ulmus alata*), although of small value as a timber tree, in this country at least, is yet one of the best species for withstanding prolonged storms and the but-too-soon-felt effects of a fully exposed situation at high altitudes. It has been found to do well high up on some of the English hills, and where from the almost constant wind the Larch looked stunted and one-sided, and could raise its head but a few feet above the wall which surrounded one of the plantations to which I refer. The other trees that were doing well were the Austrian and Corsican Pines, the Alder and the Sycamore. Moreover, the Winged Elm is so distinct and interesting, that it well deserves to be cultivated in the park, for the curious wing-like appendage with which the branches are provided renders the tree unlike any other of my acquaintance. It is not of giant growth—a neat, regularly-branched specimen of about 35 feet to 40 feet high. Free of growth, even in gravel, neat in foliage, and curious in aspect, this Elm is worthy of being noted for the coming planting season.

**SEEDLING AZALEAS AND RHODODENDRONS** are readily procured in plenty by making artificial beds of peat in any shady, quiet corner. The beds need not be deep, say 6 inches of peat, and this not broken up too fine, but left as big as marbles or Potatoes, or, better still, cut the peat in turves and lay these side by side. Sow the seeds as soon as ripe, and place a few branches over to shade the bed. The seeds will soon germinate, and by the second year the plants will be ready for lining out. By this method I have raised hundreds of the finer Azaleas and Rhododendrons, and at a very trifling cost.

A. D. W.

**The Pine beetle** (*Hylurgus piniperda*) (*the Hon. E. L.*).—The Scotch Fir shoots sent have been tunnelled by the Pine beetle, and the only present remedy is hand-picking, which, however, in your case of a whole plantation is quite out of the question. Burning all brushwood is the best method of keeping this beetle at bay.—A.

**The best Privet for forming a hedge** (*E. C. Munro, Edinburgh*).—The best Privet is undoubtedly the oval-leaved (*Ligustrum ovalifolium*), as it grows quickly and has stiffer and more unyielding twigs than the common variety, *L. vulgare*. Of course, neither will do to keep back farm stock, but by mixing the oval-leaved with Quick plants, this object would be attained. They may be planted when 30 inches high.—W.

**The Spruce gall aphid** (*Chermes abietis*) (*Captain G. D. P. Henderson*).—The Spruce Fir twigs sent have become infested with the Spruce gall aphid, a very plentiful nuisance this season. The only cure, and which can hardly be extended to a plantation, is to pick off the cone-like galls and burn them. They do no great damage, but render the affected trees unsightly. No particular reason can be assigned for their appearance, healthy trees in almost every situation becoming the prey of this insect pest.—A. D. W.

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"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—*Shakespeare.*

## ROSE GARDEN.

### THE PAST ROSE SEASON.

ALTHOUGH in the early part of September it may seem somewhat premature to speak of the past Rose season, there can be no doubt that the best of our flowers are over by that time. The summer of 1892 has been a fairly good one for Roses; in many respects it was better than usual. It is remarkable how very well both the extra double varieties like Ernest Metz, Marie Guillot, and La Boule d'Or among the Tea-scented class, and Kaiser Friedrich, Miss Ingram, Earl of Dufferin, Her Majesty, and others of the various hybrids have opened. In addition to these extra double kinds opening well, the more single or few-petalled varieties have also been first-class. I allude to such as Thomas Mills, Marie Verdier, Victor Verdier, Mrs. Baker, and others. It is seldom that we are favoured with such a season as this, and one which suits both of these distinct types of Roses equally well. Another point worthy of note is the deep and intense colours obtained among the red and dark maroon-coloured Roses. Victor Hugo, Fisher Holmes, General Jacqueminot, Gloire de Margottin, Sir Rowland Hill, Duchess of Bedford, Gustave Piganeau, Prince Arthur, and others have been exceptionally good. So also have Mrs. John Laing, Gabriel Luizet, Margaret Dickson and other light coloured Hybrid Perpetuals; while all of the Tea-scented and Noisette varieties have been simply superb. I attribute this to the uniform weather we have had during the middle and early part of the summer—neither hot nor cold, dry nor wet, and without the great changes too frequently experienced during the last two years. There are some seasons that suit a certain Rose much better than others, and during these years such varieties come very prominently to the front. Oftentimes such kinds do not put in an appearance upon the exhibition table nor in the general Rose garden for several years afterwards, and although the past summer has suited Duchess of Bedford and Louis van Houtte, with a few more of somewhat doubtful constitution, they are not Roses I would recommend the ordinary grower to purchase. At the present day, when there is scarcely a colour or shade of colour that cannot be readily matched among our Roses, both among the climbing and dwarf kinds, it is a bad plan to purchase any variety from notes made of the blooms staged in exhibition boxes. Rather entrust your choice to the trade grower of repute, who has such grand facilities of seeing the different characteristics of so many varieties. By simply giving the shade of colour required and for what purpose your plant is destined, whether for a dwarf, standard, climber, or for indoor or outdoor culture, you will get a Rose sent you that is far more suitable than many of those that took your eye in the competition boxes,

and where you probably saw the finest flower produced by some hundreds and sometimes thousands of plants of that particular kind. Should your choice fall upon Horace Vernet, for example, it will probably be years before you ever grow such a flower as many that have been staged this season. The same may be said of very many of the most pleasing exhibition Roses staged this year.

On the other hand, there are a few (and their number is rapidly increasing) that are as well suited for the garden as for the exhibition tent. What better Rose is there for exhibition than Mrs. John Laing, and what is better for garden decoration in its colour? The same may be said of Général Jacqueminot, Victor Hugo, Charles Lefebvre and many more among the Hybrid Perpetuals. What are better among the Teas and Noisettes than Marie van Houtte, The Bride, Catherine Mermet, Mme. Lambard, Mme. de Watteville, William A. Richardson, L'Ideal and many more? But should you have chosen Horace Vernet, Etienne Levet, Louis van Houtte, Victor Verdier, Mme. Vidot, Emilie Hausburg, Comtesse de Mortemart, Comtesse de Chabrilant and others, you are almost certain to be doomed to serious and annoying disappointment.

I have seldom seen the budded stock looking better. Many of the early worked buds are already well set and ripened, while the growth of the stocks is neither too weak nor too strong. When the stocks are growing too strongly, the buds do not set so completely and satisfactorily as upon growth of medium strength. It is also a mistake to manure stocks, as all of the growth made has to be cut away the following spring. Cultivate the soil with the hoe among growing stocks, and they will come quite strong enough for the first year upon ground of ordinary quality. Manure and a higher state of cultivation are beneficial when the young Rose is growing and producing growth that is to be permanent. Some few growers say that a good stock must of necessity have an abundance of roots. Granted, but of what particular use are they until the young Rose growth is sufficiently advanced to reap the benefit of the same? Encourage the Rose to grow next spring, and plenty of roots will form and supply your plant with the first pickings from the surrounding soil. Nature will obtain a balance as nearly as possible, and if your plant already carries too many roots in comparison with the work required, such roots will either lie inactive and rapidly deteriorate, or find vent for their superfluous energy in producing and sustaining those suckers that form so annoyingly upon the roots of both the Brier and Manetti stocks. The prospects of an autumnal show of Roses are very promising. Owing to the many grand Tea-scented and Noisette varieties now cultivated, and which are the truly perpetual Roses, we are able to keep up a supply of cut Roses from the open air for quite six months of the year. These sections are so hardy and free-flowering, and possess such exceedingly handsome foliage and chaste colouring, that they deserve far more extensive cultivation.

RIDGEWOOD.

**Choosing buds.**—At the present time, when budding is in full swing, it may be well to call attention to the advisability of choosing buds from shoots that have borne flowers. Many Roses that possess a weak constitution might be much improved by propagating from the strongest and healthiest specimens only, also choosing the best wood from such subjects. Shoots that have flowered may be expected to produce more free-

flowering plants than those that did not bloom. This refers to the ordinarily strong growers; but those of extra strong growth, such as Gabriel Luizet among the H. Perpetuals, and the Dijon Teas, will usually produce flowering or non-flowering growth in the exact opposite to the shoots the buds were obtained from. Most growers must have noticed this feature in the strongest growing kinds. In a bed of maidens of Gabriel Luizet it is not at all uncommon to find a run of a dozen or more plants that produced blooms upon the first growths of about 18 inches in length, while the adjoining plants will be growing to 6 feet and 8 feet in length without bearing a single blossom. The reason is that one set of plants was propagated from long flowerless growths, and the other from buds obtained from a shorter shoot that bore blossoms. The characteristics of these Roses are the great freedom with which blooms are borne upon the long and ripened shoots of the previous season. Evidently the future blossom is stored up in the eyes in an embryo state, and when buds that were rather riper than usual are used, the first resulting maiden growth generally bears a flower. The main object of these few notes is to draw timely attention to the benefit derived from a judicious selection of wood for propagating. To take Rose or, for the matter of that, any other buds indiscriminately is a careless and unsatisfactory practice. Many of our finest floral productions have been obtained by choosing the best of a lot, and again choosing from the descendants of these, thus gradually improving the strain. All who make a hobby of animals know how very quickly a prize strain may deteriorate from careless or indiscriminate breeding; similarly plants of all kinds may be improved or not according to the care taken in this direction. It is scarcely any trouble to select the buds of Roses from the best and most suitable shoots or plants, and the little time thus spent will be paid for over and over again. Again, there are some plants that throw a better flower than another of the same variety; I may mention Souvenir d'un Ami among the Teas, Docteur Andry and Senateur Vaisse among the Hybrid Perpetuals as examples that are frequently met with. I think that this question of careful selection, combined with a magnificent stock to select from, is one of the chief causes that Mr. Prince, of Oxford, can grow and show Comtesse de Nadaillac in such grand form. I have proved this theory more than once in the case of several of our rather indifferent growing varieties, and would earnestly recommend it to all lovers of Roses, both in their own interest and with a view to improving the constitution and form of such kinds as are not all that can be desired in this respect.—A. P.

### ROSE HYBRIDS.

THE letter from the Rural Gardens which appeared on page 174 is very interesting, as it points to the probability of our ultimately obtaining a race of rugosa hybrids that combine the vigour and hardiness of the parent with flowers that will lose nothing by comparison with the best Roses of the present day. In some notes that appeared in THE GARDEN of August 13 (p. 147) I remarked that no doubt something might be gained by selecting and improving some of the finer species, and *R. rugosa* is among these.

The letter in question proves that we need no longer surmise. We have only to set to work as others have done, for the parents of our great Roses of to-day are only single types, and in themselves not nearly so fine as the wild Japan Rose. The only apparent fault of the Japan Rose is its fugacity, and this would be overcome by doubling the flowers. It seems almost as though all Rose species are amenable to development and improvement. The little Polyantha Roses and, more recently still, Lord Penzance's Sweet Briers are examples of late achievements. A gentleman remarked to me only this week as we were passing a border of Hybrid Perpetual Roses, "What a poor shrub the Rose is!" It was true, for the plants were all but defoliated. It would not apply to the Tea



Roses, however; but then as a set-off, though many desire them, all cannot have them, because from situation or aspect or some local condition they are not constant. Now *R. rugosa* is a good shrub of great hardiness, and, therefore, if we can improve its flowers, we may reasonably assume that all the other delightful traits in its character will be communicated to its offspring, and as a result Rose cultivation will be simplified and extended. The merits of the first hybrid that was sent out, *Mme. Georges Bruant*, are hardly known. I have not got it now, but as grown in another garden, I was favourably impressed with it, and wrote a note in praise of it when it bloomed. Whilst it remains a unit it will only attract the notice of those who take a wider view of Roses and Rose culture than do the majority who are concerned in growing show kinds. It has a strong testimonial now, however, in the fact that it will withstand temperatures lower than we ever get in England. Even our hardiest Roses sometimes fare badly as the mercury reaches zero, but here we have one said to be unaffected by cold of 8° below that point. I think, therefore, none can deny the value of the experiments, but rather would hope that they be continued. So far as present results are given, the least success appears to have been obtained in the direction where the opposite would be wished. The pollen of a yellow Tea Rose has not been productive of anything of merit. This, however, may not count for much, and as *R. rugosa* has the perpetual blooming quality, it will no doubt characterise its hybrids, no matter from what other source the pollen is gathered wherewith to effect the cross.

A. H.

#### AMONG THE ROSES.

AUGUST is not a month of many blooms, but a season of second growth, a preparation for the autumnal display. At this time the Hybrid Perpetuals that were so conspicuous but a short while ago are in many instances in a sorry plight. They are half defoliated and altogether unfit for association with the lovelier Teas. Thus it is that Rose gardens are not what they might be, for we neither know nor realise the beauty and varied charms of Roses whilst we treat them all alike. It is desirable to have the Teas where we can see them day by day, and, on the other hand, it is better to have the multitude of Hybrid Perpetuals where they will not too plainly obtrude their nakedness, for really the season of their beauty, whether of leaf or flower, is a short one, often reaching its limit before summer is past. It is very different with the Teas, as they are delightful when growing vigorously, the varied tints of leaf and shoot embracing shades that contrast prettily with the rich dark green of the previous and mature growth. In summer dwarf plants send up from the ground fine strong shoots which terminate in a great branched cluster of flowers, and these have an additional value, for if they ripen and stand the winter we can rejuvenate the bushes by cutting old growth clean away and retaining the young and vigorous wood. Among the kinds that have been sending up such shoots is *Marie van Houtte* on its own roots. This removes a doubt that hitherto I had entertained, namely, whether after all the vigorous root-action of the scion, that is the seedling Brier, was not the source of the vigour that has been manifested by all our best Teas. For two seasons I have watched this group and been disappointed, for though the plants were healthy and flowered, they kept very dwarf and the wood they made was slender. Now, however, each plant has doubled its height and strength by sending up one or more shoots, thick, strong, and nearly a yard in height. This would seem to prove that when once the plants have made strong roots they will compare favourably with those upon foster roots. If we raise plants from cuttings, there is a balance of growth above ground and below. The top growth is but responsive to the root force beneath, and therefore it is not by one or two seasons' trial that we can test the relative merits of own-root *versus* worked plants. The quickest method

is not necessarily the best, and if that is all we gain, the saving of time is practically of little moment. Though we have to wait a little longer, it is better to establish our best Roses on their own roots; then they will not be easily destroyed, for if an unkind winter levels them to the ground, they will shoot from beneath and grow and flower freely.

The promise of an autumnal bloom is a good one, several copious rainfalls during August having promoted abundant growth. But even during this month a few kinds have been blooming freely, and there is something to be learned from them. Ernest Metz has been noteworthy. Having been recently planted, not many flowers appeared in July, and as a consequence second growth started early and second blooms came likewise. There is now no doubt as to its being one of the great Tea Roses of the future. It is also to be observed that those kinds that flowered best in the early part of the season are now most backward. In this respect Dr. Grill and the Hon. Edith Gifford are prominent. It seems to me that in the month of August we might have even more blooms than we do at present simply by cutting rather severely at the first blooming. If we were to cut all, or nearly all, the flowers upon some groups, the plants would be induced to grow again almost at once, and assuredly if we start a Tea Rose making fresh wood, flowers will soon follow. From now onward, with fine weather, there is much enjoyment among the Roses. The days are shorter and cooler, caterpillars are gone, fly ceases to be a trouble, the ravages of mildew are checked, the flowers open gradually and last longer in perfection. The flowers may not be quite so fine, but they are pretty and always sweetly scented.

A. H.

#### POT ROSES.

THE present time is a very important period in the management of these, and unless properly attended to now, first-class results cannot be obtained. For the past six weeks or more all pot Roses should have been out of doors. Those of my own that were placed out of doors at the end of June are now being brought under cover again. These plants have attained to a certain degree of ripeness and then broken into more young growth. My object in housing the most forward of this first batch is to make certain of securing a lot of clean blooms late in the autumn, a time when wet and stormy weather often makes them invaluable as cut flowers. As a rule, however, I should not advise them to be housed quite so soon, unless in the case of those who, like myself, have to keep a supply of cut Roses all the year round. What I do strongly recommend at this time of year is to turn the plants round a few times, very slightly loosen the surface soil, and cut away all weak and spindly growths that too frequently come in the form of blind or flowerless laterals. By timely removal of these, you will admit much more light and air among the sounder and more valuable wood. It is also so much easier to see whether the drainage is sound and to afford additional water to a few plants that may be over-dry during the operation of turning round and trimming out the plants. It does not take long to pass several plants through one's hands, and the amount of good done by an occasional run through in this way is far more important than many suppose.

There are few more uncertain months than September and October—sometimes so hot and fine, at others so boisterous and wet. In the case of dry weather, it will be doubly necessary to give due attention to watering, because among the pot plants set out early, and especially those of the Tea-scented class, young growth with its consequent root-action will have commenced. It is when such plants are allowed to get dry at the roots during the middle and end of October that so much of the young growth receives a check and comes blind and flowerless. Again, so very much depends upon the time of year at which you may want the bulk of your blooms to be in perfection. If not until March or April, it will be wise to place the plants into a deep pit or frame, so that heavy

autumn rains may be kept from them. I do not advise they should have the lights placed over them excepting during very wet weather. By keeping the soil on the dry side without parching you retard the growth, and at the same time bring it to an even greater degree of ripeness. This month is also an excellent time to commence the culture of pot Roses both among the Tea-scented and Hybrid Perpetual classes. In the case of the former, I would strongly recommend that young plants of this season's working be chosen. These can now be purchased in what are styled "trade" pots, *i.e.*, those long or deeply made pots which hold a little less soil than the ordinary 6-inch sizes. Such Roses will be fairly well ripened before leaving the nursery, and if a little more care be taken in the way of securing a few weeks in the open air and a fairly dry soil, they may be safely forced the first season, and will generally produce a fair amount of bloom. As these small pot Roses may be bought at about the same price as strong plants from the open ground later on, and will give a far better return the first season, they are undoubtedly the most serviceable for pot culture. There is no need for a large amount of wood upon such useful Teas as *Rubens*, *Catherine Mermet*, *Mme. Falcot*, *Souvenir de S. A. Prince*, *The Bride*, &c., the only desideratum being that all of it shall be efficiently ripened. Such plants will also grow on to be really grand and useful subjects by next year, and are likely to turn out more satisfactory than those potted up from the open ground, and which were probably not much more than half or three-parts ripened, and also minus of many of their fibrous and valuable roots, a case that cannot well happen to those always kept in pots.

The Hybrid Perpetual class may be taken in hand during the present and following month. Many varieties that are on the *Manetti* stock are already almost bare of foliage, and are quite ripe enough for potting up. I am on the point of commencing this work among my own Roses, and shall not hesitate to move any that have commenced to drop their lower leaves and are not breaking into the weak and late lateral growths these early ripened plants are apt to do before real winter is upon us once more. By lifting and potting these thus early one avoids the puny and useless growth, and the eyes that would otherwise produce these are checked in their precociousness and induced to ripen up into really useful wood. The potting of these has also been dwelt upon at considerable length, and I will only warn readers against standing such newly-lifted plants in a sunny or windy position. Choose a shady place, and take care that the plants are frequently and thoroughly syringed overhead during fine weather. This will prevent the wood from shrivelling and will retain all the sap in the plant. Early potted Roses, too, especially those on the *Manetti* stock, will commence root-action and become more than half established before winter sets in. You can force such plants the first year, and although they will not stand such severe forcing as plants established the previous season, nor as those small pot Teas before noted, they will be far more satisfactory than plants lifted later on, provided you secure their wood from shrivelling in the dry autumn air we are sometimes favoured with. Of course, the more quickly they can be potted after lifting the better it will be. In purchasing Roses for this purpose, be sure they are on the *Manetti* stock, as plants on this will be much riper than the same variety if growing upon the seedling or cutting Brier.

RIDGEWOOD.

#### Showing new Roses early in the season.

—From cases which have come under my observation, I am inclined to think mistakes are frequently made in respect to this. I have noticed more than once when a new Rose has been exhibited early in the season that it has not been then seen nearly so good as later on. This is certainly better than the reverse, I admit, but considering that the first impression is oftentimes the most permanently fixed upon the memory, would it not be far better, than adopting too much forcing to gain the ends of the grower, to defer the first introduction to the notice of the public a little later?—A.



ROSE LAMARQUE.

THIS is one of the most beautiful of all Roses, and of white climbers the best. The flowers being produced in clusters (see illustration), the plant continues well furnished with blossoms for a considerable time, while its thoroughly "perpetual" character ensures a renewal of the display almost as soon as the first blooming is done. For cutting its flowers are delightful, whether for vases or (in the bud state) for bouquets, and the amount of them obtainable for the latter purpose is surprising. The plant, unfortunately, is not perfectly hardy, but if

are universal favourites. While there may be a white Rose hardier, one with larger flowers, and one even more vigorous, there is no white climbing Rose which combines so many first-rate and essential qualities as Lamarque.

**Roses for arches and pillars.**—The selection of kinds for this purpose given by "R." on p. 169 is almost as good as it can be made, but among the Dijon Teas it is a little weak. I should very much like to feel satisfied that I could make an arch of Mme. Eugène Verdier. I have often praised its merits, but at the best and under the most

so short a space, that we shall never regret planting it. There is no other Rose so lavish in its exceeding sweetness which fills the air all round the plant and a considerable distance from it. R. Brunonis, too, lovely in leafage and blossom, must be included. It is perhaps true that there are many more kinds than we shall ever want for arches, but then that is only one way of growing these climbing Roses. Even that might be extended, and the supply prove not too large for anyone who had a long sunny walk and decided to make it a bower of Roses.—A. H.

ORCHARD AND FRUIT GARDEN.

FRUIT TREE FLOWERS.

NEVER before, probably, did deciduous and evergreen flowering trees and shrubs present a more beautiful sight than they did this year, and the fruit trees generally more than held their own against species that are cultivated only for their beauty when in bloom. Those who have rightly introduced fruit trees into their pleasure grounds or other positions where other deciduous and evergreen trees too often reign paramount, had and have good reason to be satisfied with what they have done. Not only did the trees and bushes of Apples, Pears, Plums, and more especially Cherries present quite a gorgeous sight when in full flower, but in very many cases another beautiful and gladdening sight did, or still does present itself in the shape of a highly-coloured valuable crop of fruit. Nothing can well be more attractive than Cherries. Their beautifully white flowers harmonise most agreeably with the soft green of the foliage, while those glorious clusters of fruit that were to be seen in most places where birds are properly kept under could not be matched at the time, and are only rivalled by the Mountain Ash as seen at its best now. Cherries, then, may well be extensively planted in the form of standards among shrubs and other ornamental trees, and in most seasons, too, good effects will be produced by them. The double-flowering Cherries are more showy than the single forms, but, unfortunately, there is no display of fruit later on in their case. In the woods the wild form grows to a great size. This when in flower is quite a feature in the landscape, and for this reason ought to be more often seen out of Kent and Sussex than at present. When grown on cultivated ground the fruit of the wild Cherry is considerably improved in size and quality, and could be turned to good account by intelligent housewives and cooks.

Next to Cherries I would place Apples for effect when in bloom. Very gorgeous were they this season, old standards being simply a mass of flower. I was sorry in some respects to see the trees blooming so freely, as it not unfrequently happens that where there is so much bloom the flowers are too small and feeble to set the fruit well, but, as it happens, this was not the reason of non-success this season, the flowers being stronger and more perfectly formed than is usually the case when so very abundant. If they did shatter off wholesale without leaving the embryo fruit behind, this was in most cases largely due to the action of frost, and not to any inherent weakness of either the trees or flowers. All the cider Apples flowered grandly, and in very many instances the trees are now smothered with fruit, somewhat small, it is true, but highly coloured, and therefore most ornamental. Tom Putt, though at one time largely grown in cider orchards, is worthy of a better fate, being one of the best for pleasure grounds. The flowers of this variety are fairly showy, while the fruit when ripe presents a mass of



Rose Lamarque on a wall.

planted against a wall with a south or southeasterly aspect, where the wood may get well ripened, and where in exceptionally hard winter weather a mat can be temporarily tacked over it, it will not receive permanent injury even in very severe winters. It is preferably planted, like all other Teas and Noisettes, on Brier seedling or cutting stocks, when, in a favourable situation and in good soil, it will soon cover a large area. It has the true Noisette tendency to retain its leaves, which, being of a very bright and cheerful green, constitute a considerable additional attraction, although never of the red-brown tint so much admired in many of the Noisette Roses. To the exhibitor this Rose is of no value, for its flowers can never be obtained large enough, but for every other purpose for which Roses are appreciated its blooms

favourable conditions it is a bad grower and a shy bloomer. Belle Lyonnaise is lovely when good, but tender, and, of course, on an arch more exposed to cold than upon a wall. In this particular class I commend "R." to a trio that will far surpass these two; they are Duchesse d'Auerstadt, Henriette de Beauveau and Mme. Chauvry. A charming kind for an arch is Bennett's Seedling, or Thoresbyana, I think it is sometimes called. It has little white flowers and is one of the most charming of cluster Roses, its profuse compact many-flowered panicles resembling those of the modern Polyantha hybrids. Then "R." follows the fashion of neglecting the single-flowered kinds. It is the exception to look for beauty among them. Yet the true species, R. Polyantha (multiflora), will make one of the best arches that can be had, and if its flowering is soon over, it gives us such a full measure of beauty and enjoyment in



colour that has to be seen to be realised, also cooking well. Duchess of Oldenburg is another free-growing and free-flowering variety, and one that rarely fails to set a heavy crop. Standards of this variety just now are very beautiful, the prettily striped transparent-skinned fruit hanging in ropes. According to my experience, the finest trusses of bloom are produced by the Flower of Kent, a strong-growing, yet very productive sort. Dinner tables decorated with trusses of this variety or of any other Apple laid on the cloth are very much admired, a good change being thus afforded without any detriment to the prospects of a fruit crop. In a semi-open state almost any Apple flower is pretty, the white petals being tinged with pink adding to the charm.

If asked to name the most beautiful of all fruit tree flowers I would at once decide in favour of those of the Jargonelle Pear. Unfortunately, this is not suitable for planting in pleasure grounds, the growth being stiff and somewhat ugly. At the same time I have seen some passable standards, and if heads of old trees of other varieties are re-grafted with the Jargonelle, fairly handsome drooping trees may be had in a comparatively short space of time. It is the freely grown trees growing against high garden walls, or, better still, the fronts and ends of high living house walls that bloom the most freely, and these produce grand trusses of extra large pure white flowers, which are shown up effectively by the lively green of the young foliage. These trusses of flowers if fresh may well be used with the choicest of other flowers in memorial wreaths and crosses very few people detecting that they are only Pear blossoms. Citron des Carmes, of which a good illustration of a flowering branch appeared in last week's issue, is also very effective, and, what is very satisfactory, the trees rarely fail to bear well. Unfortunately, the variety is of little value unless grown against a fairly warm wall. It produces large trusses of flowers, the latter also being of good size and substance and beautifully white, and these are followed by great bunches of fruit, severe thinning out being necessary to ensure good size and quality. Beurré d'Amanlis is likewise of a very ornamental character when in bloom, this more nearly approaching the Jargonelle for size of flowers than any other variety I have noticed, the foliage also being bold and effective. Beurré d'Amanlis not only succeeds well against walls of almost any aspect, but can be grown as a pyramid or standard, the variety, therefore, being a fit subject for the pleasure ground. Pyramids and standards of Chaumontel are also very free blooming, and I have gathered more flowers for table decoration from trees of this variety than any other under my charge. I cut them all the more freely from the fact the fruit that may be allowed to set is rarely of any value other than for stewing. The flowers of some of the best Pears, notably those of Marie Louise, Doyenné du Comice, Easter Beurré, Glou Morceau, Louise Bonne of Jersey, Winter Nelis, Williams' Bon Chrétien and a few others, are comparatively insignificant, but it is worthy of note that it is these that have suffered the least from frosts this year, the Jargonelle, Beurré d'Amanlis, Doyenné Boussoch, Pitmaston Duchess and many others that could be named faring very badly.

These notes would not be complete without reference to the beauty of Peach and Nectarine flowers. Trees of these grown as standards invariably flower well in shrubberies, but the fruit seldom, if ever, comes to perfection. Against sunny walls, however, the case is very different. Here the trees bloom most abundantly,

and the large-flowered varieties, if the shyest setters, are simply the prettiest of all flowering fruit trees. They were remarkably effective this season, and now Peach and Nectarine trees are, or were, covered with some of the showiest fruit ever seen.

W. IGGULDEN.

#### PLUMS.

HAVING regard to the general tenor of the present year's fruit crop reports, which present Plums as a comparative failure, it seemed somewhat inconsistent that a conference on these fruits should be held at Chiswick, because whenever gatherings of this nature are held, numerous and good varieties are essential as illustrations. It was a striking comment upon this unfortunate arrangement that although no less than five classes for these fruits were provided with prizes attached to each, not a single dish was put into competition. Still further, had there been ever so fine a crop of Plums this year, the date fixed for the conference was fully a fortnight too early, as but few varieties were ripe on August 23. Still, every rule has its exception, and so with a general lack of Plums we find some places highly favoured, although these are few. Thus there were brought up to the conference by Mr. F. Lane from the Berkhamsted Nurseries branches of standard Plum trees of various ages, ranging from twenty to thirty years old, which were well laden with fruit in various stages of maturity. These trees were originally pyramids, but had been allowed free play, and having the bottom branches lopped gradually, had thus become standards. It is very doubtful whether in any ever so abundant a Plum season more prolific examples than were those branches could have been shown. Out of twenty-two varieties, only one, The Czar, was soft ripe, and some were apparently but half grown. Only two light-coloured sorts were shown—Jefferson and Pershore. As to the ripening order of the dark Plums, next to The Czar came Belle de Louvain, not unlike Victoria, but rounder and earlier. Next came Curlew, medium in size, oval, purple in colour, not much known. Then followed Sultan, a fine red round, rich in colour; Belgian Purple, roundish oval; Angelina Burdett, Orleans, Prince Englebert, Dymond, Prince of Wales, Victoria, Cox's Emperor, Pond's Seedling, Grand Duke, Poupard's Plum (roundish, medium size), Belle de Septembre, Sandall's, and Wyedale. These latter sorts were very green and late. From The Czar to the latest to ripen there is probably an interval of six weeks, and the exhibition of these varieties showing relative maturity was a most useful object lesson, and perhaps was the best element of the show. Mr. Watkins, of Hereford, sent up a collection of Plums in baskets, some evidently local and worthless. His best were Kirke's Black, Nectarine, Peach, Black Dymond, Victoria, Belle de Louvain, Prince Englebert, &c. A branch of Victoria Plums shown by a Croydon florist was a sample of an immense crop on a number of trees he has, and Mr. J. Smith, of Mentmore Gardens, who has 37 acres of ground planted with Plum trees, mentioned that he, too, had generally a large crop of fruit. These facts are worth publicity, because it shows that invariably both in bad years as well as abundant ones there are exceptions, and some growers are certain to have good luck. No doubt those favoured with these exceptional crops this season will find for them a capital market.

A. D.

**Apples.**—I was struck with the fact when looking over the Apples at Chiswick last week that the free-growing trees on both Crab and dwarfing stocks were much more fruitful than were those bush trees which were subjected to both summer and winter pruning. Some of the standard trees in the gardens have really wonderful crops. That is specially the case with New Hawthornden, Stirling Castle, Golden Noble, Blenheim Pippin, Cox's Orange Pippin, Baumann's Reinette, Cellini Pippin, Yellow Ingestre, Lord Suffield, and a dis-

tinged long-fruited variety which, though not so large, much resembles the old Cathead Codlin, Calville St. Saver. Other varieties also, including Braddick's Nonpareil, were fruiting freely. I mean by free-growing trees, although some are on the Paradise stock, that they are not hard pruned, but simply thinned as needed, allowing the branches free play. Were there universally such an Apple crop as may be seen on some of the Chiswick trees, the year's produce would indeed be an enormous one. Of the harder pruned dwarf trees the finest cropper is Frogmore Prolific, a grand cooking Apple which is not too well known. It seems to be equally as free and productive as Stirling Castle. In one quarter these free-grown trees are so close together, that they form almost an Apple wood. Perhaps it is this close growth which furnishes shelter and helps to make the trees so fertile. The pyramid Pears, with their tall conical forms, exposing every bloom to the worst weather incidences, are comparatively fruitless. Is that form of training which gives the greatest tree surface to the frost the best? The aspects of fruiting now seen at Chiswick may not be singular. It would be interesting to hear the experience of others, and how far free-grown trees are fruiting better or otherwise this year, not only at Chiswick, but in other parts of the country.—A. D.

#### APRICOTS.

THE Apricot, though it does well in a few gardens, yet fails in many. I am well aware that soils have much to answer for, but not to the extent often thought, as many years ago one used to see the Apricot thriving on the gable ends of cottages and buildings, but now a tree is rarely seen. I am well aware that a dry or well-drained soil is recommended for the Apricot. The latter I thoroughly agree with, but the former, I think, is carried too far, as if too dry, it is as bad as too much moisture, and the trees suffer. When the trees on cottages were seen in such robust health, they rarely had any protection when in bloom; on the other hand, they got some amount of protection from the eaves of the building, but more often they only had the wall and no coping or projecting eaves of any kind. I think the latter, when trees are planted under such buildings, do more harm than good, as the roots delight in moisture in the growing season if it is not stagnant, and with wide projecting eaves they do not get the rainfall so beneficial. It is surprising the amount of moisture the roots require provided the soil is light or well drained, as I find if the roots can be kept on the surface there are less canker and disease; indeed, old trees planted too deeply and showing signs of canker may often be given a fresh lease of life by lifting and keeping the roots at the surface. I find the best system is to give plenty of moisture in the growing season, plenty of drainage and a good mulch of decayed manure. Our soil being very light, I prefer cow manure, and give at least two soakings of water with a hose pipe weekly, flooding the border, if the term may be allowed. In the early part of the year the mulch placed over before the fruit ripens is spent; to this we add a good dressing of rough, heavy loam and lightly fork in when the final pruning and nailing are done. With trees well attended to in the way of summer pinching, there is little pruning in the winter months. Another heavy mulch is given when the fruit is set, and during the flowering period only slight protection is given; in some cases none at all, as to protect with a thick heavy covering does more harm than good. I get many more fruits than I require; indeed, a few bushels are picked off in a young state from some fifteen to twenty trees, and during the time they were in bloom we had very severe frosts.



I have great faith in the aspect for the Apricot: indeed, I think it useless to grow it on such walls as are exposed to cold winds, as though the trees bloom well the flowers do not set, no matter how protected. I have heard of trees bearing good crops on a north wall, but have never seen it, and I am sure they do not thrive in many districts on a wall facing east. This position would no doubt ripen the fruit well, but heavy crops would not be had. I have mentioned how well these trees did years ago on gable ends of cottages; but it would be found the cottager planted his tree in a sheltered corner often south or south-west, and frequently I have seen them in such positions that the heat of the fire of the dwelling-room came through the wall, and as often the weather is severe when the trees are in bloom, the latter was saved by the increased heat from the fire. One can also remember how well Apricots used to thrive on a flued wall when glass was less plentiful; indeed the erection of so much glass of late years I fear is the one cause of failing, as this tree is not good under glass. I like a south-west aspect or even a south in late districts, shallow borders with an unlimited command of moisture, and good feeding.

The question of lifting old trees may be interesting when I state that from such trees I get the heaviest crops. The Apricot can be lifted very successfully in the early autumn, and is often benefited by this. On an east wall I had very old trees that scarcely ever bore a fruit, but since they have been lifted they have never failed to crop freely. I name this fact, as often trees in such conditions are condemned, but in a better position would give a good return. Before lifting is attempted it is necessary to prepare the old trees the autumn previously, and to lift (in September) before the trees cast their leaves; this gives them time to get new roots to support next season's fruit. By preparing the trees, that is, cutting back the strong old roots at a yard or 4 feet from the wall and filling in with manure and soil, new fibrous roots are made by the time lifting has to be done the following season. I would not hesitate to remove old trees not bearing, as often removal is what they require. The roots should always get plenty of old mortar rubble and charcoal refuse. Shallow planting should be the rule, taking care to preserve every small fibre and to make the soil fairly firm, in all cases giving a good covering of stable litter through the winter months to old trees that have been lifted or young ones that have been newly planted.

G. WYTHES.

**Early Apples.**—My esteemed critic, Mr. Fenn (page 197), suggests my adding the Gladstone Apple to my list as enumerated at page 156, but as all first early Apples deteriorate so soon after gathering, and it is impossible to consume many direct from the trees, the trio named will be found superior and sufficient for ordinary purposes. Besides, I am anxious to reduce the number of kinds, and to recommend those only which have proved best. In this case it should be understood I am speaking from the private consumer's point of view, quality only, and not for market purposes, otherwise, very probable being such a high mahogany-coloured and showy fruit, the Gladstone Apple would realise the highest prices, for, as with Grapes and other fruits, the public buy according to appearances. I have grown the Gladstone for years, and the aforesaid is the result of my experience. Of course an able cultivator with Mr. Fenn's experience well knows the subtle and unintelligible influences of soil and climate upon Apples, but anyhow, no grower will ever regret adding Beauty of Bath to his col-

lection. It is only on rare occasions that one finds the Juneating, the Astrachan, Devonshire Quarrenden or Worcester Pearmain even of fair quality, but more frequently than otherwise their showy appearance when tested is found deceptive and disappointing. Lady Sudeley is a grand second early kind.—W. CRUMP, *Madresfield*.

#### RASPBERRIES.

It is somewhat remarkable that such a humble fruit as the Raspberry should show such aversion to particular soils as to almost fail to grow, let alone produce fruit worthy the name. As it happens, I have had to deal with Raspberries under diversified conditions, and the first difficulty I was called upon to solve was in a garden where almost every kind of hardy fruit could be grown to perfection, the Raspberry alone excepted. Considering what a useful fruit the Raspberry is, the want of a sufficient crop is likely to be felt in any garden where hardy fruits are grown. In many instances, however, without the disadvantage of an unfavourable soil the culture itself is often at fault. As a rule, the Raspberry thrives best on open sunny loam well enriched from the surface with manure, or even what we may call alluvial deposits, such as secured from the receding of rivers, old set beds, or such as reclaimed fen lands where well drained. They also thrive the most satisfactorily on those soils which are cool and moist, although it must not be surmised from this that stagnant moisture must be allowed, as I know of no other fruit which requires a freer drainage. In the garden that I had charge of, and where Raspberries had been hopelessly tried for upwards of twenty years, it was clearly seen that some extra soil preparation was needed if they were to succeed. In this instance all the garden trimmings and refuse that I could get together were saved, the rougher being burned and the ash returned to the bulk. With this was incorporated some lime. The whole was laid up in a heap for twelve months and turned occasionally. This formed a capital rooting medium in which the roots rambled freely and threw up vigorous canes. Trenches 18 inches in width and the same in depth were taken out where each line of plants was to go, and into this the material was placed, the best of the surface soil being placed upon the top. The canes having been planted and cut down to within 6 inches of the ground just previous to growth commencing, fine and vigorous shoots were produced, which carried a fine crop of fruit the following season.

In all cases where there is a difficulty in getting Raspberries to thrive I can commend the above as a means of getting out of the difficulty, although probably it must be taken into consideration that other prominent details will have to be attended to. Amongst these one of the most important is not to fork over the plantation at any time, as the Raspberry being a surface rooter, the forking tends to disturb the rootlets. The soil being quickly exhausted by the numberless roots which prey upon it, nourishment must be provided by giving annual top-dressings of either manure or, what is better, the latter and garden refuse combined. This dressing also tends to keep the surface cool and moist, this being what the Raspberry delights in during the summer months. Given generous treatment then, the Raspberry will well repay the cultivator for the trouble bestowed upon it. It must not be surmised that the soil or surface culture is all that is needed, for although the Raspberry is naturally a shade-loving subject, yet where the canes are allowed to grow into a crowded mass for the want of timely thinning, the buds fail to plump up on account of loss of light. The first stage of thinning consists in cutting off with a hoe during the early months of summer all rambling suckers growing away from the stools; and again at this season of the year going over the plantation and cutting out all old fruiting wood, as this having done its work, the earlier it is removed the better, so that direct light may be enabled to reach the younger and growing canes. The work must not be done roughly, as the lower leaves

having perhaps partially been denuded of light they are easily broken, and as these are wanted to foster and feed up the buds for next year's fruiting, any rough usage will obviously be followed by weakened canes, or at any rate very little fruit will follow on those parts of the canes which have had the leaves thus early destroyed. Y. A. H.

#### FLOWER GARDEN.

##### THE FLOWER GARDEN IN SUMMER AND EARLY AUTUMN.\*

IN offering a few remarks on the above subject it is almost impossible to avoid a reference to the remarkable revolution effected in the flower garden within the last twenty-five years. For some years before 1870 the rage for geometrical gardens and straight ribbon borders, with bedding out as stiff and formal as it could well be made, necessitated an amount of time and labour for the above department out of all proportion to the results gained; indeed the importance of a place in those days was wont to be gauged by the number of plants annually bedded out in the flower garden, and I well remember taking a journeyman's place in 1870 where the principal part of the indoor work for a considerable time in the year was the propagation of some 150,000 bedding plants. Now I do not wish in this paper to under-estimate the work of a good display of bedding plants or to protest against their employment. In every case all gardeners are more or less bound by the tastes of their employers and have to cater for those tastes, and there are situations where a certain amount of formality accompanied by a bright display is not out of place. Take, for instance, a case where a geometrical garden of tiny beds encompassed by Box exists, and it is the will of the employer it should remain. If perfect tidiness is insisted on, I think few will deny that spring and summer bedding plants are preferable here to herbaceous plants; there are so few of the latter that lend themselves to small formal beds. There are two things associated with flower gardens—the one inseparably, the other occasionally—with which I do not propose to deal in this paper—Roses and carpet bedding. The first demand, and should receive a special paper, and for that most rigid style of carpet bedding that is gradually dying out slowly, it may be, but still surely, I never had any liking. As mentioned early in this paper, there is in this particular style of flower gardening an immense amount of time and labour expended for a very brief span, and only in those places where other work is not pressing and labour is plentiful can it be carried out successfully. Very few private places can attempt it on anything like an extensive scale. There is a style of carpet bedding which can be performed without much trouble if the employer is partial to foliage as opposed to floral bedding. Such plants as Crimson Beet, Coleus Verschaffelti, Iresine Wallisi, silvery Centaureas and Cinerarias, Veronica incana, and gold and silver tricolor and bronze Pelargoniums are examples of fine-foliaged bedding plants. Of the improvements effected of late years in the flower garden, one of the best has been the breaking up of formal lines and designs by the introduction of tall plants of light and graceful or striking appearance on a carpet of dwarfer plants. To name a few of

\* Paper read by Mr. Burrell, Claremont, before the members of the Esher Gardeners' Mutual Improvement Society.



many examples of such planting, I may instance the Sweet Tobacco (*Nicotiana affinis*) or the big Cape Hyacinth (*Gautonia*) on a carpet of scarlet or pink Geraniums, Heliotrope or tall Ageratums, the variegated Abutilon with purple Petunias, nicely grown symmetrical Fuchsias on a carpet of tufted Pansies; whilst if the under carpet is very bright and glowing, the dot plants may be simply fine-foliaged ones, as Eucalyptus, Acacias, or Grevilleas on scarlet or purple Verbenas. So, too, with Begonias. All the large-flowered heavy varieties in the scarlet, crimson, or pink shades are better when relieved by taller lighter things. The striped Maize is often used, but it is to my thinking too stiff. I decidedly prefer the Sweet Tobacco or some nicely grown plants of Eucalyptus globulus or citriodorus. Again, the Begonias themselves may be planted thinly on a dwarf carpet of foliage, as *Veronica incana*, *Mesembryanthemum*, or even the common Stonecrop.

You will have noticed the advance in favour of late years of mixed beds. These are very pretty and effective. The difficulty with them is to avoid crowding; the plants should stand clear of each other to show them off to the best advantage. This is particularly to be noted when specimen Fuchsias, Ivy-leaved Geraniums, Heliotrope and the like are used. Plants for say 1 foot round the base of these must be kept dwarf and, if necessary, slightly pegged down. Of ordinary mixed beds, that is, the employment of two given varieties in almost equal proportions, it is hardly necessary to speak. Such beds are easily planted and the combination of the colours makes a pleasing contrast, that is bright and striking throughout the season. Examples of such planting are purple and scarlet Verbenas, or purple Violas with Flower of Spring or Blushing Bride Pelargoniums, crimson Beet with Mrs. Pollock, *Centaurea candidissima* with Roi des Noirs Heliotrope and the like. One all-important matter is the provision of plants of suitable size for separate beds; thus very strong-growing Pelargoniums are out of place in the small parterre. For such I should decidedly recommend plants of the habit of Surprise, West Brighton Gem, Golden Harry Hieover and Dandy Geraniums, dwarf Ageratum, Maid of Moray Lobelia and *Mesembryanthemum variegatum*. For large, bold beds, pompon and Tom Thumb Dahlias, Marguerites, summer Chrysanthemums, such as Madame Desgrange and G. Wermig, and early-flowering Starworts are favourites, or other herbaceous plants can be used. A splendid combination for a very large bed (if on high ground and discernible from a considerable distance, so much the better) is clumps of the old *Fuchsia gracilis*, filled in with the variegated Ribbon Grass. It is probable that about the time mentioned at the commencement of this paper, any notes on the summer flower garden might, for the majority of places, begin and end with bedding plants pure and simple. At the present time, fortunately, they would not be considered complete without some reference to the inmates of the herbaceous border—that portion of the garden which is becoming more in demand with each succeeding year from the long-continued and admirable display afforded, and also for the wealth of flower available for cutting. It is impossible in a paper of this description to name a tithe of the good things suitable for such borders, so I must content myself with touching on a few of the most popular and well known. Tufted Pansies are grand as front plants, and with a little care, as I need hardly remind you, in the prompt and thorough removal of seed-pods, they

will flower all the season. Four good sorts are Archie Grant (dark purple), Bullion (yellow), Countess of Hopetoun (white), and the unique and beautiful Countess of Kintore. Border Carnations are second only in demand to Roses; they are universal favourites and always welcome. It is best to have a small plantation of these on some outlying border where they can be layered and new batches planted annually in the herbaceous border proper so soon as the weather will permit. A good half-dozen of these in different shades are Ketton Rose, Mrs. Reynolds Hole, Raby Castle, Countess of Paris, the white and crimson Clove, and Mme. Roland. I like also to sow a pinch of seed every year and select any likely seedlings. A few very fair varieties can be secured annually in this way. Three points must be always found in seedlings to cause their selection; they should be of robust constitution, free flowering and non-splitters. Those comparatively new things in border Carnations, Grenadin and Margarita, are also good and will be found very serviceable for cutting. Companions to the Violas, Carnations and Pinks for the front of herbaceous borders will be found in Campanulas in variety, and some of the Speedwells, in the double white Yarrow (*ptarmica fl.-pl.*) (this should be slightly pegged), and in the dwarfer varieties of Coreopsis, to name a few things in different shades of colour. Of Irises, Pyrethrums and Phloxes we may truly say their name is legion, and very beautiful they are, the one drawback to herbaceous Phloxes being the short time they stand in water, and the same remark applies to *Lychnis chalcedonica*, which would otherwise be valuable for its rich glowing colour. I look upon *Spiræas* in variety as among the best subjects for these borders; their splendid spikes of white flowers are grand for tall vases. Among the best are *palmata alba*, *filipendula fl.-pl.*, *Ulmaria fl.-pl.* and *aureo-picta*. *Spiræa astilboides* is a good thing, but wants a different position; a moist border seems to suit it well. In the light, dry soil that is to be found in the majority of places in our immediate neighbourhood Lilies are more at home in the hardy Azalea or Rhododendron bed, where they can enjoy partial shade than in the open herbaceous border, but the many different members of this family that are known under common names, as the Day and Chilian Lilies, do well, and are valuable for cutting. The mention of these Lilies and the recollection of their habit of growth remind me to offer a word of caution against a too liberal use of these, and of all things of a similar tendency for root rambling. They poach on their neighbour's ground, and are apt unless closely watched to monopolise space intended for plants of a more stay-at-home habit. There are few better plants for late summer and autumn flowering than Starworts in variety, and the cutting season of these can be considerably prolonged if a number of late sorts are planted in some place where they can be protected a little from autumn frosts. By this means nice sprays of flower can be had until nearly the end of November, and they associate admirably with Chrysanthemums. Just a word or two on annuals, and I must draw my paper to a close. For flower garden purposes annuals may be divided into two classes, those adapted for bedding and to furnish cut flowers. In the former category we may place such things as seedling Petunias and Verbenas, Tagetes, Calendulas, dwarf Marigolds, Phlox Drummondii, Asters and the like, and in the latter, Sweet Peas, Mignonette, Clarkias, Godetias, Cornflowers, to name a few of the best.

A very pretty summer display can be secured with the above in those places where means are not to hand for striking and keeping a lot of bedding plants.

**Everlasting Peas well grown.**—Many fine plants among hardy things are so badly grown and ill-placed, that we never take the least notice of them. A very fine plant struggling amongst many others, on the edge, perhaps, of a shrubbery—one small specimen—will never show its qualities, yet in a bold group it may be very striking indeed. At Knebworth, the other day, we were greatly pleased to see a very old friend admirably grown. We mean the forms of the common Everlasting Pea (*L. latifolius*). There are numbers of other kinds, but this is the most vigorous and handsome, take it all in all, and there are some very fine forms in white and bright colours. At Knebworth they are grown in slightly raised basket beds, with a margin of Ivy, and trained up rustic stakes. The effect was very beautiful and quite new to us, the vigour and grace of the plants being so marked. They were full of bloom, and it struck us that no hardy plant could be more useful at this time of the year where hardy flowers are grown. The thing is to have enough of it to be effective and worth taking care of. A singular difference is often made by the manner in which a plant is placed. Sometimes this Pea is very charming if allowed to ramble a little on a bank by itself. Another good way would be to put a group of it among beds of vigorous shrubs; but whatever we do with it, there are no finer autumnal plants than the various forms of the Everlasting Pea.—*Field*.

**Fuchsias.**—The fact that when Mr. Fry's paper on Fuchsias was read at the meeting of the Royal Horticultural Society on the 9th there were no Fuchsias to illustrate it, would tend to show that as a greenhouse plant it has somewhat gone out of cultivation. If one is to judge of what is seen about, not only have Fuchsias gone out of fashion as pot plants, but very few persons seem to know how to grow them. But then with their decline for greenhouse work Fuchsias have taken a corresponding advance in favour for bedding, and certainly they should be heartily welcomed for this purpose, because in no sense do they lend themselves to formality. So far as I have seen, there is hardly enough of care shown, however, in preparing plants even for bedding. In some cases it seems to have been thought the more roughly grown the better. That is hardly right. Fuchsias bedded out should always have a carpet of some neutral coloured foliage or flower, and the branches of the plants should stand clear above this carpet. Thus for bedding out where not required for edgings or low growth, the plants should always have at their base clean stems some 12 inches to 24 inches high, the plants in reality forming neat standards or else pyramids, needing only one stout stake to support them. Too many varieties also should not be employed in the same bed, and those used should be selected with some regard to evenness in habit of growth and form. Fuchsias for outdoor planting should be grown generously the first year in a nursery or in pots in sheltered places, and be subjected to liberal pinching so as to secure plenty of breaks and good firm wood.—A. D.

**Water plants for cutting.**—Good native water plants for cutting are the Water Plantain (*Alisma Plantago* and *A. P. lanceolata*) and the Flowering Rush (*Butomus umbellatus*). For lending a light, graceful appearance to flowers in tall vases, the elegant whorled, pyramidal scapes are admirable, and the stems occupy very little room in proportion to the effect given, this making them doubly useful where there is not much room for stems. The tiny flowers are insignificant, and it matters little whether they are open or faded as long as the stems keep fresh, which they do for a considerable time, and answer the same purpose in bold arrangements that the charming little *Gypsophila elegans* does in more delicate work. Anyone



who has the means of growing this plant should not fail to get it, as it is very robust and will grow well in the most weedy piece of water. The best way to establish and grow it is by division in spring, planting the pieces in the mud, sand or clay at the bottom of the pond and near the margin, where it can be easily got at when wanted. It may also be propagated by seeds, which germinate freely if sown in a pot and kept under water. The Batomus is a handsome and graceful thing with rose-coloured flowers borne in a many-flowered umbel on a long, naked and slender stem. This also lasts well in a cut state, and the length of stem makes it very suitable in many ways. This, too, can be easily increased by division and can be planted in the same way as the Plantains.—J. C. TALLACK.

#### HERBACEOUS PHLOXES.

ALTHOUGH Messrs. Ware and G. Paul set up large and very interesting collections of herbaceous Phloxes at Chiswick the other day, yet after all was the finest display of these beautiful hardy flowers to be seen in the gardens, where Mr. Barron has scores of the very finest varieties in commerce planted in a series of beds carrying grand heads of bloom and exhibiting what to the intending purchaser it is so very important to know—their varying heights. Not a few of these newer sorts bloom profusely at from 15 inches to 18 inches from the ground. That seems to be almost undue dwarfness for the Phloxes, especially as when there are heavy rains many of the lower flowers do not escape splashing with dirt. Certainly, having seen the old sorts towering up to a great height, it seems to be a big drop to some 15 inches. Generally the best height for Phloxes in borders seems to be from 24 inches to 30 inches. Of course, it is the rule with all varieties to be dwarfier when young, and especially when newly propagated, and to increase in height every year they are left in the ground. Hence, to get the true character of the plants it is best to propagate some from cuttings every year, keeping some in pots to flower, as these are specially useful for many purposes; others should be planted out in prepared soil, where they may produce the very finest heads if needed for exhibition or other purposes; and the rest may be planted in the borders, replacing plants three years old, which, having somewhat exhausted the soil, no longer give fine heads or pips. It is not every day that so good an opportunity offers to see a really fine representative collection of Phloxes as is now to be found at Chiswick, and very many who have grown these flowers for years would be surprised to note what truly superb varieties are now to be had. Not only do the new sorts give huge trusses or heads of bloom, but they also give very fine pips; indeed these are now in the best new sorts quite twice the dimensions of the older ones, and cannot be covered by a penny piece. No doubt very much stimulus would be given to the culture of Phloxes were some of our horticultural societies to offer prizes for collections of cut trusses. Possibly some may do so, but they seem to be few. The classes should be for single heads and not for several in a bunch, as bunching robs the heads of their natural fine contour, and crushes the flowers also. All those shown at Chiswick by Mr. Paul and Mr. Ware suffered in that way, and although bigger bunches resulted, the diverse varieties gained nothing. Were I growing Phloxes to cut the heads for show I should certainly obtain some kind of protective caps, as the flowers are apt to suffer from very heavy rainstorms, but ordinary soft rains do no harm. The caps need only to be placed over the flowers when heavy rains are imminent. As to sorts, I found it very difficult to make a satisfactory selection from the outdoor plants at Chiswick, because some were earlier, and therefore a little past, whilst some were later and not at their best. The following twelve, however, are really splendid varieties: Amazon, white; Neptune, reddish pink; Robur, very fine mauve; Wm. Robinson, carmine, very fine; Enchantment, rosy lilac, white centre; W. Veitch, white, rosy red centre; Pluton, deep rosy magenta;

Sam Ireland, reddish mauve; Flambeau, orange-scarlet; Etna, intense scarlet; and Iris, rosy purple. Of other varieties in the tent, Ava'anche, white; Michael Cervantes, heavy red centre, white ground; Chaudot, pink, red centre; Albert Crousse, orange-carmine; Eclairer, purplish magenta; Bacille, mauve; Chant du Depart, purplish red; Mons van Houtte, rosy crimson; and Boule de Feu, brilliant scarlet, make up a superb selection, which may now be had at very trifling cost.

A. D.

#### MAIZE OR INDIAN CORN.

(ZEA MAYS.)

THIS is one of the noblest of the Grasses that thrive in our climate, and it is an almost indispensable adornment to our gardens, where it has a fine appearance either in isolated masses or associated with other fine-leaved plants. Cuzco and Caragua (here figured) are the largest and finest of the green varieties, and gracillima the smallest and most graceful. The variegated or Japanese Maize is a very handsome variety.



Maize or Indian Corn (Zea Mays var. Caragua).

Its beautiful variegation is reproduced true from seed. It is particularly useful for the outer margins of beds of sub-tropical plants and like positions, where its variegation may be well seen, and where its graceful leaves will prove effective. It should, in all cases, have light, rich, warm soil. It has a habit of breaking into shoots rather freely near the base of the central stem, and where it grows very freely this should recommend it for planting in an isolated manner, or in groups of three or five on the turf. The seeds of the Maize should be sown in a gentle hot-bed in April, although occasionally it will succeed if sown out of doors. Gradually harden off the plants before they have made more than three or four leaves, moving them to a cool frame very near the glass, so as to keep them sturdy, finally exposing them in the same position by taking the lights quite off. This course is, perhaps, the more desirable in the case of the variegated Maize, which does not grow so vigorously as the green kinds. In neither case should the plants be kept long in heat, for if thus treated they will not thrive so

well. The first few leaves that the variegated kind makes are green, but they soon begin to manifest the variegation. The plants should be placed out of doors about the middle of May.

#### FLOWER GARDEN NOTES.

ANY alteration from the present season's planting contemplated for another year that may involve considerable increase in some given variety of flower should at once be decided on, that special provision may be made as the work of propagating is in progress. A marked and pleasing feature to be found this year in our public gardens is the greater number of light and tastily filled beds as opposed to the stiffness and formality found in carpet bedding or blocks of zonal Pelargoniums in different colours. Special features in many places this year are Begonia Worthiana, Violas, and Fuchsias. Grand plants of the first named nearly 18 inches through, as much in height, and a perfect sheet of flower are very hard to beat; it is decidedly the best of all Begonias for bedding, and if this class of plants is about the most ornamental of all for the summer flower garden, then may Worthiana be justly styled the king or queen of bedders. A step in the right direction is the planting of this as well as the large-flowered Begonias much wider apart. Formerly one saw nothing but a mass of colour, well enough, no doubt, in its way, but yet only a little removed from the effect produced by a large bed of scarlet or pink Geraniums. Now the Begonias are planted some 30 inches apart on a ground-work of some dwarf carpet, such as variegated Mesembryanthemum or Koniga or a very dwarf Pelargonium of similar colour to Little Trot. Tufted Pansies have been a great feature of the present season, and whether in small beds, for fronts of ribbon borders, or associated as mixtures with Pelargoniums in variety, they are exceptionally good. Few things are better than tufted Pansies for the little beds that one meets with occasionally in geometrical gardens, and if need be a few taller things can always be dotted sparingly among them.

There should always be an inspection of the stock of cuttings before Viola beds are cleared, and if the strike has not been altogether satisfactory, old plants can be divided and replanted in the winter nursery as they are removed from their present quarters. Although much may be said in favour of the employment of Fuchsias on an extensive scale in the summer planting of the flower garden, there is a tendency sometimes to rather overdo them, especially in connection with mixed beds. Given sufficient room, Fuchsias grow, it may be said, naturally into nice specimens, and they are seen to the best advantage on a comparatively dwarf carpet. To crowd them up with plants of stronger or equally strong habit with themselves is a decided mistake. I have seen beds this year where Fuchsias, Zinnias, annual Chrysanthemums, and strong growing Marguerites were buddled together in a regular mass, and the result was by no means pleasing. Mixed beds are a splendid feature if well and judiciously planted, but if not thoroughly well done they must be denounced as failures. This has been a favourable summer for Verbenas. Last year, with its continued wet, was productive of a lot of straggling growth (I do not like very hard pegging) and comparatively little flower, for Verbenas, although



they can do without much sun, must have dry and warm weather to develop flower in profusion. Last July was consequently favourable for them, and the consequence is that beds of *Verbenas* and *Phlox Drummondii* in mixed colours make about the brightest and most effective display we have. I kept out the whites and very light shades, and in lieu thereof, as the beds are large, introduced at intervals plants of the Sweet Tobacco, which break the flatness of the beds and harmonise well with the bright colours of *Verbena* and *Phlox*.

The rapidly shortening days bring with them a great wealth of autumn flowers, and from the present time until the advent of frost we shall be almost better off for cut flowers than during the height of summer. *Dahlias*, now that we have cleared them of earwigs, are doing wonderfully well. The different pompons in selfs and fancies are not only very useful as a background for dwarf subjects, but are much valued in a cut state. Perhaps one of the very best flowers for present cutting in its particular colour is *Helianthus multiflorus plenus*, a gem (despite its long name) that should be in every garden. I can also thoroughly recommend *H. laetiflorus* and *Helenium autumnale*. Two early-flowering *Asters*, besides *Amellus*, that are at present bright and pretty are *sagittiflorus* and *puniceus*; the last-named especially has a delicate and lovely shade of colour. As it is a good plan to make a careful inspection of summer bedding plants and note special successes or failures for another season's guidance, so it is advisable from time to time to take if it be only a hurried survey of the inmates of the herbaceous border to mark good things for future division if there is not sufficient stock of them, and also to alter the positions of those things that may not be in their proper place. Thus some of the *Asters* which are advertised at 3 feet and 4 feet will be found on strong soil to attain a height of 6 feet, and will have to be placed at the back of borders in the company of such things as *Chrysanthemum uliginosum* and the tallest of the *Helianthus*. Again, arrangements in the herbaceous border which have (perhaps inadvertently) resulted in happy and pleasing combinations may be either carried out on a larger scale or increased in number. Plenty of such pleasing contrasts will suggest themselves during a survey of the herbaceous borders.

E. BURRELL.

Claremont.

**Lobelia propagation.**—Among dwarf summer bedding plants, the various kinds of *Lobelia* hold a prominent place, and are therefore much in demand in their season. To make sure of obtaining abundant supplies when required, a start should be made at once. Having had to provide several thousands annually for some years past, I used to plant out a reserve batch for propagating purposes. In private gardens this should always be borne in mind when bedding out is completed, as its adoption dispenses with the fear of disfiguring those plants in the flower garden. The thing most necessary at the present moment is to cut the plants over closely with a knife or scissors sufficiently low to remove all flowering shoots. Now get some fine sandy soil, and earth up the plants fully an inch deep on either side. At the same time open the tops out somewhat and sprinkle some fine soil down into the shoots to the same depth as the sides. Water well and sprinkle daily if the weather be dry for a fortnight; by this time fresh roots will be pushing into the new soil, when at any convenient moment, but the sooner the better, the plants may be lifted and pulled to pieces, and replanted in shallow boxes of fairly rich soil for the winter. Allow four or six shoots to each piece, and plant at 2 inches asunder. In planting prune away the old roots and so ensure getting the young ones well buried. When all is completed place in a cold frame and shade from hot sun, but give no artificial heat whatever. If watered as necessary and kept close the plants will quickly make a fresh start, from which time till December keep the plants in a comparatively cool, airy place. In December give a few degrees

more warmth, say 45° to 50°. By this time the plants will have become perfect bushes and crowded with fine vigorous cuttings, such as cannot be produced at this time of year by any other mode of propagation. If only a limited number is required, the boxes of plants may be kept cool throughout, and instead of taking cuttings, pull the plants to pieces early in March and treat as before, but if many thousands are needed, commence putting in cuttings in the first week of January.—E. J.

## JAPANESE LILIES.

### THE LILIUM LONGIFLORUM GROUP.

REVERTING to my paper in THE GARDEN for 1891, Vol. XL, pp. 379, 380, 442, &c., the forms therein described as Nos. 1 and 2 seem to be the same and identical with the form grown in Holland as *L. longiflorum*, a sample of which borne by a bulb obtained from Holland and grown side by side with the Japanese forms is now sent up, labelled No. 28, for comparison to THE GARDEN. Samples of my Nos. 1 and 2 labelled 7 or 9, are also sent up. No. 4, *L. eximium præcox* (the early-flowering form with narrow scattered three-nerved foliage, sometimes called *Mme. von Siebold*, is sent up labelled No. 1. This is a most distinct variety. No. 5 seems to be a distinct form, and is sent up by me labelled 10; it differs from No. 6, *longiflorum grandiflorum*, by its darker, narrower foliage, its somewhat earlier appearance, by its larger, stouter flowers having a perianth equably revolute. My No. 6 is specially distinct by the lighter green colour especially shown in the head of flower, and seems well worthy of the name of *grandiflorum* when compared with the type, being a much bolder plant in every respect. It is specially marked by its having a somewhat smaller flower than many other forms, and by its perianth being unequally revolute; this is specially shown in the opening bud, when one segment generally is thrown far back before the others unfold. It and my No. 8 are, I think, identical. They are now sent up labelled 2 and 11. No. 3, a form resembling this, except that the petals open equably, is also sent up under label 12. It seems nearly allied to, if not the same as, No. 5. No. 7.—This magnificent form, superior in size and substance to any other, elsewhere called *Wilsoni* or *magnificum*, is sent up under label 4. The bold and distinct shape of its flowers renders it very conspicuous. No. 8 has been sent up as having but little difference from No. 6; labelled No. 11. No. 9 is, I think, a grand and well-marked variety. There is an error in my last year's description of it, the perianth being equably revolute, not "like that of *grandiflorum*," which is not equably revolute. It flowers quite early, as soon as *præcox* is over and a little before *grandiflorum* opens. I have sent it up under label 6. The tube of the flower bellies out a little in the centre of its length and has great substance. No. 10 is also represented under label 3. Here the foliage seems to point out a distinct variety, and the perianth is unlike that of *grandiflorum*, being equably revolute. No. 11 is a grand form, closely allied to *magnificum* in the size, shape, and substance of its flower. It is specially characterised by the brown tinting shown in the pedicels. Sent up under label 8. No. 12 is a rare form. The foliage this year, probably owing to drought, is much lighter in tint than last year. It is sent up under label 17. There is another form observed this year for the first time, sent up under label 5, in which the foliage is short and somewhat narrow, the bud

very long, 8 inches; tube narrow with a wide perianth, reminding one much in shape of the true *L. Harrisii*. The substance of the flower is somewhat papery. A sample of *L. Takesima* obtained from Holland is sent up under label 29, in which there is little, if any, colouration of stem or bud. No. 15 (*Takesima grandiflorum*) is sent under label 19 to show how, when compared with the Dutch form, the name *grandiflorum* is most justly given to it. Nos. 16, 17, and 20, forms of *L. formosanum*, are also represented under labels 20, 21, and 16 respectively. This seems a very variable Lily, colouration, habit, and foliage differing much, yet the flowers in all seem identical.

Colchester.

ALEXANDER WALLACE.

\* \* A splendid set of forms of a noble Lily. Probably it would be difficult to name them all as distinct, and, unhappily, it is impossible to refer to them under numbers.—Ed.

## VERBENAS FOR EXHIBITION AND BEDDING.

AT the Taunton Deane flower show, which was held on the 11th inst., and was without doubt one of the finest and most extensive held in the town for years past, the old practice, common in the west of England, of offering prizes for cut *Verbenas* was followed, and there was a class for twelve varieties, three trusses of each, and the usual result was witnessed. The flowers were small, dull-coloured and mean-looking. The fact is, *Verbenas* are no longer grown for exhibition, and so exhibitors fall back upon such plants as they may have at the time in their beds or borders. When the *Verbena* is subjected to good cultivation, either in pots, as by the late Mr. C. J. Perry at Birmingham, or in the open ground, as was done by Mr. H. Eckford when he had charge of the grounds of Coleshill House, Shrivensham, Berks, wonderful trusses of bloom of the finest quality were shown, and when well staged, much in the same way as Mr. Cannell stages his zonal *Pelargoniums*, they were most attractive subjects. Now, as no one appears to care to cultivate *Verbenas* as formerly, and seeing the act of doing so is said not to pay, the *Verbena* has fallen away to a low stage of quality, and as such is unworthy a place on the exhibition table.

And yet it is possible to raise fine *Verbenas* from seed, and an excellent illustration of their quality can be witnessed at Messrs. Sutton and Sons' Portland Nursery at Reading at the present time. This firm makes a speciality of what is termed superb bedding *Verbenas*. Seeds are supplied in colours, such as white, blue, mauve, scarlet and striped, and these seeds produce plants which bloom finely, true to colour, with bold trusses of large-sized flowers. This firm raises from seed and plants out every year types of the various subjects they supply seeds of in order that visitors to their Portland Nursery may see exactly what they furnish. There are plantations of strong plants of large size, with compact habit of growth and blooming with remarkable freedom, planted out in lines a yard apart and the plants 2 feet apart in the lines, and they grow so freely, that they cover the ground and make a remarkable display. As a matter of course, anyone desirous of filling a series of beds with *Verbenas* or forming a ribbon line would place the plants closer together in order to secure immediate effect, but it is surprising how quickly the plants cover the allotted spaces in the Portland Nurseries. A very dwarf, bushy, and free-flowering type known as Sutton's Dwarf Perfection makes fine beds, or it can be employed as an edging to stronger growing varieties in large beds, or as another line of *Verbenas* in a ribbon border. The plants, both spreading and compact, are readily raised from seeds, which can be sown in boxes or pots of light free soil in February or March, giving them the help of a gentle bottom-heat. When the plants are large



enough to handle and have made sufficient roots, they can be put singly into pots or several into a box, be hardened off, and eventually planted out in the open ground. Those who have had experience of the difficulty encountered in keeping old plants of *Verbenas* through the winter from which to obtain cuttings in spring know what a comfort it is to be able to raise seedlings in this way, and that of the two they are probably the more satisfactory in the long run as effective bedding plants.

R. D.

## KITCHEN GARDEN.

### EARLY CAULIFLOWERS.

THERE have been one or two important notes of late in THE GARDEN as to the advisability of raising the plants for the earliest supply of Cauliflowers in the spring during the preceding autumn. Of late there has been a growing tendency to neglect this old method and to rely exclusively upon plants at the turn of the year. This latter practice no doubt has had its origin in the introduction of those sterling selections of the Snowball type—most excellent little Cauliflowers, we all must admit. Still extra care is needed in raising and growing on the plants afterwards, for if such should not be the case, premature hearting in will be the result, and only those gardeners who are prepared to attend to the timely wants of the plants should attempt it. Others use these little Cauliflowers for forcing, and excellently they serve their purpose. I am of the same opinion as Mr. Wythes (p. 118), that without forcing, plants raised in the autumn will produce earlier heads than those sown at the turn of the year, and, given ordinary and timely attention, they are not so apt to bolt. In gardens where other work is pressing, plants raised early in the year are more apt to get neglected than those raised in the autumn. The attention necessary in protecting the plants from severe frosts throughout the winter is additional evidence often brought forward against sowing in the autumn; but the trouble is well repaid by having a quantity of hardy young plants ready to respond to the generous treatment when planted out. Planting for the first supply under handlights is another excellent old method, and might well be reintroduced. Handlights are now not so often seen as formerly, but some such protection as these afford goes a long way to help on early Cauliflowers. The plants, if pricked out under handlights as soon as they are large enough, soon become established and start away in the spring without the fear of any check from transplanting. In the early spring the tops need only be tilted for ventilation, or removed during fine days and genial rains. There cannot be any doubt that where failure does occur it is not the system which is at fault, for good Cauliflowers have been grown, and indeed are so still, by many gardeners and growers for market as well. One of the principal sources of failure is too early sowing. The first week or two in August, as sometimes recommended, is much too early, the third week at any rate being quite soon enough for the more northern parts, and in the south the first days of September. If sown too early, especially if a warm autumn should follow, the plants become too large to winter well, especially when they are pricked out into frames. The same evil is apparent in the early spring months. When pricked out into frames to be again transplanted, too much care cannot be taken in the preparation of the soil. What is wanted is a sound rooting medium in which the plants will make a sturdy growth and lift with a good ball. When

pricked out into loose material, it is impossible to lift the plants successfully. The frame for pricking out the plants into is best placed on a hard bottom, so as to prevent the plants rooting deeply. Old potting soil and such-like material are of no use, being too loose and sandy. The frame should be placed in an open position, so that the plants will not become drawn. Over the bottom should be first placed a layer of manure to the depth of 2 inches or 3 inches, and over this the same depth of good soil. I use a portion of loam with a little leaf soil, as producing the most satisfactory results. By affording such material for the roots to run in, the plants may be depended upon to grow away without the least check when planted out in the spring. The seedlings should be pricked out 4 inches apart, and an extra inch or two between the rows would also be an advantage. Coddling during the winter is a mistake, and the lights are best drawn off during fine days, replacing them during cold rains, frost and snow. It will also be necessary to afford some protection during severe frost.

Where the plants are to be pricked out and grown on to the finish under handlights, of course, they must have a good position and the soil must be in a fertile state. Sometimes stations are formed for setting out the plants; these are slightly raised and are an advantage on cold soils. After the handlights are set out, 2 inches or 3 inches of good soil will be beneficial. The quantity to set out under each handlight will vary. Sometimes nine are set out if the handlights are of the usual size, the surplus—leaving the four corner plants—being removed in the spring to other quarters for succession. Potting off the seedlings for wintering in frames is also a good method, and may be resorted to in those cases where holding soil for pricking out the plants is not obtainable. Five-inch pots are the best to use, as in smaller ones the roots become cramped. These, after being potted off, should be arranged in a light airy frame. If the pots could also be plunged it would be an advantage, as the roots are kept in a more equable state without a deal of water having to be applied during the winter months. Even when plunged the pots should stand on a base of ashes, so as to prevent the roots from working through.

The best kinds for autumn sowing are Early Dwarf Erfurt or Early London, Walcheren, and the Large Asiatic. A. Y. A.

**Wilson's Ashtop Potato** puts all others quite in the shade for cropping and quality. I have it side by side with two more so-called Ashtops, but was so satisfied with the superior crop of this variety, that all are discarded. I grow none other. It is positively a pleasure to see the men lift it, the crop being simply prodigious.—R. GILBERT.

**Hardening Broccoli.**—Both at Oakley Hall and Hackwood Park I found it to be the practice to plant out white Broccoli on ground cleared of old Strawberry plants. The soil is left just as it has been under Strawberries, but the plants are hoed clean off. When the Broccoli is planted, if the soil is too hard for the ordinary dibber a crowbar is used to make the holes. After the plants have started into growth the surface of the soil is mulched with short manure. In that way the plants grow very firm and compact; they stand the winter well, and whilst plants on rich, soft soil are gross and often killed wholesale, those on hard ground do well.—D.

**Standing Lettuces.**—When at Oakley Hall, Basingstoke, recently, I was much pleased to see a fine lot of that remarkably long-standing White Cos Lettuce *Alexandria*. I grew this some years ago at Bedford for seed, but found it stood so long before running off to flower, that I failed to obtain

any seed produce. It was just the same at Oakley Hall, with the exception of a few plants that had been got out very early. It is a deliciously crisp, solid-hearted kind, and I am sure when the stock is true has no superior for keeping in a useful condition for a long period. Mr. Weaver, the gardener, also showed me a wonderfully long-standing Cabbage Lettuce, Daniels' Continuity. This standing thickly in the rows as sown had been hearted in for six weeks, and was still firm. The Golden Queen Lettuce sown at the same time was just blooming.—D.

### THE POTATO CROP OF 1892.

I NEVER remember to have seen the Potato crop so promising as now, and the flavour and cooking qualities I never found of a higher standard; at least, this is my experience this year in a somewhat heavy soil. This is much improved now by the yearly addition of vegetable refuse, wood ashes, and leaf-mould in the place of manure. So far I have not seen a single mark of disease either in the haulm or tubers. I commenced to dig on June 3 in the open Sutton's Ringleader, a variety of the Myatt type, but superior in every respect to that old favourite. Especially is it superior in point of its cooking quality some time after being dug, which cannot be said of Myatt's from strong land. When early Potatoes can be dug out of doors in nine weeks from the time of planting, it must be regarded as quick work even in these days, and this can be done with Ringleader. Myatt's Prolific was the next sort dug, the tubers not cooking quite up to their usual standard of excellence: for this reason I do not intend to occupy land with this sort again. Puritan, one of the large white early kidney varieties, is certainly deserving a place, especially where a good dish is required for exhibition at the end of July, or even sooner than this. It is a free cropper and of capital cooking quality. Lady Truscott is a variety much thought of here for its excellent eating quality. It is not an easy matter to get a good white round Potato that combines all the qualities one expects in Potatoes—good cropper, good appearance and quality also—but in Lady Truscott all these are present to a high degree. Reading Russet is still thought highly of. No Potato that I know gives greater satisfaction here than this, and no sort ever better proved the desirability of a change of seed than did this sort this season. Not only were the tubers much larger, but of better flavour throughout. Many persons make a great mistake in not changing their seed often enough; that from stiff land to that of a light character and *vice versa* should be the rule. Satisfaction has again maintained the great reputation it secured upon its introduction, not only as an exhibition variety, but for its good quality also. It is to be found in nearly all collections of vegetables, and for its cooking quality is unsurpassed. Windsor Castle fully maintains all that was promised of it in point of cropping, appearance and quality, and is destined to become a popular variety to succeed the second early sorts, or what is known as midseason kinds. Abundance is another of the heavy cropping sorts; the quality, too, is all that can be desired.

Now-a-days there is no lack of good Potatoes possessing all the points which tend to make this vegetable the most important of all, and those persons who cultivate flavourless kinds have only themselves to blame.

In this neighbourhood White Beauty of Hebron is largely cultivated by cottagers for winter use; in fact, it is good from the beginning of August until the following April, or even longer than that when well preserved. The soil appears to suit it well. E. M.

*Successor.*

**Blanching Celery.**—The best Celery which so far as been seen at any of the summer exhibitions has been blanched by means of bands of paper wrapped round the stems after the plants have become almost full grown. The great difference



which exists in appearance between stems so blanched and those blanched by earthing is most marked. No doubt there is no sweeter blanching element than is good fine soil, and for winter purposes it is undoubtedly by far the best, but when Celery has to be exhibited in competition, the size of the stems, if ever so good otherwise, does not compensate for the exceeding clearness, brightness, and perfect form of the plants which result from the paper blanching. It is doubtful whether earthing could under any conditions produce such quick results, as it is easy to continue feeding the paper-blanched plants to the last, whilst the earthing prevents that, and not unfrequently the earthen Celery in hot dry weather is suffering from want of water. Perhaps it is unwise to invite Celery in competitions so early as August. It is too early in the year to render it enjoyable in the sense that it is found to be in colder weather. The month of October is soon enough to require Celery as a salad, and certainly on the exhibition table. The rule with those who exhibit Celery so early is to plant up specially early in the summer a short row of plants just to meet exhibition requirements, and what is exhibited, at least to the end of August, rarely ever represents a sterling main crop. As to the edible quality of Celery blanched with paper as compared with that blanched with soil, I cannot give any opinion; but after all there can be no doubt but that the air is more fully excluded by the soil than it is by paper bands.—A. D.

## ORCHIDS.

### ODONTOGLOSSUM HARRYANUM.

I saw this flowering in the Messrs. Veitch's establishment at Chelsea some six years ago. This plant had been imported by Mr. F. Horsman, of Colchester. For some time after this it remained scarce, but Mr. Sander, of St. Albans, imported it in quantity, and since then the plant has been plentiful in our gardens. No exact locality is given in Colombia, whence the plant came, but it is very curious that the collectors are credited with passing near to the spot where it occurs without seeing its beautiful flowers, which vary considerably in their richness and beauty. Some flowers recently sent by Mr. Burton, Highfield, Gainsborough, are very dark and richly coloured. They are from different plants, but as the flowers are not numbered I cannot make any distinction. In the imported plants the spikes were upwards of 2 feet in length bearing many flowers. At that time it was supposed to be a natural hybrid, but if so, I certainly think we have yet to introduce its parents, for nothing that I am acquainted with could possibly produce such a grand flower. There is one feature in the flower which, however, detracts from its beauty, and that is the incurved habit of the petals. *Odontoglossum Harryanum* makes leaves some 10 inches or a foot in length, of a rich light green colour. The scapes are produced from the side of the mature bulbs, coming up from the base. The flowers, which last a long time in good condition, are each about 4 inches across, the sepals and petals spreading, deep chestnut-brown, transversely streaked with narrow lines of yellow stained in some instances with a shade of green. The lip is large, three-lobed, the side lobes curved upwards, ground colour white, profusely streaked with lines of bluish-purple, the front pure white, changing after a few days to yellow. It would seem to come from a lower elevation than *O. crispum*, for while it will thrive well enough with this plant through the summer months, it appears to do better during the cooler months in a slightly higher temperature. It should be grown in well-drained pots and raised upon a slight cone of good brown peat fibre mixed

with chopped Sphagnum Moss. During the growing season a liberal supply of water both in the atmosphere and to its roots is essential to its free growth. When the pseudobulbs are nicely formed up, less water must be given, but at no time in the year should the plant be allowed to get dry. It likes free exposure to the light and moderate sunshine, but it requires to be shaded from the sun's rays during the middle of the day. The plant should also be treated to abundance of air.

WM. HUGH GOWER.

**Cattleya Eldorado splendens.**—John Howes sends a magnificent flower of this variety. This form was sent to M. Linden, of Brussels, by Gustav Wallis. It is far superior to the typical *C. Eldorado*, the flower being round and of good substance. The sepals and petals are of a rich clear rose colour, the latter being fully  $5\frac{1}{2}$  inches across; lip large, the throat stained with rich deep orange, in front of which is a zone of clear white. Beyond this is a broad marginal border of rich purple having a shade of violet in it, the edge of the lip being beautifully toothed. It comes from the Rio Negro district. The plant will do well in the East India house, but I always found that a warm corner in the *Cattleya* house suited it best.—W. H. G.

**Odontoglossum Wilckeanum pallens** (*T. O.*).—This is the name of the flower sent. The typical plant is a supposed natural hybrid between *O. crispum* and *O. luteo-purpureum*, and I have little doubt that the plant now before me is from the same cross. It is very beautiful, and if, as you say, it is from a spike bearing eleven blooms, it must be very fine. The flower now before me measures nearly 4 inches across, the ground colour of the sepals and petals being creamy white, much spotted and blotched with cinnamon, the edges of the petals furnished with numerous long teeth on the margins; the lip broad, creamy white, with a few cinnamon spots; the disc yellow, with a large cinnamon-brown blotch in front. "*T. O.*" says the plant came into bloom at the beginning of June, so it is quite time the spike was cut off. It succeeds under the same treatment as the typical plant, that is, in a temperature which does not fall below 45°, and with just sufficient moisture in winter to keep the bulbs and leaves in good condition.—W.

**Oncidium Lanceanum Louvrexianum.**—G. Moffat sends me a nice flower of this fine plant asking if it is *Lanceanum*. It is not the typical form of the plant, but a variety which was named in honour of M. D. Massange de Louvrex, of Belgium, a very enthusiastic lover and grower of these plants. It differs principally in the front lobe of the lip being pure white and deep violet at the base, which affords a very pleasing contrast. This plant I have always found do best in the East India house. It requires an abundance of drainage, not much soil about its roots, and a very moist atmosphere in the summer season. During the winter the temperature should not fall lower than 60°.—W. H. G.

**Oncidium leucochilum** (*G. Moffat*). This is really a magnificent variety of a species which was originally introduced by Mr. Skinner from Guatemala nearly sixty years ago. It used to be a common plant in collections about thirty years since, and the finest forms I have ever seen of this plant were in the then celebrated collection of the late Mr. T. Dawson, Meadow Bank, Uddingston, near Glasgow, where Mr. Anderson, the gardener, used to grow them well in quite a low temperature.—W.

**Celoglyne Dayana.**—H. Cruickshank sends me a flower of this beautiful plant asking if it is *C. Massangeana*. He at once solves the difficulty by saying "the plant has long narrow bulbs some 5 inches or 6 inches in height." I am, therefore, quite satisfied the correct name is that given above. A magnificent specimen of this plant was exhibited at the last show of the Royal Horticultural Society

at the Temple Gardens by Mr. Ballantine from Baron Schröder's collection, The Dell, Egham, bearing many spikes. The sepals and petals are white, becoming faintly tinged with yellow with age; lip white, stained with a blotch of brown on the exterior of the side lobes, the inside streaked profusely with the same colour. The front lobe is plaited, and has a broad band of brown on the margin with a white border. It comes from Borneo, and succeeds best when grown in a hanging basket.—W. H. G.

### SHORT NOTES.—ORCHIDS.

**Miltonia spectabilis.**—From Mr. Rawson, gardener to Mr. J. T. Gabriel, comes a flower of this species for a name. It is not the original form of the plant, inasmuch as the lip is very dark at its base, the front part being lilac. It is very pretty, and it may with propriety be called Gabriel's variety of *M. spectabilis*.—W. H. G.

**Vanda tricolor Dodgsoni.**—Vandas are a speciality with Messrs. Seeger and Tropp at Dulwich, and one which specially took my attention was the above-named variety. The sepals and petals are flat, making a fine round flower. The ground colour is light amber, regularly spotted with reddish brown, the petals at their base streaked with the same colour and the margin bordered with violet. The lip is rich purple and the flower exquisitely scented.—W.

**Vanda teres candida** (*G. Anderson*).—This is the name of your flower. It is not new, as it was first flowered by Mr. Whittaker, gardener to Lord Crewe, Crewe Hall, and afterwards by Mr. Whilans, gardener to His Grace the Duke of Marlborough. It differs from the typical plant in having the sepals and petals pure white; the lip is also white flushed slightly with rose on the disc, and stained with yellow on the inside of the side lobes. It is a very pretty and delicate form.—W. H. G.

## GARDEN FLORA.

### PLATE 873.

#### THE GLORY OF THE SNOW.

(WITH A COLOURED PLATE OF *CHIONODOXA* LUCILLE VAR. *GIGANTEA*.)

UNLESS in colour variation and maybe size, there is absolutely no distinction between all the forms placed under *C. Lucillæ* in the following notes. Although a comparatively modern genus, the appreciation of the public to the high merits of the *Chionodoxas* shows more plainly than words can the brilliancy and worth of these gems of the Nymph Dagh. *Chionodoxas* are certainly by far the most beautiful and useful of our early spring-flowering bulbs, and can be grown in English gardens more easily than was thought possible. In every garden where they have been established for a few years, they have become veritable weeds, self-sown seedlings coming up everywhere even yards away from the original clump. We know now what they are capable of doing in the rockery and the bulb border. Why not naturalise our surplus stock in the woodland and the wild garden? Their great hardiness, exceeding beauty, and the rapidity with which they increase are all in favour of their establishment on our grassy slopes. Everyone at comparatively small expense may have masses of the Glory of the Snow, and no more beautiful, natural, or better way can be suggested. Any good garden soil suits the *Chionodoxas* well, and they have lately been much used for forcing for the greenhouse, &c., although too much

\* Drawn for THE GARDEN in Mr. Ware's nursery by Gertrude Hamilton. Lithographed and printed by Guillaume Severeys.











heat weakens them, and the brilliancy to some extent is lost.

**C. ALLENT.**—A new species or variety, bulbs of which have been sent over for the first time this year. It is said to be by far the most beautiful of the genus, the flowers large, more numerous, and of the most brilliant blue. It has been named after Mr. Allen of Snowdrop fame.

**THE GLORY OF THE SNOW** (*C. Lucilia*) is by far the most popular and best known species of this comparatively modern class of early spring-flowering bulbs. Its value will be increased when we see it in bold breadths in our woodlands and grassy slopes, much in the way Snowdrops and Daffodils have been used in our own gardens. *C. Lucilia* was first introduced by Mr. Maw of Crocus fame. Mr. Maw, in describing the circumstances under which he found it, says that at the lower level it was out of flower, but near the summit of the mountain a mass was met with in full splendour, forming one of the most sumptuous displays of floral beauty he ever beheld—a mass of blue and white, resembling *Nemophila insignis* in colour, but more intense and brilliant. It is an extremely variable species in size as well as in the form and colour of its flowers, and there can be no mistake about the improvement, which is evident after a couple of years' cultivation in good rich soil. Newly-imported bulbs as a rule produce small and few flowers, but when really well established, size and number are almost doubled. It is one of the hardiest bulbs we possess, and will stand any amount of frost without injury. Self-sown seedlings spring up everywhere, and this will hardly be regretted. A coloured plate of this species appeared in **THE GARDEN**, July 3, 1880. It flowers during March and April. There is also a white-flowered form, but it is rare.

**C. LUCILLE VAR. FORBESI** is apparently nothing more than a large, fewer-flowered form of the above. I have not seen it in a living state, at any rate, not to distinguish specifically from *C. Lucilia*. A native of Asia Minor (*-yn.*, *C. Forbesi*).

**C. LUCILLE VAR. GRANDIFLORA** was first introduced to our notice in 1889 under the name of *C. gigantea*. The accompanying coloured plate represents this variety, which, I think, is the best of the genus. The whole plant is more robust than the type, the flowers larger and more numerous and of a distinct soft violet-blue with a small white centre. It has not, so far as I am aware, shown the slightest signs of reversion, and may be taken as a really distinct and constant form. It also a native of Asia Minor. It was introduced in 1878 by Messrs. Barr, Ware, &c., and received a first-class certificate from the Royal Horticultural Society on March 24, 1891.

**C. LUCILLE VAR. SARDENSIS.**—This charming variety was introduced by Barr and Son, of Covent Garden, in the spring of 1883, and two years later received a first-class certificate from the Royal Horticultural Society. The flowers, though more numerous, are smaller than those of any mentioned above, but of a brilliant true Gentian blue, and altogether distinct from those of *C. Lucilia*. The bulbs were found close to the ruins of the ancient town of Sardis at 4000 feet to 5000 feet above sea level. It is perfectly hardy and a useful bulb for forcing.

**C. LUCILLE VAR. TMOLUSI** is, like *C. Forbesi*, a stronger, larger-flowered form, otherwise identical with the type.

**C. NANA** is a dwarf, numerous-flowered species from Crete. The flowers are very small, white or lilac. It is of little value compared with any of the above. *C. cretica* may be taken as a larger-flowered form of *C. nana*, with blue and white flowers. Both are natives of Crete. D. K.

**Aster diplostephioides.**—It is curious how little notice a plant receives in the trade until it has gained a first-class certificate. *Aster diplostephioides*, one of the finest, if not the best and showiest of the whole family, has been in cultivation for nearly a dozen years; it has been fairly liberally distributed, and yet little or no notice was taken of it until it received a certificate from the

Royal Horticultural Society. Now everyone is inquiring for it, and the stock is by no means plentiful. There need be no difficulty on this score, however, as it is found in easily accessible stations on the Himalayas, and should not be difficult to introduce in quantity. The flowers of one plant we saw lately were nothing less than 4 inches across, of the brightest blue-purple, with a bronze zone near the black disc. It is easily grown, but should be raised from seed periodically, as we do not believe it to be a long-liver under culture.

## THE WEEK'S WORK.

### THE KITCHEN GARDEN.

**SPRING LETTUCE.**—The mistake is generally made in sowing the Lettuce which is to stand through the winter and for turning in in the following spring too early. Small plants are not so apt to be killed off. A sowing should be made now and another a fortnight hence. The best varieties for standing the winter are Hicks' Hardy White and Black-seeded Brown Cos, with Stanstead Park and All the Year Round amongst the Cabbage section. Hicks' Hardy White will be fit for use quite a fortnight before the Brown Cos. The seeds should be sown thinly in drills in an open position, and as the seedlings become ready they should be pricked out into an open and sunny position, where they are not likely to suffer from damp. By treating the plants in this manner they rarely get killed during the winter.

**OPEN-AIR TOMATOES.**—On the whole this has been a good season for open-air Tomatoes, and the present spell of hot weather will assist them considerably. In places where the plants are well attended to, the growth should have been checked ere this, and the whole resources of the plant turned to the swelling and ripening off of the fruit. Do not allow any more superfluous growths to form, these being pinched or cut out. Some of the main leaves may also be shortened, especially where overhanging clusters of fruit. The fruit cannot have too much sunshine. See also that the stems are firmly fixed, as the weight of fruit would quickly displace these. Nor must the roots lack for moisture, as growing up under sunny walls they are apt to become very dry, especially on sandy or gravelly soils. A soaking of liquid manure would be an advantage, this causing the fruits to swell quickly. Although Tomatoes will ripen up without such assistance, yet the flavour is better when the plants are given that assistance which is needed to sustain a healthy growth.

**WINTER FRUITERS.**—Where Tomatoes are looked for during the winter months, it will depend entirely upon how the plants are treated during the next month or two whether the plants will turn out satisfactorily or not. Besides healthy plants, a light and well-heated structure is needed, this being one, if not the principal point to ensure success. It is rarely that Tomatoes succeed well when grown in stoves or pits with other plants, as the conditions suitable for the one are not adapted for the other; consequently they fail. Narrow Cucumber and Melon houses are very suitable, as these invariably are well heated, also light, and with provision for affording a circulation of air. Indeed, as the plants of these latter are cleared out the Tomatoes will take their place, not, however, by planting them out, but by standing the pots on the hillocks after being levelled down. The roots would ramble out into the beds, and the warm root-run would greatly benefit the plants. The plants should now be established in their fruiting pots, and if the structure is not ready to receive them, take care that they are not neglected by being crowded up with other subjects. The best position in the meantime is in a light and airy greenhouse, where the atmosphere is warm and buoyant. Nor must the growths be crowded up by being allowed to ramble anyhow. The main leaders, and it matters little whether they are single or triple cordons, must be kept thinly disposed, and all side laterals be kept closely pinched out. As

the trusses of flowers form, attend to the setting if there should be the least sign of their failing. The earliest trusses must be secured and those that follow throughout the next month, as after this they rarely set satisfactorily until the turn of the day again. Where the summer fruiters are healthy and they are growing in light and well-heated structures, these often turn out very satisfactory for winter work. The older growths should be cut out and younger laterals encouraged. By attending to thinning, stopping, and setting the fruit, a good supply would most likely be obtained throughout the winter. To give the plants a fresh start, the old surface soil could be removed, replacing this with a top-dressing of loam, pulverised horse droppings and a little charcoal. If pressed firmly, surface roots will form freely, and assist in giving the plants a fresh lease of life. Care must be taken that artificial heat is kept up, as at this season when the nights are cold disease may possibly attack the plants.

A. YOUNG.

### ORCHIDS.

Now that we are into the month of September, careful attention must be given to the maturing of all classes of plants. The bulbs must be well ripened, and this can only be done by exposing the plants to as much sunshine as they will stand, at the same time giving them enough heat. This applies especially to such Orchids as *Cattleyas*, *Lalias*, *Dendrobiums*, &c., which never ripen up their growths well without heat and as much sunshine as they will stand without blistering the foliage. Amateurs who can write of their *Dendrobium* house, their cool and warm show houses, and ranges of *Cattleya* houses, &c., will find no difficulty in giving their plants the treatment they need at all seasons, but everyone who is expected to grow Orchids well, and also to maintain them in good condition for a series of years, does not possess these advantages. For instance, I have to wait until I have cleared a house of an early crop of Melons before I can place the *Dendrobiums*, *Vanda* teres, and a few other Orchids in the high temperature and moist atmosphere they like best. Now that the growth of most of them has been made up, I have had to prune part of the early vinery in order that the plants may be placed there to prevent them from starting, which some species will do very soon after the growth is completed unless water is gradually withheld and the plants are placed in a moderately cool, airy place. Of course, if very cold weather sets in, the plants must not be exposed too freely to it. I see that the *Calanthes* of the *C. vestita* section have about made up their growths, but until growth is completed they may be supplied about twice a week with weak liquid manure water, and as growth is completed water may be gradually withheld. They need plenty of water when growing, and although water has to be gradually withheld, they must not yet be allowed to be anything like dust-dry. As they ripen let them have all the sunlight they will stand. These *Calanthes* are very easily grown, and as they may be had in bloom for four months at least at the dreariest season of the year, they certainly claim the little attention they need during the growing season, between March and September. Between September and March there is no difficulty in managing them. It is when growing that they often receive a check which might ruin them for the season. Now that we have so many species and varieties of *Calanthes* of recent introduction, the season is much prolonged with a greater variety of colour, white, rose and deep rosy red tints or crimson being the prevailing colours. The spikes of *Calanthes* are very useful for furnishing vases, &c., lasting two or three weeks in good condition. As the season advances, the various species and varieties of *Dendrobiums* should be removed from the warmest house to a cooler one, the transition not being too great. For instance, I would not move the plants from the warmest house to an airy, unheated vinery all at once. Place them first in an intermediate house for a few days, say a week,



and then move them to a place where the air is drier and cooler. Some plants never ought to be placed in such a very cool house. The earliest to be removed are *D. Wardianum* and *D. crassinode*, and the latest *D. Dalhousianum*. Some species, such as *D. Cambridgeanum*, continue to produce roots for six or eight weeks after their growth has been made up, and should be treated accordingly. *D. chrysanthum* may not yet be out of bloom, but when the flowers fade the plants may also go with the others to the cooler house. The pretty *Mesopidinium vulcanicum* is a good cool house Orchid and flowers at this season. Good forms of *Epidendrum vitellinum* are excellent companions, the flowers of both being so different from the usual run of *Odontoglossums*. In the cool house we are now getting good flowers of *Maxillaria venusta grandiflora*, a truly beautiful thing, which may aspire to rank next to the white variety of *Lycaste Skinneri*. The flower-stems are longer and better adapted for arranging amongst cut flowers. The plants, as a rule, in this house are now growing freely, and should have a moist atmosphere to encourage this growth. Leave the top ventilators open every night on which high winds do not prevail. The wall ventilators placed to admit air on a level with the hot-water pipes may always be open. I like to see a dew upon the leaves in the morning at this season; this rather excessive degree of moisture is injurious to delicate white or rosy tinted flowers, but there are very few *Odontoglossums* of the *O. crispum* and *O. Pescatorei* type in bloom at this season. Repotting of all the cool house Orchids should be continued until all that need it are finished. The moist atmosphere suits the newly-potted plants admirably. In reference to shading the houses at this season, let it be gradually discontinued; but the cool house plants must not be exposed to any direct sunshine, and will perhaps need shading more or less until October comes in. The Cattleya house shading may be discontinued first, next the warm house, and last of all the cool house. So also with the damping down. I wrote last week about the atmospheric moisture and gave general instructions, but it is necessary to watch the atmospheric conditions outside. A dull day with the outer air moisture-laden is very different from one with bright sunshine all day. Most moisture is needed on a sunshiny day succeeding a dull, wet day or two. It is easy to observe how plants droop even out of doors under such conditions, and if Orchids do not show it, they are sure to feel the effects of such sudden changes, and we must do all we can to mitigate them.

J. DOUGLAS.

## HARDY FRUITS.

**WHAT TO ORDER FOR PLANTING.**—It is a great mistake to delay ordering trees till near the time they are wanted for planting. Orders first booked rightly take precedence, the best trees and the best varieties while they last usually falling to the lot of those who place their orders early. Very few places can be said to be properly stocked with fruit trees. Either the trees are worn out or are dying piecemeal, or the varieties are comparatively worthless, and although it may not be desirable to make a wholesale clearance till the young trees have arrived at a good bearing state, it is bad policy to delay planting till the old trees are completely worn out. Fresh sites as well as new trees are desirable, but in the case of wall trees the former are scarcely possible, and the difficulty has to be got over by changing the soil.

**APPLES.**—The following succeed well in most places, grown as standards: Bramley's Seedling, Ecklinville Seedling, Duchess of Oldenburg, Warner's King, Beauty of Kent, Blenheim Pippin, Tom Putt, Golden Noble, Wellington, Pott's Seedling, Domino, Lane's Prince Albert, Lord Grosvenor, Stirling Castle, Grenadier, Annie Elizabeth, New Northern Greening and Mère de Ménage—all grown principally for cooking; while for dessert, Worcester Pearmain, Early Julien, Gladstone, Yellow Ingestre, King of Pippins, Cox's Orange Pippin, Golden Knob, Sturmer Pippin and D'Arcy Spice are recommended. Varieties suitable for

bushes, pyramids, horizontal trained and cordons are Alfriston, Bismarck, Cellini, Peasgood's Non-such, Schoolmaster, Winter Queening, Tower of Glamis, Lemon Pippin, Lord Derby, Keswick Codlin, Lord Suffield, Baumann's Red Winter Reinette, Irish Peach, Beauty of Bath, Margil, Adams' Pearmain, Ross Nonpareil, The Queen and all the other varieties recommended for standards.

**PEARS.**—Only a limited number of these are suitable for orchard culture as standards, and these are Beurré Diel, Beurré de Capiaumont, Beurré Hardy, Clapp's Favourite, Hesse, Marie Louise d'Uccle, Marie Louise, Louise Bonne of Jersey, Fertility, Williams' Bon Chrétien, Pitmaston Duchess, Jersey Gratioli, Catillac, and Uvedale's St. Germain, the two last named being suitable for stewing only. For bushes, pyramids, and other forms of training against walls or otherwise, some of the best are Souvenir du Congrès, Beurré d'Amanlis, Beurré Hardy, Beurré Superfin, Pitmaston Duchess, Conseiller de la Cour, Durandau, Brockworth Park, Thompson's, Glou Moreau, Doyenné du Comice, Louise Bonne, Beurré Diel, Winter Nelis, Marie Louise, Josephine de Malines, Marie Benoist, Beurré Bachelier, Beurré Rance, Easter Beurré, Vicar of Winkfield, Emile d'Heyst, Olivier de Serres, Bergamote d'Esperen, Huyshe's Prince Consort, Huyshe's Princess of Wales, and Beurré d'Aremburg. Jargonelle is sometimes grown away from walls, but as a rule forms an indifferent tree, and this superior early variety should be planted against a moderately warm high wall.

**APRICOTS.**—There are numerous gardens where these cannot be grown, but where they do succeed the following are the best that can be planted: Early Moorpark, Large Early, St. Ambroise, Royal Hemskirk, and Moorpark.

**PEACHES.**—A good succession can be had by planting Alexander or Waterloo, Hales' Early, Crimson Gálende, Grosse Mignonne, Bellegarde, Barrington, Sea Eagle, and Salway.

**NECTARINES.**—These are more uncertain than Peaches, though doing well this season; some of the most reliable are Lord Napier, Balgowan, Humboldt, Elruge, Stanwick Elruge, and Violette Hâtive.

**CHERRIES.**—A few varieties succeed well as standards in some districts, and among these are Frogmore Bigarreau, Early Rivers', Elton, Kentish Bigarreau, Black Heart, Governor Wood, Bedford Prolific, and Bigarreau Napoleon. Those suitable for bushes or pyramids are Archduke, May Duke, Black Tartarian, Morello, and Kentish. For wall culture some of the best are Elton, Early Purple Gean, Early Rivers', Black Tartarian, May Duke, and Florence.

**PLUMS.**—Standard Plums are frequently very profitable, notably such varieties as Victoria, Sultan, Czar, Gisborne's, Early Orleans, Mitchelson's, Prince Englebert, Green Gage, and Early Prolific, room also being found for Damsons, Crittenden or Farleigh Prolific and Prune or Shropshire. For bushes and pyramids those already named are suitable, Kirke's Blue being added, and for walls the best are De Montfort, Morocco, Oullin's Golden, Czar, Kirke's, Victoria, Jefferson's, Green Gage, Transparent Gage, Washington, Coe's Golden Drop, and Guthrie's Late Green.

**FIGS.**—The Brown Turkey is the most generally grown against south walls, the Brunswick being too shy-bearing. White Marcellis, a small, green-skinned variety, is very productive and of superior quality, and should also be planted.

**MEDLARS.**—Nottingham is the best Medlar in cultivation, but if a larger variety is desired, Dutch should also be planted, both succeeding well as half-standards.

**MULBERRIES.**—A tree or trees of the common black Mulberry ought to find a place on most lawns, this being the proper place for them.

**NUTS AND FILBERTS.**—Old trees are very productive, but much the finest nuts are obtained from comparatively young and highly cultivated trees associated with other orchard fruits. There are a considerable number of forms and synonyms, but no mistake will be made in planting Cosford, Duke of Edinburgh, Lambert and White Filbert.

**BUSH FRUITS.**—Some of the most profitable and best-flavoured Gooseberries are Early Sulphur, Whitesmith, Lancashire Lad, Crown Bob, Warrington and Whinham's Industry, the last named being grown for use in a green state. Lee's Prolific and Black Naples are two of the best Black Currants; Red Dutch is a most productive, and Victoria an extra fine Red Currant; the best White Currants being White Dutch and White Grape—a large form. Of Raspberries, the most profitable are Carter's Prolific, Baumforth's, Fastolf and Superlative, October Red being grown for autumn fruiting.

W. IGGULDEN.

## PLANT HOUSES.

**HOUSING OF PLANTS.**—This matter must now receive due consideration. It may not be really necessary for another week or two in some localities, but in others it cannot be deemed safe or expedient to leave choice or tender plants too much exposed after the second week in September. Those Cape and New Holland plants which have this summer been reported will be amongst the first to feel the effects if the rainy period, now set in, should continue for any length of time. These plants should be amongst the first to be housed, even if only in a temporary fashion, to prevent the soil becoming soddened. Whilst still outside these plants should be fully exposed to all the sunshine possible. Such Heaths, for instance, as Cavendishi and depressa require all the exposure to sunshine that it is possible to give them; the foot of a wall, where they could thus receive the major proportion of sun and heat, will do them an immense amount of good. In many cases it may not be possible to house all the stock for a few weeks to come in such a manner as they can be left for the winter, but rather than make shift too much with this class of plants it is infinitely better to do so with those now in flower, and which will not last so very much longer. Those who may be favoured with temporary erections will find them of essential service to afford sufficient protection to ward off a few degrees of frost in the autumn. By this I mean such as can be left quite open during the day and favourable nights, but over which can be drawn a canvas covering for the latter period when found necessary. When plants now outside are taken under glass, avoid, if possible, the placing of them under Vines or other fruit trees that are still clothed with foliage. This is a great mistake, often leading to a drawing out of the young growths in an undesirable manner. When the plants are taken inside, it is far better to see at once to the washing of the pots and the examination of the drainage. Where there are any symptoms of mildew, a light dusting of sulphur will stop it; whilst if any insects are prevalent, no time should be lost in giving attention thereto. White scale is sometimes a source of trouble, but with care and constant looking after, it may be overcome without resorting to extreme measures. Do not allow any house in which plants are first placed to be closed at night both at the top and sides; on the other hand, a free circulation should be maintained as long as the weather will permit of it. Where climbers are upon the roofs in sufficient quantity to impart any shade, they should be partially pruned to admit light; whilst any temporary shading upon the glass should be thoroughly cleansed off, and no blinds for the future be used at all. Avoid overcrowding also in every possible case; it is quite as bad, if not worse, with such plants now as later on in the autumn.

**PLANTS NOW IN FLOWER AND THOSE ADVANCING.**—Whilst giving the advice in the foregoing lines it will not do to neglect those upon which the present and more near future mainly depends. For instance, Fuchsias, if well cared for, will still be in good condition. These will still need a liberal supply of water; if kept too dry the flowers will drop prematurely. With proper attention they will remain fresh for another month at the least. Liliiums of the lancifolium section now in flower will not, on the other hand, need so much water. If these are still outside, it will be advisable to bring them under cover at once to preserve the flowers.



Later ones, as, for instance, such as were imported somewhat late in spring, will not yet be in flower. We have a batch of these upon which no flowers will be open for at least a fortnight; in the meantime they will remain out of doors so as to prolong their flowering season until the end of the month and into October. *Lilium auratum* and *L. Harrisii* will now be going past their best; these as they go out of flower should remain outside, being turned upon their sides if the rainfall be heavy. Late Gladioli in pots will now and for a little time do a good turn; for the conservatory these are very useful. *Vallota purpurea* is not enough grown for this season of the year. This handsome Cape bulb is one of the best plants for September. See that plants of it are not watered in an indiscriminate manner; also that they are not overshadowed too much by other things. Plants of *Agapanthus umbellatus* which are throwing up late spikes should be taken under cover; these will add to the attractiveness by reason of their colour. The stock of *Celosia pyramidalis* must now be dealt with rather cautiously. It should not be too much exposed to cold air nor be over-watered, although even after the plants are actually dead they may still be retained; yet the longer they are kept fresh the better will they look. *Salvia splendens* now out of doors should be soon taken under cover to preserve their spikes from injury. Zonal *Pelargoniums* which up to now have not been allowed to flower may be permitted to throw up their trusses in peace unless a midwinter display is the main object; at any rate, it will be advisable to give them at least the protection of a frame, so as to ward off any excess of moisture. As the early *Chrysanthemums* advance, they should also be brought inside, but still be kept quite cool. Tuberous *Begonias* will, with care, continue to do good service for another month, but in respect to watering, more caution is necessary; whilst, in order to better preserve the flowers and buds, all the seed-vessels should be picked off, likewise any decaying foliage, a free circulation of air being afforded so as to disperse any superfluous moisture upon or around them.

JAMES HUDSON.

## TREES AND SHRUBS.

### TRANSPLANTING EVERGREENS.

THERE appears to be much difference of opinion as to the proper time for transplanting Evergreens, but there can, I think, be no question as to early autumn and spring being the best seasons, and the month of September and that of April should be seized on, and the work pushed on then with as much expedition as possible. In the removal of Evergreens the great thing is to be particular and careful in the lifting, but, unfortunately, few workmen seem alive to the importance of this, as they dig up close, as if roots were of no consequence whatever, and cut or maim all they come near; but instead of that happening, every one should be preserved free from injury, and then the plant they are attached to stands a good chance of soon starting again and re-establishing itself. This being so, it will be seen how necessary it is to open out a trench all round well away from the stem, the distance, of course, being ruled by the size and age of the shrub to be operated on, and then by the aid of a steel fork work away the soil and keep clearing it out till the ball is so reduced as to be small enough to move with the strength or appliance at hand or disposal. The first preliminary, however, where there is much transplanting to be done, and it is better to so proceed where there is only a little, is to dig the holes where the plants are to go, and in doing this plenty of room should be given, as the bigger the hole the easier will it be to plant and spread out the roots properly and for them to ramify after and get fresh hold of the soil. In placing the plants in position the chief point is to see that they are not too high above the ground or too deep, and to keep them at the original level, as to bury the stems up is bad, and

equally so to have the collar too elevated, unless on heavy or wet land where the soil can be raised and made up to it, as then the ball would be too much exposed to the weather. Not only do Evergreens need lifting with great care, but the filling in is almost as important, and this should be done piecemeal as it were, that is, a certain portion of fine soil thrown over the roots and then water cast on with force, so as to carry the soil along with it and stop every cavity or interstice there may be around or under, and to aid in this the top of the shrub should be swayed to and fro, after which the holes may be finally filled. The next thing to be done is to mulch with any loose litter, long strawy manure, or any material of that kind that will shade and prevent evaporation, as uniformity of moisture must be maintained to get freshly moved Evergreens to do really well. Steadying the heads should also be attended to, and this may easily be done by a stout stake driven down near the main stem of each plant and tying to it, and if the shrubs are afterwards syringed each evening overhead, or sprinkled with water by other means, so as to prevent flagging, they will scarcely feel the shift and be quite prepared to pass safely through a hard winter or face the bright days of summer.

S. W. P.

### GOLDEN-LEAVED TREES AND SHRUBS.

WHILE agreeing with most of what "A. D. W." says about these (page 153), I wish to say a word of special praise on behalf of the golden form of the common Elder. It may be fancy, but this year this Elder is finer and more brilliantly coloured than usual. Several very fine samples of it have been seen as widely apart as Bath, the Crystal Palace, and East Anglia. On strong heavy soils the golden Elder reveals a strong tendency to reversion to the green or very pale golden form. But on lighter soils the gold deepens rather than fades with age, and we have no common deciduous shrub at all comparable to the golden Elder for effect in single plants of good size or, better still, in masses. Even the best golden Yews hardly deserve the name unless when making their young shoots. Then the tints of gold are rich and delicate. But in a few weeks or months the trees take on a rusty rather than a golden hue, and the glory is quenched for eight or nine months. But the golden Elder may, in general terms, be said to keep its brightness till the end of the season.

There is another golden shrub all too rare—a variety of the common Mock Orange or *Syringa*. This is far less brilliant than the golden Elder; but it is sweet as well as beautiful, and well worth growing.

I noted at the Crystal Palace the other day a capital application of the silver or Ash-leaved Maple (*Acer Negundo variegatum*) standing well up above groups of *Rhododendrons*. The latter seemed as if they rather stunted the Maple; but the effect was little the worse from a decorative point of view. Its silvery foliage gave quite a new and fresh character to the groups of *Rhododendrons*, forming a capital substitute for flowers at this season among *Rhododendrons*; while there was hardly enough of the Maple to restrict the growth or curtail the blooming of the *Rhododendrons* next year.

D. T. F.

**Prunus, Pissardi.**—On some fruits of this ornamental foliaged Plum being shown at the Plum conference at Chiswick, it was mentioned that this *Prunus* is really a sport from the *Myrobalan Plum*. The former seldom fruits, the latter does so occasionally, but does very much more so near the sea. That is worth knowing; still, it may not be the case everywhere so much as on the east coast, where the soil is naturally calcareous, and it is an undoubted fact that both the Plum and the Apricot find much benefit from the addition of chalk or lime in some form to the soil if it be naturally absent. The lime is best added in the form of chalk, because its action is then, if slower, much

more lasting. Mr. Bunyard thinks that the addition of seven or eight tons or loads of chalk per acre would prove to be a very satisfactory dressing, especially if well broken.—D.

**Raising trees from cuttings.**—I should be grateful if you would advise me as to the best method of raising the following trees from cuttings: *Cedrus Libani*, *Cupressus Lawsoniana*, *Salisburia adiantifolia*, *Acer Negundo variegatum*, *Laburnum*, cut-leaved Beech, golden Sycamore and double red Thorn. We have two fine specimens of *Cedrus Libani* growing side by side. One bears heavy crops of cones every year; the other never has a cone. Why is this? The one which bears no cones has denser foliage and more beautiful in appearance.—J. MILLSOM.

\*\*\* Several of these cannot be propagated from cuttings; indeed, only the Lebanon Cedar and Lawson's Cypress can be at all readily increased in this way. To do so, remove with a sharp knife the present year's growth with a small portion of that of last year, and insert in sharp sandy soil in a frame. This may either be done at once or in early spring. *Acer Negundo variegatum*, the cut-leaved Beech, golden Sycamore and double red Thorn are all propagated by grafting on stocks of the normal species or by layering the side branches. We raise both the Lebanon Cedar and Lawson's Cypress from seed. Individual peculiarities of trees will account for one bearing quantities of cones and the other hardly a specimen.—A. D. W.

### BOUILLIE BORDELAISE.

I HAVE used Bouillie Bordelaise for four years now, and if properly made and put on at the proper time it burns nothing, and can be used with impunity on Potatoes, Tomatoes, *Chrysanthemums* and Roses. I am only a blundering amateur, and seeing that this matter had been taken up by scientific men, I did not intend to write to you again on the subject, but for the benefit of my fellow amateurs I will give you my recipes and experience. For Roses, *Chrysanthemums* and Tomatoes, when the Tomato plants are small, I use three quarters of a pound of sulphate of copper, and half a pound of the best quicklime, to 30 gallons of rain water. For Potatoes, Tomatoes, Peas, &c., 3 pounds of sulphate of copper, 1 pound of quicklime, and 30 gallons of rain water. All the ingredients should be of the best quality, and the lime, if possible, straight out of the kiln.

Now for the mixing, and unless this is properly done one had better leave the matter alone. Break the sulphate of copper crystals into pieces the size of Barcelona nuts and tie them up in a piece of old sacking, which suspend in a tub containing 25 gallons of rain water. Suspend the bag containing the sulphate of copper on the surface of the water and let it entirely dissolve. Take your lump or lumps of quicklime, tie them up in a piece of old cloth or sacking, and immerse in rain-water for exactly one minute (if no watch is handy, take a man's pulse and count sixty to sixty-five beats). At the expiration of the one minute of immersion, take out the lime, untie the cloth and leave it exposed to the air till it crumbles into powder; then mix it gradually into a milky solution with five gallons of rain-water. See that all the sulphate of copper is perfectly dissolved, then pour your milk of lime through a fine sieve or a cloth on to the surface gradually and keep stirring until the solution of sulphate of copper and lime becomes a mass of curds; then leave it. In a couple of hours the lime will all be at the bottom of the cask or tub or whatever is used (the receptacle should be wood or earthenware). If you can take out from the surface a tumblerful of clear water, the mixture is ready for use; but if it is coloured, more lime must be added until the surface water becomes clear. The mixture must be stirred up every time it is required for use. For distribution I use Vermorel's Eclair Sprayer, which is handy and excellent in every way and has the advantage of spraying at any angle. With this machine there is no waste. The mixture should be applied before sunrise or after sunset, or at



least while the sun's rays have not much power, or else during cloudy or foggy weather. When once mixed, the stuff seems to keep any time.

Up to this date I have no signs of disease on my Potatoes, but a neighbour not 100 yards away, I hear, has his crop all devastated by it. This man dug all his haulm into the ground; whereas I burnt mine as carefully as possible. Last year I had no mildew on the Roses. This year it started again, but two applications of the three-quarter pound sulphate mixture arrested it.

J. WHITWORTH SHAW.

**Gentiana oregana** is one of the newer and also one of the very best of the dwarf American species. It is now flowering in the rockery at Kew, and, judging from its habit and numerous flowers, is a plant that should find a place in every garden. The whole plant does not exceed a foot in height, but it is said to be variable, producing more slender ascending forms. The leaves are bright green, broadly oval, each about an inch long. The flowers, which are large, of a bright blue, are scattered racemose fashion towards the summit of the branches. It appears intermediate between *G. calycosa* and *G. affinis*, some of the forms of *G. oregana* resembling both species. It is a native of British Columbia and Western Idaho, and appears to thrive best in a moist, peaty bed, such as will grow bulbs and American plants generally.—D. K.

**Stokesia cyanea**.—Amongst all the dwarf perennial composites at present in flower, none is more worthy of notice than *Stokesia cyanea*. It is, perhaps, unsatisfactory in late summers, but as a rule it flowers freely towards the end of August, and at a time, too, when anything not yellow is more than welcome. It is an excellent border plant, by no means troublesome to establish and keep, and a constant and profuse flowerer. The flowers, which are not unlike a large *Centaurea*, are bright blue, borne on leafy stems from 1 foot to 18 inches high. It is a native of the Southern United States, and succeeds all the better if planted on a warm sunny border.

**Gentiana asclepiadea**.—This is one of our best and most beautiful mid-autumn herbaceous plants. A large patch of this species in which the purple and white are well mixed is now in bloom on the Kew rockery, and forms a most attractive picture when flowers are most wanted in the rock garden. It likes a rich, stiff soil and a somewhat moist situation. It always seems most satisfactory to begin with small seedlings, instead of breaking up and planting old stools. The latter take quite as long as the former to become strong, and they are never so free or robust. It ripens plenty of seed, and there need be no difficulty in procuring a large stock of this beautiful Gentian.

## STOVE AND GREENHOUSE.

### LILIUMS FOR EARLY FORCING.

TAKEN as a whole, the genus *Lilium* affords but few species or varieties that may be forced very early into bloom, and yet be regarded as profitable from a commercial point of view. To be profitable at all they must be so at the first attempt, simply because when forced early into flower the bulbs suffer so much in consequence as to be of little or no use ever after, and particularly does this apply to those belonging to the longiflorum group. All those who take them in hand, therefore, should bear this in mind from the beginning and act accordingly, doing their best to make the best of them in the first season. All Lilies which may be forced, however, do not behave quite so badly as those of the longiflorum section, and of none is this so true as the fine old Lily so frequently seen in gardens almost everywhere throughout the country—I mean the Madonna Lily (*L. candidum*). This grand old-fashioned flower may, provided disease keeps away from it, not only be forced into flower quite early in the year, but, what is more, it may later on be

planted again in the open ground, and there left for a season or two to recover itself and once more be forced, and with good treatment in the interval, prove quite as satisfactory as when originally forced. It must be stated, however, that the measure of success to be hereafter attained will greatly depend upon the treatment the bulbs receive after they have flowered when first forced. To the commercial man—the grower for market—whose business it may be to cultivate for the flowers alone, this being able to utilise the bulbs again after a season or so of rest should be, as it is in some few instances known to the writer, a subject for serious consideration, for herein lies much of their value. Growers of bulbous plants, and in particular those who go in for early forcing and have to purchase year after year fresh supplies of bulbs either from home growers or from Continental sources, know something of the uncertainty and risk attendant thereon, and how narrow the margin of actual profit is when the flowering is completed. Such men as these will not be slow to recognise the value of a bulb that may be grown by every one of them in ordinary garden soil, and one, moreover, that will provide them with bulbs of fine quality for future use without having once again to pay the top price of the market. Now this is exactly what may be done with *Lilium candidum*—a Lily of easy culture in most gardens, and in good loamy soil producing wonderfully firm, solid bulbs, the equal of which rarely ever reach us from Continental importations. These latter are frequently loose and generally flabby to the touch, too light also in proportion to their bulk, and produce results in a like degree as a consequence. Home-grown bulbs of this Lily, on the other hand, are distinctly solid and heavy with the scales closely imbricated; these are the bulbs to do good service, and those interested should use their best endeavours to secure them. The present is a capital time for obtaining them, as it is important when intended for forcing that they should be potted while dormant and before the new radical leaves issue from the bulb. Having secured the supply of bulbs, get them into the soil with as little delay as possible. If, as I have said before, they are grown for the flowers alone, I would suggest putting several bulbs, according to their size, into 10-inch pots rather than adopting the usual method of planting the bulbs singly in 5-inch or 6-inch pots. With the soil fairly charged with roots there is really very little opportunity in this particular case for the bulb to develop itself, an item of importance where the well-being of the future bulb receives consideration. Apart from this, the above sizes of pots afford but very little depth, besides being often troublesome by the top-heaviness. Five or six bulbs in a 10-inch pot, or larger if in stock, have a much better chance, because while affording a much greater depth of soil, abundant room may still safely remain for giving a thorough watering when necessary, a matter often very imperfectly performed when small pots are employed. This, then, I hold to be an advantage to the bulbs, helpful in the production of a good crop of flowers, and a decided saving of labour, as well as satisfaction that the work so far as possible is properly performed.

The potting material for this Lily need be no elaborate mixture, good loam constituting the bulk. Very little or no manure need be used; indeed, the crop is much more likely to keep free of disease where none is employed. Add a little sharp sand, or old mortar rubbish or charcoal will do equally well, potting rather firmly and covering the bulbs an inch deep with soil. When potted plunge the pots in coal ashes, and for the time being withhold water from them entirely; but when the radical leaves display signs of renewed activity, they may receive light showers occasionally, never allowing the soil to become saturated. The plunging material, I should have stated, should only just hide the pots from view; if employed at a greater depth it has a tendency to draw and weaken the radical leaves, and these when taken from the ashes are frequently broken or injured and sometimes lost. Where radical leaves spring from the bulb it is important that they should be preserved and retained,

as they materially assist in the production and development of the roots. This fact is amply demonstrated by those bulbs of this Lily which, from some cause or other, do not send forth these leaves in due course, and invariably it will be found that the roots in these instances are inferior and root-formation sluggish generally. Some people in starting this Lily for forcing or pot culture do not in the first instance cover the bulbs with soil at all, but are content merely to place the bulb on the surface of the soil, and when about to start into growth to cover them with soil. I fail to see, however, the wisdom of thus unnaturally exposing a bulb in this manner to all the varying influences of temperature and climate to which we are accustomed just at the moment when we are expecting it to push forth growth, and when the keeping of the bulb in a uniformly plump condition should be one of our aims with a view to assist in the speedy formation of roots. The Madonna Lily, it should be remembered, does not produce stem roots, so that there is nothing to be gained by thus exposing the bulbs, and I strongly urge not only covering the bulbs with soil, but adding a little covering of the plunging material also. Later on in the year, say early in November, when a fair amount of roots has been produced, the whole batch may be moved into a cold pit or frame, giving plenty of air day and night for the present. The end of the year will be quite soon enough to introduce it into heat, and let this at first be gradual, as this Lily is very sensitive to artificial heat, and a temperature too warm will have the effect of producing a weak, puny growth. A temperature of 50° to 55° will suit well, using no more water at the root than is absolutely necessary. In forcing this Lily, studiously avoid the use of the syringe over the plants; damp the floor or other available surfaces early in the day while the ventilators are still open, avoiding a close, stuffy temperature for one the reverse. It is undoubtedly well known that in wet seasons this Lily in the open ground is very susceptible to a disease which ruins the crop in three or four days, and it is equally so under glass if the use of the syringe is freely indulged in and the atmosphere overlaid with moisture. If kept moist—but not wet—at the root and a comparatively dry, warm atmosphere maintained, there will be no need to fear disease in the early forcing of this Lily, which, though a commonplace plant in many gardens, is undoubtedly one of the best of its race, and still the purest and most chaste of all Lilies.

Yet another Lily specially suited for early forcing is the now well-known Easter Bermuda Lily (*Lilium longiflorum* Harris), a kind now grown in immense quantities for market as well as for private use. During the last ten years enormous quantities have been sent to this country from America, where it undoubtedly finds a home remarkably suited to its free growth and full development. It is, perhaps, even more in demand than the species just noted, being very serviceable as a pot plant for general decorative purposes, as well as popular among cut flowers in many and various ways. It may also be subjected to hard forcing when occasion requires, the primary consideration being to produce a fine spike in the first season, because when once subjected to forcing, the bulbs are of little value after. Probably the climate which produces it so plentifully and of such quality may have the effect of restoring it again to its former healthful vigour, but certain it is that in England at least the trial is so much waste time. I have repeatedly tried to resuscitate the bulbs of this kind, but have never had the slightest success, and eventually had to consign them to the rubbish heap as worthless. The only service they ever rendered was when I turned them out of pots as soon as their flowering was over, and roughly planted them in an out-of-the-way corner, where they had no attention whatever. Under this treatment many produced another spike of bloom, and though small, bearing sometimes three flowers, they were, nevertheless, valuable, for singularly enough these flowers, because wanted just at the time, realised even more in the market than many of the very superior flowers that



had been forced into bloom. But while a few flowered thus and were useful enough at the time, the bulk of the batch was only represented by shattered fragments. The earliest consignments have already arrived, and the bulbs should be obtained at once and potted without delay. In the purchasing of this Lily little or no disappointment should ensue, inasmuch as the bulbs are generally offered in sizes of so many inches' circumference, which gives the purchaser an opportunity that may be repeated with other things to the better satisfaction of all concerned. It generally happens with most imported bulbs that the best—which in this case may also mean the largest—are the cheapest, but on more than one occasion with this Lily I have proved the contrary to be the fact. For example, let us take three sizes as usually offered, those having a circumference of 5 inches to 7 inches, those of 7 inches to 9 inches, and those of 9 inches to 11 inches, the last, of course, being simply magnificent in point of size. What I wish to point out, however, is this, that if anyone required to spend say £5 or £10, and his object was flowers for market, I should unhesitatingly advise him to purchase medium-sized bulbs, because he would obtain more flowers for his money than if he purchased the largest bulbs, for that should be remembered that, because giant bulbs, it does not follow that this increase of size means increase of flowers to the same extent; and another thing, very large flowers are not so much in demand as medium ones, because these latter are suited to a larger number of buyers. As pot plants again, those of medium height are decidedly the most useful. Plants of 6 feet or more high, and with from eight to a dozen flowers, are excellent in many floral groups and duly appreciated. These are also very imposing for home decoration, but, regarded all round, those of medium size are at once more serviceable and far more easily accommodated and managed. This Lily delights in a fairly rich soil, and produces abundance of large roots very quickly when potted; indeed, I have had the pots almost fully charged with roots in three weeks after potting about the middle of August. There is a lesson in this their eagerness to start root which should not be lost sight of, particularly as inquiries are at times made concerning malformed flowers. These Lilies are grown in a much hotter country than our own, hence mature earlier, and are ready to recommence growth in proportion. To keep these bulbs dry and out of the soil till nearly the end of the year is therefore a great mistake. It is not unlikely that such a course would tend to malformation, though half-a-dozen other things may lead up to similar results. Secure your stock of bulbs early, then, and let them root in proper season, as in the forcing of Lilies, or indeed any other plants, a full complement of roots is one of the most important items to success. In potting use pots in proportion to the bulbs, giving at the original potting the sized pot in which it is intended to flower them, subsequent potting being of little or no good, but frequently the reverse. Pot firmly and plunge in coal ashes, covering 6 inches deep. A few weeks in the ashes will suffice, for the bulbs are just as eager to produce top-growth as they are roots, and when the points show above the ashes remove them at once to a cold pit, in which they may be darkened for a while and by degrees inured to the light. Give air abundantly for the present, as they make very rapid growth even with frame protection, while a close, stuffy atmosphere will also conduce to the more rapid increase of green-fly, a veritable foe to this particular Lily; indeed, it is almost impossible to grow it minus the fly, and if this gets the upper hand it is difficult to get rid of it. In consequence of the attacks of this insect pest I prefer always to pot this Lily singly. I have found that dipping the plants is the best means of eradicating them, inasmuch as the fly congregates in the top of the plant, and in this position is more difficult to kill by fumigation, but it cannot escape when it comes to dipping the plants. The most effectual way is to fumigate thoroughly in the evening, which clears off any insects existing on

the exposed leaves and stems, and follow in the morning by dipping the tops of the plants in tobacco water, or soft-soap and Quassia; this will have the effect of clearing out all those existing in the closely imbricated heart-leaves. Unless some such means are adopted, fumigation alone becomes a very serious expense where Lilies are grown in quantity. When growth is completed and the buds rise on the summit of the stem, there is no longer a hiding place for the fly, and ordinary fumigation will then suffice. E. J.

#### ABNORMAL FORMS OF THE ARUM LILY.

DOUBLE-SPATHED forms of the Arum Lily, as in the illustration herewith, occur frequently with those who grow this plant very strongly. Four years ago I was engaged in working up a stock of these plants, and, in order to raise the required number from the few plants which I then possessed, all the suckers as they appeared were taken off and rooted in small pots. This operation was commenced as early in the season as possible, the young plants being grown on in an early Peach house. By the middle of June



A double-spathed Arum Lily.

they were gradually hardened off and planted outside in a trench prepared similar to what we use for Celery. Many of the plants when placed out of doors were strong and well established in 7-inch pots, and the smaller ones in 5-inch ones. In planting, abundance of manure was placed about the roots, and good soakings of water given when the weather was dry. In September the plants were lifted and placed in 12-inch pots, as I could not get the mass of roots they possessed into smaller sizes, using for a compost rich loam and decayed manure. After lifting, the plants were placed behind a north wall and kept well soaked with water and syringed until they were again established. On the first appearance of frost they were housed and kept cool until Christmas, by which time they commenced throwing up their spathes. Towards the end of January and all through the following month more than half the plants produced abnormal spathes. This was attributed to their remarkable strength and the liberal feeding which they received. They did not only produce a solitary double spathe or two, but many in succession during the whole of the season. The same thing has occurred with the

strongest Callas every year since, but the same plants when not grown strongly only produce single spathes. T.

— Mr. T. E. Fenwick, of Park Place, Leeds, who grew the plant with the three spathes figured on p. 218, thus writes concerning it:

In July last our Callas were planted out in an old Celery trench, and made strong growth during the summer months. Early in October the roots were cut round with a sharp spade, and a week later the plants were lifted and potted. Each plant bloomed freely, and one of them sent up a curious flower, having three distinct spathes, as shown in the accompanying photograph. The plant has been marked, and it will be curious to notice if it will repeat itself next season.

#### TUBEROSES.

Few flowers are more valued in autumn and winter than the Tuberose. Especially is this so where there is a large and constant demand for such as are useful in button-hole work. Tuberoses, it must be admitted, are suited to this class of work, and alike useful are they in wreaths, crosses or bouquets. It is now possible to have them in bloom almost all the year round, and though, of course, in common with all flowers, they open very slowly in the depth of winter, yet it is satisfactory to know that a fair percentage of their flowers expands tolerably well. The very latest batches should now be in the open and throwing up their flower-spikes in various stages. To secure these from accident, a stick should be placed to each, with a loose tie to admit of future growth, and if the pots are stood closely together, little harm should result.

At this time also keep them free of the side growths that form about the bulbs to the detriment of the flowering stem and flowers. Give the plants abundant supplies of water at the root and weak liquid manure every other day. Syringe freely and regularly so as to check as much as possible the progress of red spider, thrips and the like, which are almost sure to infest them. An occasional watering overhead with clear soot water will also conduce to the same end. Best of all, perhaps, is an occasional syringing with Quassia chips and soft soap. Take a 6-inch potful of the Quassia chips and place in an old saucepan with soft water, and boil steadily till the whole of the chips have sunk to the bottom; then drain it off and add a large tablespoonful of soft soap, stirring well till dissolved, adding sufficient cold soft water to make two gallons of the whole, but if not sufficient, increase the proportion of chips and soap till enough has been made to give a good syringing all round. In using the syringe for this purpose the jet is always preferable to the rose, because with the former a steady spray is maintained and all sides of the plants can be reached. It is a mistake to dash quantities of these insecticides against the plants, because the great bulk goes to the soil and is lost; whereas with the jet a mere mist-like spray is the result, and has the effect of just damping the leaves and stems. A spraying of this kind may be repeated frequently and at a very trifling cost, and gardeners generally should not lose sight of this cheap and effectual remedy. In the case of Tuberoses persevere with it while the plants are yet outside and the insects less numerous. When the plants are housed the drier atmosphere conduces to their rapid increase, when they frequently get the upper hand.

By the end of the present month the whole of the plants constituting this batch should be secure in pits and frames away from the reach of frost, a few degrees of which will prove fatal to them in this stage. Provide abundance of air from this



time on all favourable occasions, and daily while the plants are in frames at closing time give them a nice sprinkling overhead with a fine rose. This will also tend to keep insect enemies in check. From time to time the most forward may be introduced into warmth as required, and with care a supply of flowers may be kept up till the end of the year. E. J.

## THE FRUIT CROPS.

### SOUTHERN.

**Hackwood Park, Basingstoke.**—The fruit crop in this neighbourhood is not very satisfactory. Apples a fair crop. Apricots and Peaches good. Plums and Pears almost a failure. Cherries, dessert, good; Morellos good. Raspberries not half a crop and fruit small. Bush fruit average. Filberts very good. Strawberries not half a crop and fruit small.—J. BOWERMAN.

**Highclere Castle, Newbury.**—Apples are a good and abundant crop, over average, trees very clean and healthy. Apricots very thin. Cherries very good indeed, all kinds cropping heavily. Pears thin, less than half a crop. Plums about half a crop, the most satisfactory being Early Prolific and Kirke's. Peaches and Nectarines very good. Strawberries poor and season soon over. The plants were hard hit by the severe frosts in March, and again when coming into bloom. Red and Black Currants very good, also Gooseberries. Raspberries fair.—W. POPE.

**Busbridge Hall, Godalming.**—Apples average, but very variable in the neighbourhood. Pears under average. Gooseberries plentiful here, but a failure in many places owing to the late frosts. Currants very plentiful. Peaches and Nectarines less than usual. Strawberries plentiful here, but a failure in many places in the immediate neighbourhood through late frosts.—G. KITSON.

**Dropmore, Maidenhead.**—Generally speaking the fruit crop in this district is fairly good. Apples are over the average for quantity and of good quality, both as regards orchard trees and bushes on the Paradise stock. Blenheim Orange fruits freely with me on the latter. Pears and Plums are almost a failure, but Peaches and Nectarines are a heavy crop and doing well. Apricots suffered from the severe frosts when in bloom and are a complete failure. Bush fruits, Raspberries and Nuts plentiful and good. Strawberries have been plentiful, but rather smaller than usual owing to the dry weather.—C. HERRIN.

**Wickham Court, West Wickham.**—We lost a great deal of what promised to be grand crops through the severe frost at Easter-time. The best kinds of Pears and Plums are very light crops. The Strawberries were very good, and Sir Joseph Paxton does the best here. Gooseberries, Currants and Raspberries very fair. Morello Cherries heavy crops. Apples, with few exceptions, are light crops. Peaches and Nectarines on open walls, with a board along the top, no other protection, very fair crops and the trees clean. Damsons a very heavy crop and a few kitchen Plums very fair. I find that the trees inside the walls of the garden suffered most from the frost. I suppose the blossoms were further advanced than in more exposed situations.—T. GRIFFITHS.

**Broomhill, Tunbridge Wells.**—Apples, Pears and Plums in the neighbourhood are a poor crop; trees looked very promising, but the frost destroyed the bloom to such an extent that the crop is almost a failure. Gooseberries, Red and Black Currants remarkable crop, clean and bright. Raspberries suffered very much from frost, almost destroying the plants. Morello Cherries dropped badly when stoning. Strawberries very heavy crop and fine; sorts I find do well are President, Sir Joseph Paxton, Vicomtesse Héricart de Thury, La Grosse Sucrée, Sir C. Napier very heavy cropper, late, plants somewhat tender; Competitor very large fine fruit, good cropper and very hardy, fruit rather

soft for packing; Noble has been very fit e. Flavour of outdoor fruits much better this season, owing to drier weather.—J. ROBERTS.

**Wierton House, near Maidstone.**—The crop of fruit on the whole must be considered a poor one, although some trees are heavily laden. Peaches, Nectarines, and Apricots are thin crops. There was plenty of bloom and the fruit set well, but 12° of frost two nights in succession brought them to the ground. Figs the same. Plums of all sorts are light here on walls and standards; also Damsons. Pears thin, some trees bare. Red and White Currants a heavy crop; Black very thin. Gooseberries much thinned by late frost and snow. Walnuts none. Cob Nuts fair. Cherries heavy crop; Morellos dropped very much at stoning. Raspberries a good crop. Strawberries have been a good crop, heavy and fine; the gathering lasted eight weeks. Had to water much when in bloom, our soil being a light, sharp loam. All first blooms killed by frost. Princess Alice, although an old sort, is still one of our best early kinds. I have grown it over forty years, also Elton Pine.—WM. DIVERS.

**Sunningdale Park, Sunningdale.**—Apples a good crop on old standard trees; plenty of bloom on all young trees, but the fruit did not set well. Cox's Orange Pippin, King of the Pippins, Astrachan are abundant. Of kitchen kinds, Annie Elizabeth, Cox's Pomona, Hambleton Deux Ans, Warner's King, Lady Henniker, Lord Sudeley, Lord Suffield, Peasgood's Nonsuch, Wellington, and Keswick Codlin are good. Plums about half crop; standards and pyramids carrying heavier crops; wall trees which were in bloom suffered from frost. Pears almost a failure. Cherries light crop; exposed trees suffered from frost; plenty on walls; also Morellos on north walls. Peaches and Nectarines fair crop on open walls. Many of our trees were only planted last season. They have heads of good clean growth, which promise well for next season. Bush fruits in abundance of very good quality. Strawberries a fair crop, but very small. Ten degrees of frost on May 6 spoilt early blooms.—F. J. THORNE.

**Moor Park, Rickmansworth.**—Apricots a fair crop on all the trees, good, considering the heavy crop of last year; St. Ambrose and Moor Park very fine; Powell's Late I find very useful and sure cropper, a great acquisition, coming in after the other varieties are over. There is not so much canker this year, and trees are much healthier. Apples good clean crops, especially Lord Grosvenor, Lord Suffield, Prince Albert, which I consider one of the very best for small gardens where only a limited number can be grown, as it is a sure cropper, of good size, and an excellent cooker. I grow over a hundred varieties. I will name a few of the best besides the above: Manks Codlin, Hawthornden, Worcester Pearmain, Cellini Pippin, Bramley's Seedling, Potts' Seedling, Cox's Orange Pippin, Golden Spire, Lady Sudeley. Mr. Gladstone and Victory of Bath are two very desirable early table varieties. Pears are thin on standards and espaliers, but good on walls, the frost having destroyed the blooms. Peaches very even crops on all trees. Early Alexander Peach ripened an excellent crop in July. Plums very partial, the sheltered trees most prolific. Bush fruits and Raspberries have been very plentiful and fine. Cherries have been good.

We have finished lifting the early Potatoes Veitch's Ashleaf, Walnut Leaf, Puritan, and Mona's Pride, which is an excellent variety and of good flavour; I consider it the best of early varieties. We have good crops of clean tubers, but rather deficient in size through the dry weather, but with improved flavour. The later varieties look well, no sign of disease. We had very late frosts in this neighbourhood on June 13 and 14, which injured the Potato crops in the lowlands, in some cases cutting the haulm to the ground.—J. C. MUNDELL.

**Lythe Hill, Haslemere, Surrey.**—The fruit crops here as a whole must be considered above the average. Apples are above an average, the trees clean and healthy. There was a slight attack of caterpillar, but a spraying of London

purple put things right; this only occurred in two departments of hardy fruit. The fruit bids fair to become of good size. I note a few varieties have been attacked with the destructive Apple weevil, an insect which develops in the core of the fruit, causing the same to drop. Duchess of Oldenburg and Irish Peach have suffered the worst. Pears with me are the best crop since 1887, but owing to the changes and low night temperature (which has been within 6° of freezing during the past fortnight) I fear that many of our best varieties will not be of good quality. The trees are clean and making a beautiful growth. Plums are a heavy crop, notwithstanding the enormous crop they carried last year. On April 26, 27, 29, and 30, also May 1 and 2, the temperature ranged from 6° to 14° of frost, but being at a high elevation the trees suffered little. Peaches and Nectarines are good and the trees free from blister; the same remark applies to Cherries. Bush fruits have been a heavy crop, Black, Red, and White Currants never better. Raspberries good. Gooseberries heavy and fine fruit. Strawberries very good; the frost cut a few early blooms off. Our elevation being nearly 700 feet above sea level keeps things back.—A. EVANS.

**Poles, Ware.**—Small fruit crops have been very satisfactory generally, especially Strawberries and Raspberries, these being very good in quality and plentiful. Currants have been a full crop, and Gooseberries large and fairly plentiful. Cherries have been finer and more plentiful than usual on walls and in the open, with the exception of Morellos, which are thin. Apricots are a decidedly better crop than usual. Pears are thin with a few exceptions both on walls and pyramids. Apples are an average crop, some varieties being heavily laden, while others are thin or have failed altogether. Plums on walls are a good crop, scarce on standards. Damsons thin. Medlars and Nuts plentiful.—W. M. ALEXANDER.

**Turkey Court, Maidstone.**—Apples seem to be generally good, but Pears and Plums are almost a failure, also Peaches and Nectarines on open walls. Raspberries very good. Gooseberries and Currants rather scarce. Strawberries a splendid crop.—G. HADAWAY.

**Redleaf, Penshurst, Tonbridge.**—I am sorry to say I have but a poor report to give this year of the fruit crop in this district. Probably we never had a better show of blossom and fairer promise of an abundance of fruit, but the late frosts and east winds were too severe to give much chance to the young and tender fruit. Apples not half a crop, but the fruit promises to be clean and fine. Pears nearly a failure, a few Williams', Doyenné du Comice, and Hacon's Incomparable, and that is about all. Plums scarcely any. Peaches and Nectarines a poor crop. Apricots a failure. Cherries a poor crop. Strawberries a fair crop and good.—W. HOLAH.

**Claydon Park, Winslow, Bucks.**—Apples in these gardens and neighbourhood are below the average. The only good crop of Apples I have seen this season is on a batch of seedling Apple trees growing in a cottager's garden. These trees are about thirty years old, and literally loaded with fruit. I have known them for the past five years, and they have invariably borne good crops. In these gardens the bush trees on the Paradise stock have borne the best crops. Pears are below the average. The Plums and Damsons have borne well, and Peaches on outside walls are also a good crop. Strawberries are an average crop, but the plants were severely damaged by the frost during the winter; in fact in some of the cottage gardens round here the plants were quite destroyed.—ISAAC MILSON.

**Buxted Park, Uckfield.**—Apples in this district are rather below the average, although some of the most popular varieties, such as Ecklinville, Lane's Prince Albert, Stirling Castle, Hawthornden, Worcester Pearmain, Peasgood's Nonsuch, Beauty of Hants, King of the Pippins, The Queen and Alexander, have good crops. Trees that were lifted two years ago set fruit so freely that they had to be thinned, especially in the case of some of the above-named. Here we approve of lifting



young trees periodically. Some kinds require it more frequently than others, but judgment must be exercised in this. Trees that are lifted require more looking after than those that are allowed to grow of their own accord; but finer fruit and more certain crops are produced by lifting young trees, especially where high-class culture is resorted to. Pears in this district are almost a failure, owing no doubt to the late severe frost in April, for on the 15th and 17th of that month the thermometer registered 12° and 14° respectively. A few of the more hardy kinds, however, have about half a crop. Amongst these Jean de Witte seems to be the best. Plums on walls are very scarce; in fact, a failure altogether; while on trees in the open, such as Victoria, Early Rivers, Orleans, Blue Pedrigon, The Czar and Frogmore Prolific Damson, there have been fair crops. Cherries (especially the early varieties on walls) suffered much, the spurs in a great many instances being killed on those trees facing south, for these were just gone out of flower and the young growth made was very tender. But on the trees facing north and north-west there were good crops of fruit, thus showing that where the blossom was not far advanced when the frost came it was not so injurious. Peaches, both early and late kinds, are a full crop, the trees in most instances looking well. Apricots very scarce and, with the exception of Blenheim, almost a failure. Bush fruit of all kinds has been very plentiful and exceptionally good. Raspberries suffered much from the late frost, and in some instances the canes were killed to the ground. Strawberries with us were not so heavy a crop as we usually have, owing no doubt to the parching winds in spring. Laxton's Noble produced a good crop; the flavour, however, was but poor. Sir Joseph Paxton was fair, Harris's A 1 not worth growing, and neither Dr. Hogg nor Lord Napier were up to the standard.—H. C. PRINSEP.

**Kingston, Surrey.**—Apples this season throughout this district are but a partial crop; in some places very good, in others very thin. There seems to be no special association of quantity with sorts, but it rather happens that some gardens and orchards have been better favoured than others. Pears are generally a very poor crop even on walls, whilst on open trees they are almost rarities. Plums are in worse case, whilst Cherries have been very good generally. Bush fruits have been very good, Currants especially. Strawberries were good for a shorter season than usual, the dry weather of the early summer materially affecting the plants.—A. DEAN.

**Halton Gardens, Tring.**—The fruit crop generally is very thin here. Apples, Plums, Damsons, and Raspberries less than half a crop. Pears a failure. Black, Red, and White Currants a good crop; also Cherries. Peaches and Nectarines not grown. Strawberries, with the exception of Noble, were severely cut by the frost on June 14 and 15, and more than half the main crop was spoilt.—R. C. SANDERS.

**Ashdown Park, East Grinstead.**—Apples a fair crop, best where sheltered from winds and frost. Plums a very heavy crop; the following sorts are breaking down with fruit: Early Prolific, Orleans, Black Dymond, Cluster Damson, White Magnum Bonum, Pond's Seedling, Prince of Wales, &c. Pears a thin crop. Raspberries half a crop, large and good, suffered by late spring frost. Black Currants a fair crop. Gooseberries a good crop. Cherries plenty of all sorts, a heavy crop. Strawberries good crops. Red Currants a thin crop. Figs a fair lot.—J. DOWN.

**Warnham Court Gardens, Horsham.**—The appearance of the Apple and Pear trees at the time when they were in bloom left little to be wished for. The trees were beautiful, literally covered with blossom. The cold winds and frosts of March and April, however, did a great deal of harm, especially to the Pears; the Apples being a little later escaped the severest frost, and consequently did not suffer so much. We have very few Pears, but a splendid crop of Apples, especially of the following: King of the Pippins, Ribston Pippin, Cox's Orange Pippin, Irish Peach, Scarlet Pear-

main, Court Pendu Plat, Blenheim Orange, Lord Suffield, Hawthornden, Warner's King, Norfolk Beaulin, and Keswick Early. Apricots we do not grow, our ground being too heavy, hardly anything but clay. Peaches and Nectarines are very poor; like the Apricots, they do not do well with us outdoors. Of Plums we have a very good crop and very fine fruit. All Cherries do well with us. If anything is to be complained of it is the falling of the Morello Cherries owing to the dry weather. We have had more than enough of bush fruits. I have never seen better crops. We do not go in for many varieties of Strawberries, but the following do well with us: James Veitch is the best, both in pots and planted out; La Grosse Sucrée, Competition (a marvellous cropper), Dr. Hogg, Eleanor, and President. I think little of Noble, not having good flavour. On the whole, I have good crops.—G. DUNCAN.

**Maiden Erleigh, Reading.**—The Apple crop in this district is the best we have had for some years. Here, where we grow over a hundred varieties, with only a very few exceptions they are all bearing good crops. Apricots on a west wall are a good average crop, but a light crop on south walls, and Peaches and Nectarines are a good crop. Most of the varieties of Pears on west walls are also a good crop, but, with only a few exceptions, they are a failure on pyramid and bush trees. We have also a fair crop of Plums on walls of all varieties except Green Gage, which is very light, but nothing on orchard standards. Bush fruits, with the exception of Gooseberries, were abundant and fine, but Raspberries poor. Sweet Cherries good crop and very fine, but Morellos much below the average. Strawberries were a heavy crop and good, and especially taking into consideration the dry state of the ground. Of Nuts, Cobs and Filberts are very plentiful, but Walnuts are the worst crop we have had for several seasons.—T. TURTON.

**The Deepdene, Dorking.**—The Apple crop in this neighbourhood is very heavy, some varieties requiring support. Pears and Plums are a failure; the severe weather of last Easter destroyed all the blossom. Peaches a very good average. Apricots none. Nuts, I find, will be good. The Strawberry crop has been the best around here for some years.—T. SHAW.

**Hanger Hill House, Ealing.**—The crops of Apples, Peaches, and Nectarines are very good, so much so, that the latter two required thinning with a heavy hand. Pears looked very promising when in bloom, but most all failed to set, which I attribute to the late spring frosts. Gooseberries, Currants, and Raspberries were excellent both in quantity and quality. Cherries about up to the average. The crops of Plums are very thin, except Damsons, which are very good. Apricots very fair. Walnuts a failure. Fruit trees are looking healthy and are free from blister and blight. Strawberries were plentiful, rather small, but excellent flavour. We commenced gathering the end of May, the varieties being Vicomtesse Héricart de Thury and Noble, the last-named lacking in flavour generally, but those grown on a raised south border were quite palatable, the intermediate varieties being Sir J. Paxton, President, and British Queen. For late work I grow Eleanor and Laxton's Latest of All, the latter holding out well until the first week in August.—D. COOPER.

**Royal Gardens, Frogmore.**—As the season advances, the appearance of the fruit crop improves as regards Apples, Pears and Plums, and although crops are light and Pears almost a failure, the prospect is more satisfactory than appeared a few weeks since. Of Apples the following are bearing well, viz., Rosemary Russet (always a sure cropper), the various sorts of Codlins, Lord Grosvenor, Frogmore Prolific, King of the Pippins, Lord Suffield, Pine-apple and Forfar Pippins, Small's Admirable, Claygate Pearmain and Warner's King; while Blenheim, Ecklinville Seedling, Worcester Pearmain, Margil, Col. Vaughan and some others are medium crops. As before stated, Pears are very scarce. The bloom was strong and plentiful and set well, but 8° of frost (and 12° in some places near) on May 7 brought the young fruit

down wholesale. It is worth noting that the old sorts withstood the frost much better than the more showy Continental varieties, Jargonelle, Marie Louise, William's Bon Chrétien and Ne Plus Meuris having a fair sprinkling of fruit. Peaches and Nectarines are heavy crops and trees free from aphids. Apricots good crops. Cherries remarkably heavy crops on walls and standards, and fruit of fine quality. Plums much under average. Damsons about half a crop. Raspberries plentiful, but rather small. Bush fruits in abundance.—OWEN THOMAS.

**Fulham Palace, S.W.**—Apples an average crop. Pears under the average. During the time these were in flower there was sharp frost for many nights. Plums a failure. Cherries (Morellos) a fair average crop, clean and good. Peaches over the average. During the time these were in flower there was a week of fine weather, and they set well. Small fruits, such as Gooseberries, Black Currants and Raspberries, are over the average, of fine size, clean and good. Strawberries full average crop, but fruit not so fine as last year. My main-crop is President grown in various positions, so as to ensure a succession. Tomatoes are doing well; the vines are well loaded with fruit in every stage of growth. Plants are being trained up with single stems on 10-foot stakes, and some of the plants are now over 8 feet high, in the healthiest condition possible.

Potatoes are excellent, both early and late. Veitch's Early Puritan is again to the front. I am now having them dug, they being quite ripe. They are a perfect sight as they lay on the ground, of good size and shape, and entirely free from disease and a splendid cooker. Late ones also show signs of an abundant crop.—A. J. BALL-HATCHET.

**Shirley Lodge, Croydon.**—Apples in the neighbourhood are a fair average crop; Stirling Castle, Lord Grosvenor, and Warner's King may be mentioned as bearing most abundantly. Pears a very light crop, the smallest for a number of years. Peaches and Nectarines an average quantity, and Apricots rather a light crop. Raspberries, Currants, and Gooseberries have been abundant. Plums a very fair crop. Strawberries produced a heavy crop, and ripened well; varieties most esteemed in this district are Marguerite, President, Sir Joseph Paxton, Sir Charles Napier, Dr. Hogg. I must say the newer kinds after being tried have found little favour. The mode of culture followed is planting prepared runners in autumn 2 feet apart on land that has been deeply trenched and manured, renewing the beds every two or three years.—H. SHOESMITH.

**Nash Court, Faversham.**—The Apple crop here and in this district is a fair average one. Pears are thin, but good. Peaches and Nectarines on open wall very heavy crop. Plums of all kinds tremendous crop, especially Green Gage; also Damsons. Cherries the heaviest crop for many years. Strawberries under average, but President was heavy. Gooseberries, Currants, and Raspberries plentiful and good. Walnuts the heaviest I ever knew.—GEO. HUMPHREY.

**The Gardens, Chevening Park.**—The Easter frosts destroyed what promised to be a good crop of most sorts in this neighbourhood. Apples are far below the average. Pears, Peaches and Apricots a failure. Plums a good crop of some varieties, and in certain localities a very heavy crop. Cherries fair. Bush fruit abundant, with the exception of Black Currants. Raspberries exceptionally good. Strawberries not up to the average. The varieties grown in this neighbourhood by fruit growers are Noble for first early, Sir J. Paxton for main crop, and Eleanor for late use, and a few Elton Pine. The varieties which have done well with me here this year are Vicomtesse H. de Thury, Sir J. Paxton, and for late use, British Queen and Elton Pine.—C. SUTTON.

**Danesbury Gardens, Welwyn, Herts.**—We have very good crops of Apples in the gardens here, but in the neighbourhood the Apple crop is very partial; now and then one may come across fair crops. The varieties that usually bear well in the



gardens here are Small's Admirable, Keswick Codlin, Duchess of Oldenburg, Greenup's Pippin, Lady Henniker, Lane's Prince Albert, Fearn's Pippin, King of the Pippins, Blenheim Orange, Dutch Mignonne, Warner's King, and Striped Beaufin. Our trees are all standards and large bush with very little pruning. Pears very poor crops, plenty of bloom, but all was destroyed by frosty nights. Trees healthy and mostly pyramids. Plums generally thin, fair crops of Rivers' Prolific, Orleans, Dymond, and Victoria. Damsons rather thin, about a quarter of a crop. Peaches very good crop indeed, but rather late. Trees are healthy. Only a few Nectarines grown, Lord Napier being one of the best. Cherries a fair crop; White Heart, Kentish, and Morello the best kinds. Nuts about average crop. Small fruits are plentiful and good, especially Raspberries and Gooseberries. Strawberries have been a fair crop.—R. F. SAWFORD.

**Fox Warren Gardens, Cobham.**—The fruit crops with me have been good all round. Old standard Apples are very clean and carrying good even crops. Pyramid Cherries were good. Raspberries good. Red, White, and Black Currants very heavy crops. Gooseberries good. Strawberries were a very heavy crop. I have judged cottage gardens, &c., in several parishes around this locality and I found bush fruits good, and standard Apples and Plum averaged thin crops.—J. R. HALL.

**Leyswood, Groombridge.**—The Apple crops in this district are light, with a few exceptions. Pears are a failure. Cherries partial. Plums are also a partial crop. Gooseberries very thin. Raspberries, Black and Red Currants very good. The Strawberry plants were damaged by late frosts; although we had plenty of fruit, it was under size.—F. C. MOORHOUSE.

**Polesden Lacey, Dorking.**—Apples under average, late kinds good. Pears the same. Plums, very partial crop. Cherries over average; Morellos very good. Gooseberries over average. Currants the same. Raspberries under average, as the canes did not ripen. Walnuts and Nuts under average. Neither Apricots, Peaches, nor Nectarines grown out of doors.—O. GOLDSMITH.

**Fawley Court, Henley-on-Thames.**—Apples full crop, good clear fruits. Pears almost a total failure. Plums and Damsons in Thames valley partial crop; on the hills around us full crops. Cherries good. Bush fruit fair crop of fine quality. Strawberries fair crop of fine flavour in the valley; on the hills many failed before they had reached the ripening stage on account of the drought.—J. CORBETT.

**Englefield, near Reading.**—Apples this year with us are a very good crop. Blenheim Orange, Cox's Orange, Gladstone, Worcester Pearmain, and Alfriston are very good. Apricots very good. Currants, Red, White, and Black, very good. Gooseberries very good. Pears very scarce; some early kinds are good, as Brockworth Park, a very good crop, but I am sorry to say such old sorts as Brown Beurré, Marie Louise, Beurré Diel, and Duchesse d'Angoulême are very poor crops. Plums very poor crop. The best crops we have are Kirke's, Red and White Magnum Bonum, and Victoria, but none are up to average. Raspberries almost burnt up with the dry weather in June and early July.

We have escaped all the thunderstorms that have been prevalent in Sussex, Kent, Middlesex. From about April we have had a very dry season. There are now some traces of the disease among the Potatoes.—J. COOMES.

**Crowsley Park, Henley-on-Thames.**—The fruit crop in the gardens here is not up to the average. Apples and Pears thin; Peaches only moderate. Morello Cherries abundant, also Black Currants, Gooseberries, and Red Currants very light. Plums a failure; they are generally so in this neighbourhood. Apples in some gardens are very good and plentiful. The late spring frosts were very injurious to the fruit blossoms, and last year's wet and sunless autumn was very much against this year's fruit crop. The Strawberry

crop with me is not so good as in previous years. For want of sun and having too much wet last autumn the crowns were not sufficiently ripened; consequently they suffered very much during the winter; in fact many of the plants died.—W. GLASSEY.

**Grenehurst, Capel, Dorking.**—Apples and Pears are a very heavy crop. Bush fruits of all kinds are heavy. Peaches and Nectarines out doors are carrying heavy crops of fruit. Morello Cherries good. Plums on walls are carrying heavy crops of fruit, but standards in the orchard are only very poor this year. Raspberries this season are a good crop and the fruit very fine. Strawberries have done well here this season and have borne good crops of fruit.—W. SHEPHERD.

**Woolmer, Liphook.**—The fruit crops in this district vary considerably according to the position of the trees. Apples and Pears in low damp places have failed, but on high ground Apples are very satisfactory and trees clean. Pears are very scarce. Victoria, Rivers' Prolific, Dymond, Pond's Seed-



Three-spathed Arum Lily. Engraved from a photograph taken by the Rev. C. C. Harper. (See p. 215.)

ling, and Gisborne Plums have good crops; other kinds thin. Gooseberries, Currants and Cherries have been plentiful and good. Raspberries did not break well; the frost crippled the wood, which was rather unripe. Strawberries have been plentiful, but rather smaller than usual.—J. TAVERNER.

**Kempshott Park.**—Apples fair crop. Pears very thin. Red Currants and Gooseberries fair crop. Black Currants very bad. Peaches on wall trees very good crop. Cherries fair crop. Strawberries a fair crop. The kinds that do best with me are Sir Joseph Paxton, President, Dr. Hogg and Keens' Seedling.—C. LITTLEWOOD.

**Bearwood.**—The fruit crops here and about this neighbourhood are very partial. Apples in places are good and the best crop for the season. Pears and Plums the poorest crops that have been seen about here for years. Early prospects for most kinds of fruit looked most promising as regards a good show of bloom, but a low temperature set in and lasting so long with withering winds made sad havoc with the setting of most fruits. Peaches and Nectarines have proved the best crops, and are

ripening fairly well. Bush fruits have been good average crops, finishing off very well. Strawberries very good crop, but not lasting long owing to the dry time and scalding sun.

The Potato crop is a good one. Early sorts excellent, late ones promising and free from disease.—JAMES TEGG.

**The Gardens, Muntham Court, Worthing.**—These gardens lying high and dry and being well sheltered, we suffered less from the cold cutting winds and late frosts than many others. The Apple crop is a very heavy one. Plums light, Pears much below average. Cherries average. Peaches and Nectarines good. Fig trees standing in open considerably injured by the last two severe winters, some of the fruit dropping just previous to the ripening stage from the effects of the frost when in bud; crop average. Excellent crops of all bush fruits. Strawberries rather small and soon over.—S. PULLMAN.

**Mertmore, Leighton Buzzard.**—Apples a good average crop, the trees very healthy and free from insect pests of all kinds. Pears a very thin crop; many of our trees have no fruit at all, while others have a good crop; on walls they are even a worse crop than in gardens and orchards. Cherries have been above an average crop; the dry weather seems to have suited them, as they were of a good size and colour. Filberts an average. Walnuts almost a failure. Bush fruit of all kinds abundant and good. Strawberries a very heavy crop, but soon over.—J. SMITH.

**Great Gearies, Ilford.**—There is an average crop of Apples this season, and the weather being favourable, the quality will be good. There is very little of the Apple-boring maggot to be seen, and that mostly on old trees of the Ribston Pippin, King of the Pippins and Golden Noble. Early dessert Apples have been very good. Early Strawberry produced the best coloured fruit we ever had. The white Juneateen is not good enough. Devonshire Quarrenden is now in use (Aug. 26); the trees had a good crop, quality good. An excellent early Apple to succeed it is the Irish Peach, a good type of medium size and excellent quality. Kerry Pippin is rich in quality, but the fruit is small. All the above bore good crops. Ribston Pippin and Cox's Orange Pippin are both well laden with fruit, which appears to be finer than we ever had it; Blenheim Pippin has an excellent crop on young trees this year; Sturmer Pippin, our latest good dessert Apple, seldom fails, nor has it done so this year. Kitchen Apples are plentiful and good. The following are laden with good fruit: Hawthornden, Lord Suffield, Lord Grosvenor (one of the best early Apples), Cox's Pomona, Cellini, Golden Noble,

Prince Albert (a constant, free-bearing good sort), Wellington; Alfriston and Rymer are both very heavily laden. Pears may be said to be a complete failure. We had a few fruits on standard and wall trees of Jargonelle, and I see a few good fruits on Pitmaston Duchess; all the others are failures. Plums may also be said to be a failure. There may be half a crop of Damsons, but the Bullaces are a total failure. Victoria, the most constant bearer, has not an average of two fruits on a tree. We gathered a few dishes from a sheltered wall with a west aspect of Kirke's, Green Gage and Jefferson's; and Cox's Golden Drop has half a crop in the same position. Apricots, Peaches and Nectarines on walls have all full crops, and the trees are healthy and clean. Cherries, both on walls and standards, were good and a full crop. There are a few nuts, but the trees have already begun to lose their leaves, owing to the drought. All small fruits were good, but of Gooseberries we had a poor crop. The bearing wood of the Raspberries was injured by frost, but what we had left carried a full crop; but they also have suffered a little from drought. Raspberries like a rich, deep and moist soil.—J. DOUGLAS.



## SOCIETIES AND EXHIBITIONS.

## INTERNATIONAL HORTICULTURAL EXHIBITION FRUIT SHOW.

AUGUST 26 &amp; 27.

THIS show of fruit, when compared with other large shows, was pronounced by those competent to form an opinion to be in all respects an excellent one. The arrangements were all that one could desire, being greatly enhanced by the combination of foliage and flowering plants at the extreme end and through the centres of each annexe. By the judicious use of green baize around the sides of the tables, no empty packages were visible. Managers of shows would do well to take note of this, not that it is a fresh innovation, but it is one of the necessary adjuncts to the finish and effect so desirable in any exhibition.

## Collections of Fruit.

The competition in the three classes set apart for collections was first-rate, the produce in nearly every case being of superior quality. In the large class for not less than twenty dishes there were three competitors, Mr. McIndoe, Hutton Hall Gardens, Guisboro', being a somewhat easy first with thirty dishes in all, in none of which could be detected a weak dish, whilst many were of the highest order of excellence. This exhibit included of Grapes, Duke of Buccleuch, fine in bunch and berry; Golden Champion, also good and clear in berry; Gros Maroc, large, well-coloured bunches, and similarly good; Black Hamburg, medium-sized; Charlotte Rothschild and Queen Pines; well ripened Best of All and Exquisite Melons; Stanwick Elrue and Humboldt Nectarines, both excellent; Violette Hative and Golden Eagle Peaches, large and fine; Exquisite Oranges and Imperial Lemons, both good; Souvenir du Congrès (a grand dish) and Williams' Bon Chrétien Pears; Brown Turkey and Negro Largo Figs, alike good; Duchess of Oldenburg Apples; White Magnum and Kirke's Plums; Bigarreau Napoleon and Late Duke Cherries, both well kept; Large Early Apricots, *Passiflora edulis*, a good dish; Red and White Dutch Currants and a fine dish of Noble Strawberry; a finer collection than this has not been shown for a long time.

Mr. Goodacre, Elvaston Castle Gardens, Derby, was a very good second with twenty-five dishes; the best of these were extra good Muscat, Black Hamburg, and Barbarossa Grapes, fine Smooth Cayenne and Queen Pines, Cashmere and Golden Gem Melons, Royal George and Barrington Peaches, Williams' Bon Chrétien Pears, Elrue and Victoria Nectarines, with good Morello Cherries; an inferior dish of Raspberries should have been left out of this collection. Mr. Ward, Longford Castle Gardens, Salisbury, was third, his best being some fine Madresfield Court Grapes, with good dishes of Buckland Sweetwater and Muscats, also Gros Maroc very fine, two excellent Pines, and splendid Sea Eagle and Walburton Admirable Peaches. In the class for twelve dishes only, Mr. Parker, Impney Hall Gardens, had a strong lot and was placed first; his Grapes were Muscat of Alexandria and Alicante, both in first-rate order; a very fine Smooth Cayenne Pine, Princess of Wales Peaches of large size, Best of All and seedling Melons (large fruits), Jargonelle Pears, and Worcester Pearmain Apples. Mr. Reynolds, Gunnersbury Park Gardens, Acton, was a close second, staging grand bunches of Gros Maroc and Muscat Grapes, the former fine in berry, the latter in colour; Hero of Lockinge and seedling Scarlet Melons, the latter an extra fine fruit; Clapp's Favourite Pears, large and fine, with Sea Eagle Peaches, highly coloured, and Golden Esperen Plums. Mr. Coomber, The Hendre Gardens, Monmouth, was a good third, Gros Maroc and Muscat Grapes being the best dishes.

For eight kinds only the competition was close and keen, Mr. McIndoe again being first with a collection that would be extremely difficult to beat. Duke of Buccleuch and Black Hamburg Grapes, Golden Eagle Peaches and Humboldt Nectarines

(both finely coloured), Best of All Melon, Lady Sudeley Apples and Early Transparent Plums were all first-class fruit. Mr. Dawes, Ledbury Park Gardens, Ledbury, was also a good exhibitor. Muscat and Gros Maroc Grapes remarkably fine, Roman Apricots (the best dish in the show), Humboldt Nectarines, Barrington Peaches, and La Favorite Melons were all first-rate dishes of fruit. Another good lot came from Mr. Dumble, Picton Castle Gardens, Haverfordwest. Here were extra fine Muscat Grapes and good Black Alicantes, Sea Eagle Peaches and Magnum Bonum Plums, all fine fruit. Other well-known exhibitors, and frequently most successful prize-winners, also competed in this and the class for twelve kinds. This of itself shows the fine quality of fruit to which the prizes were awarded on this occasion.

## Grapes.

Collections of ten and five kinds were shown in considerable quantity, and the competition was very close in more than one instance. Mr. McIndoe was again successful in taking the first prize with really fine fruit. Fine finish with large bunches and good quality characterised this exhibit in the class for ten kinds, two bunches of each. These were Duke of Buccleuch, medium in bunch, fine in berry; Gros Colman, well coloured; Black Duke (Gros Guillaume x Duke of Buccleuch), a fine-looking and promising new Grape not yet in commerce; Black Hamburg, well coloured; Gros Guillaume the same, and large in bunch; Trebbiano, very good; Gros Maroc, handsome in bunch and berry; Golden Champion, extra good; Alicante and Lady Downe's, both well finished. Mr. Reynolds was a good second in this class, being quite equal in finish to the first prize, but not so large in the bunches, although the quality was first-rate. The sorts were Muscats (finely coloured), Mrs. Pearson, in good form; White Seedling (Muscat x Black Hamburg), of a golden colour; Chasselas Napoleon, large in bunch and berry; Foster's Seedling, large and good; Alnwick Seedling, finely coloured; Alicante, very good; Black Hamburg, first-rate; and grand Gros Maroc, extra fine in berry; with Madresfield Court, well coloured. Mr. Goodacre came in a very creditable third, his best being Muscat of Alexandria, Muscat Hamburg, Gros Maroc, Alicante and Barbarossa, all excellent.

With five kinds, Mr. Allan, Gunton Park Gardens, Norwich, was a comparatively easy winner, with a splendid lot of fruit of high finish. The sorts were Gros Maroc, with immense berries; Foster's Seedling, extra good; Madresfield Court, excellent; Black Hamburg, first-rate, and Buckland Sweetwater, about the best in the show. Mr. Elphinstone, Shipley Hall Gardens, Derby, came in a good second, with very fine Muscats, Gros Maroc, Black Hamburg, Trebbiano and Madresfield Court. Mr. Bury, Forest Hill, was third; the best here were Alnwick Seedling, Mrs. Pince and Madresfield Court. In the classes for separate kinds the competition was very strong. For Black Hamburg, Mr. Gibson, Chippenham, was first with large bunches, fine in berry and colour. Mr. Reynolds was a very good second, with bunches hardly so large, but well coloured. Thirteen or more lots were put up. For Muscat of Alexandria, Mr. Reynolds was an easy first, the bunches compact, the berries large, and the colour excellent. Mr. Dumble was placed second, with larger bunches, smaller, however, in the berry, but well finished. Here ten competed.

For Gros Colman there was only one entry, that of Mr. McIndoe, who was placed first, the colour being excellent, the bunches of medium size. With Madresfield Court, Mr. Gibson was first, having fine bunches, and Mr. Elliot second with larger ones; this was also a strong class with many competing. The best bunches of Black Alicante were those from Mr. S. T. Wright, Ross, Herefordshire; these were grand bunches, the best in the show, and well finished for thus early in the season. Mr. Hollingworth, Derby, came in a good second in this class. For any other white Grape the first prize was awarded to Mr. Peter E. Kay, Craigmere Vineyard, Finchley, for very superior Cannon Hall

Muscats, the bunches long, the berries very fine, but lacking a little in finish. Mr. Elphinstone was second in this class again with Cannon Hall Muscats, very fine examples slightly better coloured than those in the first prize lot. Mr. Osman took third place with excellent bunches of Mrs. Pearson. In this class there were nine competing. For any other black Grape Mr. Reynolds won with remarkably fine examples of Gros Maroc, large in bunch and berry; the same sort from Mr. Coomber, finely finished, was placed second, and Mr. Iggulden third, again with Gros Maroc, there being altogether sixteen lots staged.

The packing prizes for 12 lbs. packed for transit by rail and delivered at a distance of not less than ten miles was well filled, ten baskets being staged. Mr. Hudson, Gunnersbury House Gardens, was awarded the first prize with Alnwick Seedling, six bunches to the 12 lbs., the berries large and the colour good. These were packed in a cross-handle basket of oval shape, being tightened up with soft dry Moss. The second prize was awarded to Mr. Sutton, Chevening Place, Sevenoaks, for Muscats in a similar basket, but not packed so tightly. Messrs. Rivers and Son were third with Gros Maroc, packed similar to the last; both of these were finely finished examples of their kind. For a box of Grapes (10 lbs.) the conditions of transit the same (or parcels post optional), Mr. Turton, Maiden Erleigh, Reading, was placed first with a shallow box of well-finished Black Hamburgs, packed closely and well with no superfluous packing material; three others competing. In all of these exhibits the Grapes had travelled remarkably well. Pine-apples were shown much better than they have been seen for a long time, affording a marked contrast to the Pines at the Royal Caledonian exhibition of last year. Mr. Slade, Clumber Gardens, Worksop, was placed first with three fruits, showing all Smooth Cayennes, finely finished, good in colour, large fruits with the pips well swelled up; Mr. Coomber was a close second with similarly good fruits, but hardly so large. Mr. Methven, Wimbledon Park, was first for one Pine-apple with a Smooth Cayenne of large size and of handsome appearance; Mr. Nicholas, South Molton, a well-known grower, having to be contented with the second place. Figs were shown very well, but not in large quantities. Mr. Wallis, Keele Hall, was first for three kinds with capital fruits of Osborn's Prolific, Brown Turkey, and White Ischia, just in prime condition. With one dish Mr. Evans, Melchet Court, was first, showing Brunswick, whilst Mr. Ward took second with a good dish.

In the classes for Peaches, Nectarines, Plums, Apples, and Pears ripened in the open air there was good competition, but certainly there was fruit staged that had been under glass at the finishing stages. For instance, some of the Nectarines and Peaches staged could not under the most favourable circumstances have been ripened in the open air. It would have been much more satisfactory to have omitted the open-air classes in the schedule, and allowed fruit from any source. For three dishes of Peaches, distinct varieties, there was a fair competition, Mr. R. Potter, gardener to Sir M. W. Collet, Bt., Sevenoaks, being first with fine examples of Dr. Hogg, Grosse Mignonne, and Crimson Galande; second, Mr. Carr, Croydon. For two dishes, Mr. Dawes, gardener to Mr. Biddulph, M.P., Herefordshire, was first with fine A Bec and Violette Hative; second, Mr. Haines, Highworth. In the single dish competition there was a large number of entries, the first prize being awarded to Mr. Austen, gardener to Early Dudley, Witley Court, Worcester, for a very fine dish of Hale's Early; indeed it was the finest dish in the whole class for this fruit, of large size and splendid colour; second, Mr. Potter, Sevenoaks, with a fine dish of Crimson Galande. Nearly forty dishes were staged in the above classes. In the class for Nectarines there were not quite so many competitors, but some excellent fruits were staged, only a few dishes being small and badly coloured. For three dishes of Nectarines distinct, Mr. R. Potter was a good first with Elrue, Rivers' Orange, and Spenser; second, Mr. Carr, Croydon, with fine



Lord Napier, Elruge, and Rivers' Orange. For two dishes, Mr. Dawes was first with some very large deeply-coloured Humboldt and Lord Napier. In the single dish competition there was a large number of good fruit, Mr. Dawes being first with Lord Napier, and Mr. Turton, Reading, a close second. In the Plum classes there was a great number of dishes taking up a large space. In these classes it would have been better to have had more distinct colours in some of the dishes, as the reds run into the purples, and some of the fruits staged were very hard and in an unripe state. For three dishes (red), Mr. Jas. McIndoe was first with very fine Sultan, Denyer's Victoria, and Pond's Seedling; second, Messrs. Rivers and Son, Sawbridgeworth, with Sultan, Victoria, and Belle de Louvain. For three dishes (purple), Mr. Lane, Ascot, was first with very fine Kirke's, Black Dymond, and Prince Englebert, Mr. Igoulden, Marston House, Frome, being a close second with Kirke's, Czar, and Blue Pendragon.

In the class for green or yellow Plums Mr. Igoulden was first with a grand dish of Golden Drop, the others being Washington and Early Transparent Gage; second, Mr. McIndoe with Jefferson's, Green Gage and Golden Gage. In the single dish competition for dessert varieties there were no less than seventeen lots staged, Mr. J. Vert, gardener to Lord Braybrook, Saffron Walden, being first with a grand dish of Jefferson's; second, Mr. Hudson, gardener to Messrs. Rothschild, Gunnersbury House, Acton, with a splendid dish of Kirke's. For a single dish of cooking Plums Mr. Ward was first with large fruit, closely followed by Mr. Turton and Mr. McIndoe in the order named.

In the classes for Apples there was strong competition and some very fine fruit staged, some of the cooking varieties being of great size, and the dessert kinds of high colour. For six dishes of cooking Apples, distinct, Mr. Turton secured the premier award with grand fruits, his Peasgood's Nonsuch being very fine, the others being The Queen, Warner's King, Lord Suffield, Ecklinville, and Waltham Abbey Seedling; second, Mr. McKenzie, Maidstone. For three dishes, Mr. Will Taylor, Hampton, was first. In the single dish class there was a great number, Mr. Turton being easily first with splendid Peasgood's Nonsuch; second, Mr. McKenzie with Grenadier; and Mr. Taylor third with Lord Suffield. The class for three dishes of dessert varieties was well filled, Mr. G. Goldsmith, Horsham, taking first with grand fruits of Lady Sudeley, Beauty of Bath, and Red Astrachan; second, Mr. G. Reynolds, who was as nearly equal as possible, his lot having fine Duchess of Oldenburg. In the single dish class there were many fine lots, Mr. Hester, Plumstead Common, being a good first with Red Astrachan. In the Pear classes some excellent fruit was staged, though less numerous than Apples. For three dishes, Mr. Potter was first with Clapp's Favourite, Williams' and Souvenir du Congrès; Mr. Helman being a close second, with a grand dish of Clapp's Favourite beautifully coloured. For the single dish of Pears Mr. Helman was a good first with Clapp's Favourite; second, Mr. J. C. Mundell. For three dishes of cooking Apples grown or finished under glass, Mr. Turton was first with Emperor Alexander, Peasgood's, and Mère de Ménage. For three dishes of dessert Apples, first, Mr. McIndoe; second, Mr. Turton; third, Mr. J. Wright, Ross, Hereford, the varieties shown in these lots being chiefly Worcester Pearmain, Gravenstein, Irish Peach, Red Astrachan, and Lady Sudeley. In the single dish competition Messrs. Rivers had very fine Cox's Orange Pippin, easily taking the premier award. In the Pear classes for three dishes Messrs. Rivers were first with fine fruits of Williams', Clapp's Favourite, and Souvenir du Congrès. For a single dish Messrs. Rivers were again first with splendid Pitmaston Duchess; second, Mr. Reynolds, with Clapp's Favourite. Mr. Wallis, Keele Hall, Stafford, had a nice collection of Peaches and Nectarines not for competition, receiving a medal for excellence. In the competition for Tomatoes a large number of dishes was staged, most of them being good. For six dishes Mr. E. Ryder, Orpington, was first. For three

dishes, Mr. J. Roberts, Shepperton, was an easy first. For one dish yellow Tomatoes, Mr. E. Ryder, Orpington, was first with fine Golden Sunrise.

#### Miscellaneous Fruit.

These were exhibited in considerable quantity, and consisted of Grapes, Pears, Apples, and a large lot of fruit as sent to Covent Garden for sale. Vines in pots were exhibited by Messrs. Lane and Sons, Berkhamsted. These were surprisingly fine productions of well-finished fruit, the sorts being Black Hamburg, Foster's Seedling, Gros Maroc, Alicante, and Buckland Sweetwater (a gold medal was awarded). Messrs. Bunyard and Co. had Apples in baskets and dishes with some few Pears; the finest of these were Stirling Castle, Grenadier, Lady Sudeley (extra), Northern Dumping, and Golden Spire in dishes, and Washington, Carnation, New Hawthornden, and The Queen in baskets. Of Pears, Souvenir du Congrès, Pitmaston Duchess, Triomphe de Vienne, and Doyenné Boussoch were excellent (awarded silver-gilt medal). Messrs. Cheal and Sons also contributed a collection of dwarf trees in pots freely fruited; of these, Duchess of Oldenburg, The Queen, and Professor (clear) were the best Apples, and Clapp's Favourite of the Pears. The same award was made as in the other case. Messrs. Rivers and Son had a grand lot of trees in pots—all remarkably fine examples of culture, bearing heavy crops. Of Peaches, note should be taken of Crimson Galande, Golden Rathripe, Sea Eagle, Albert and the Nectarine Peach; of Nectarines, Spenser; of Apples, Bismarck, Worcester Pearmain and Lord Suffield; of Pears, Souvenir du Congrès, Pitmaston Duchess, Fondante d'Automne, Beurré d'Amanlis and Mme. Treve; of Plums, Monarch, Emperor, Grand Duke and Jefferson's. The award a gold medal. Messrs. Jarman staged a quantity of fruit and vegetables, the Grapes and Potatoes being the best. Awarded a silver medal. Mr. Gibson, Carshalton, had some very fine Onions, showing excellent culture, Rousham Park and Sutton's Globe being the best. Awarded a bronze medal. Messrs. Collins showed their new Tomato as at Chiswick, and received the same award. Messrs. W. Paul and Son had some heavily cropped Peaches and Nectarines in pots, fine trees and large. The best were Dymond, Sea Eagle, Royal George and Stirling Castle Peaches; Dagmar and Humboldt Nectarines, and Negro Largo Figs, with some fifty dishes of Apples. Awarded a silver-gilt medal. From Mr. Walker, Ham, Surrey, came some of the finest Apples in the show, remarkable for fine colour as well as size. The best were Lady Sudeley, Duchess of Oldenburg and Peter the Great, all splendid fruit; also Grenadier, Stirling Castle, Worcester Pearmain and Devonshire Quarrenden, with an extra good dish of Sea Eagle Peaches. Awarded a silver-gilt medal.

Covent Garden produce was very fine from Mr. Monro, to whom the consignments had been made; these consisted of the best fruit in season, Grapes being in flats and baskets. The finest of these were the Muscats; Peaches and Nectarines were superior fruit, so were the Figs and Melons, also the Tomatoes and Cucumbers; whilst overhead hung some of the finest Bananas ever exhibited (awarded a gold medal). Messrs. White and Co. had chiefly foreign produce, Grapes from Spain and Portugal being packed in cork dust, Pears (small fruit) from Holland, and extra fine ones from France. Of these latter, Louise Bonne, Williams' Bon Chrétien, and Pitmaston Duchess were very superior; Lemons, Onions, and Spanish Melons were also included.

#### Plants and Flowers.

Messrs. Laing and Sons on this occasion surpassed themselves in their magnificent display of tuberous Begonias, which occupied a large space, being most effectively arranged. Certificates were awarded to Lady Grimthorpe, Lady Theodore Guest, Countess of Zetland, Duke of York and Duke of Teck—all superior double kinds. Yellows, roses, whites, scarlets, crimsons, salmon-pinks, orange-scarlets, light pinks, and other shades were represented in profusion (award gold medal). Messrs. Sander and Co. had an exceedingly choice collection of Orchids, no less than fourteen certificates

being awarded. Amongst the finest things were Vanda Sanderi (one plant a very superior variety), Odontoglossum Harryanum, Laelia elegans Schröderiana and L. e. Schröderæ (two first-rate varieties), Cattleya aurea (fine variety), Mormodes pardinum unicolor (a deep yellow), Vanda cœrulea (freely flowered) and V. Hookeri, Renanthera matutina (a distinct species), also Cattleya gigas, C. velutina (a curious, but richly-coloured species), Aerides Lawrenceanum (the spikes very fine) and Cattleya Schröderiana (Waddesdon var.) (bright in colour)—a most effective group. Award gold medal. Mr. W. Marshall on this occasion staged his fine collection of hardy Ferns in one group, thus making an excellent display. As at Chiswick, it consisted of choice and well-grown plants, amongst which were Polystichum vulgare trichomanoides (a fine plant), Scolopendrium vulgare crispum, and others. Award a gold medal. Messrs. Veitch and Sons had a very choice assortment of cut specimens of variegated and otherwise ornamental trees and shrubs; these embraced Liriodendron tulipiferum aureum, distinctly marked; Acer palmatum sanguineum, Quercus macrophylla, very fine; Spiræa callosa atropurpurea, Castanea vesca dissecta, Cornus alba Spathi, with golden variegated foliage; Ulmus campestris aurea (Dampier's var.), Quercus pedunculata concordia aurea and Philadelphus coronarius argenteus, the variegation clearly defined. First-class certificates were awarded to the best of these, and also to the finest in a fine box of cut blooms of Rhododendron javanico-jasminiflorum hybrids, the trusses being of extra size and vigour. Streptocarpus hybrids were also included, dwarf and freely flowered (silver-gilt medal). Messrs. B. S. Williams and Son had a large number of fine specimen plants, interspersed among the fruit tables, greatly enhancing the effect. Tree Ferns were of noble proportions, whilst colour was added by the rich tints of the Crotons and Dracænas. Of Dracæna indivisa Veitchi (very distinct), Cupania elegantissima, Dracæna H. E. Milner (of close growth), with others, note should be taken (gold medal). Other exhibits of distinct excellence were staged. These will be referred to next week.

A full prize list will be found in our advertising columns.

#### NOTES OF THE WEEK.

**Romneya Coulteri at Chester.**—We have a grand lot of *Romneya Coulteri* now in splendid condition. It is a very effective plant for the shrubbery. —DICKSONS, Chester.

**Hollyhocks.**—The only way I seem to be able to get anything like satisfactory results with this noble, old-fashioned flower is to treat it as a biennial, raising a batch from seed every year. Seedling plants liberally treated seem to have more power to withstand the ravages of the disease than plants raised from offsets in the ordinary way. —WINTONIAN.

**Royal Horticultural Society.**—The next meeting of the society will take place in the Drill Hall on Tuesday, September 6. At 3 p.m. a paper on "Root-pruning" will be read by Mr. G. Bunyard, and ought to evoke some discussion. Amateur growers of Gladioli ought to be in force on the above occasion, as the council have offered substantial prizes for the best grown varieties, as have also Messrs. Kelway for the best British raised forms of *Gladiolus gandavensis*.

**Solanum Torreyi.**—To the Rev. H. Ewbank, of Ryde, I am indebted for a plant of this, which appears to be little known, if at all, outside his garden. To cultivators of hardy plants, especially to those who, like myself, have a warm affection for the Solanaceæ, it is a desideratum. The flowers are purple, becoming lighter as they age. They resemble those of the Potato and grow in large clusters at the end of every branchlet. The whole plant is tomentose, and as a further recommendation, unlike most of the soft-wooded exotic *Scla-*



nums, is quite destitute of spines. Whether it will fruit in this country, or if fruiting will add to its ornamentation, I have yet to learn.—J. M., *Charmouth, Dorset.*

**Astilbe chinensis**, a plant recently introduced from China, is amongst the best strong autumn plants of this class we possess. The foliage is not unlike that of the old *Spiraea japonica*, but the flower-stem is much taller and stronger, much and loosely branched, and the rosy coloured flowers are larger and very effective. It takes the place of the *Spiræas*, which it very much resembles, and continues the flowering season well into September. It is certainly a great acquisition in the hardy flower garden, where it might be planted alternately with *Spiræas* and the Himalayan *Astilbes*, and so keep up a group of the same character all through the summer and autumn months.

**Fuchsias in the open.**—I notice in THE GARDEN remarks about Fuchsias and Brooms. I send you a few sprays gathered this morning from Fuchsia bushes which have remained for more than fifteen years in the same spot without any protection. In the winter they are cut down to the ground line by frost, but always in the spring and summer send up long shoots clothed with blossoms. I have long lost the names. *Spartium junceum* (the Spanish Broom) blossoms profusely throughout the summer months and often in September. Many of the plants are 8 feet to 10 feet high—large bushes. I gathered the seed in 1866 in Rothschild's garden, near Geneva. The plants seed freely in a dry summer.—J. A. PORCH, *Glastonbury.*

**The North American Chimaphilas** (*Pip-sissewa*, whatever that may mean) are both in full flower with us at present, and though not striking they are very interesting, as the evergreen variegated leaves of *C. maculata* and the shiny green ones of *C. umbellata* always attract one from their freshness. *Chimaphilas* are nearly allied to the *Pyrolas*, and associate well with them, as well as with the *Cassiopeas* and other small ericaceous plants. They thrive best in a sheltered, moist, partially shady spot in a peaty soil, to which has been added a liberal amount of fresh Sphagnum. They both increase rapidly by underground runners, and these taken off with a few fibrous roots on them and kept close for a few days soon become established.

**The autumn Cyclamen** (*C. neapolitanum*, or *C. hederifolium*, as it is also called) gives promise of a grand show this year. The corms seem strong and healthy and the flowers large and well coloured. It is a native of Southern Europe, but has been naturalised in this country, notably in Cornwall, and we know of no more delightful plant than this charming Ivy-leaved Cyclamen. The flowers are pretty and attractive, but its beauty does not end here; it is carried into the leaves, which are marbled and zoned in the most charming manner. Clumps of these might be lifted and used for table decoration in winter; indeed we know of no more effective fine-foliaged plant for this purpose. It does best under the shade of trees, and apparently likes the poor dry soil usually found there.

**Large Imperial Black Plum.**—In directing attention to this excellent cooking Plum, which is apparently little known, I have to record it has again proved one of our best out of upwards of forty varieties. I also noticed this kind took the leading prizes at Droitwich last week, its magnificent size and handsome appearance carrying all before it in the cooking classes. The tree possesses a vigorous constitution, of good shapely habit, and bears freely, producing a crop of very large oval-shaped black Plums, which ripen about the latter half of August. The flesh of this Plum is rather darker inside than that of many others of its class. Being firm, it should travel well and realise a good price. Growers should make a note of this kind as one honestly worth extended cultivation.—W. CRUMP, *Madresfield.*

**Helenium pumilum**, like *Helianthus multiflorus*, seems to be a plant about which very little

is known either in a wild or cultivated state. Dr. Gray, in "Synoptical Flora of North America," quotes *H. pumilum* under *H. autumnale*, and says it may be a common dwarf form. We believe, on the other hand, that *H. pumilum* is of garden origin, and is most probably a hybrid between *H. autumnale* and *H. Bolanderi*, or some allied species. It is very distinct from all forms of *H. autumnale* known to us, and is one of the most free flowering and best dwarf autumn plants we possess. In groups either alone or near the front of the mixed border it has a most striking effect, and as it is easily managed, there is no reason why it should not be in every garden. In gardens, too, where the demand for cut flowers is great, a square yard of this *Helenium* in the reserve ground will help matters very much. It may be increased readily by division, which may be done either in autumn or spring.

**The Castillejas**, of which there are two or three species in cultivation at the present time, belong to the drier parts of California, and may be treated with considerable success as half-hardy annuals. The best known species, *C. indivisa*, is the most distinct and brilliant plant in flower just now. The flowers of this species are in themselves inconspicuous, but the large bracts or floral leaves are of the most brilliant orange-scarlet. They are stated to be parasitic, which may or may not be the fact. They grow freely on the ordinary border, flower well, and invariably give a good supply of ripe seeds. It will only be in exceptionally bad summers that seeds will have to be imported. The seeds should be sown in March in heat, and the seedlings pricked off when ready to handle into boxes or pots, and from these transferred to the open air about the end of April or May.—K.

**Carnation Grenadin.**—This early-flowering Carnation is a valuable addition to sweet-scented hardy flowers, either for cutting or for making an effective display in the flower garden. Its flower-stems are of sufficient stoutness to carry the flowers erect without the need of stakes, while the blooms, though individually small, are borne in such profusion that they make a wonderful display. A bed of this variety raised from seed last spring has been greatly admired this summer. I was agreeably surprised to find it came so true from seed, quite 80 per cent. of the batch bearing double flowers of the same shade of vivid scarlet. Having planted rather thickly, I was able to remove all plants that bore single flowers, such being taller and somewhat straggling in habit, and those that bore flowers of a different shade of colour to the type, thus adding greatly to the effectiveness of the bed.—WINTONIAN.

## DESTROYERS.

### TO KEEP A GARDEN FREE FROM INSECTS.

NEVER allow any weeds to grow on the beds, as insects which feed on them may spread to the crops, and the weeds may provide food for insects when the ground is fallow or in corners and waste places, or under hedges, as insects are fond of such positions for breeding in. Rubbish, stones, and the refuse of a crop should never be allowed to lie about, as they form a welcome shelter for all kinds of pests. A proper rotation of crops is most beneficial. If a crop is attacked by a certain insect, it should be followed by one which is not liable to be injured by the same pest. Many plants suffer most from the attacks of insects when they are quite young; in such cases the plants should be pushed into vigorous growth by judicious cultivation as soon as possible. Birds should be encouraged in gardens. Few persons realise what an enormous number of insects are destroyed by birds, particularly during the breeding season, when nearly all young birds are fed on animal food. Ripe fruit and fruit buds, however, must often be protected from them. When the leaves have fallen in the autumn all those under fruit trees and bushes should be collected and burnt, as all kinds of pests harbour

under them. Any leaves which did not fall with the others should be picked off, as there are often chrysalides curled up in them. In the course of the winter the ground under fruit trees should be broken up so as to expose to the elements and the birds any insects or chrysalides which may be wintering there. A sharp look-out should be kept when any digging is going on for chrysalides or cocoons. As soon as any insect attack is noticed, steps should be immediately taken to check it, as at this time the old proverb "a stitch in time saves nine" is especially true, particularly when aphides are the foes. Keep any ground which is not in use well hoed; this will kill any weeds and expose any insects which may be in the soil.

In greenhouses be very careful in introducing a fresh plant, whether obtained from a friend or a nurseryman, to ascertain that it is free from aphides, scale, mealy bug, thrips, &c., as otherwise a house which was perfectly free from insects may soon become just the reverse. Give plants as much ventilation as possible consistent with maintaining a proper temperature, for in their natural state they are always in the open air. If fumigation or washing has to be resorted to, do not be content with one application, but repeat it in three or four days' time, so that any eggs which may not have been killed by the first attempt may succumb to the second. If ants be found running over plants, it is an almost certain sign that the latter are attacked by aphides or scale insects, which the ants are searching for to obtain the sweet substance they exude. As soon as any holes are found in the mortar of the walls inside a greenhouse or any cracks in which insects may shelter, the walls should be repointed, as when once insects obtain a footing in such places it is very difficult to keep the plants clean. G. S. S.

**Nicotiana affinis.**—This is the second season I have raised a considerable stock of this popular plant from root cuttings. For this purpose I lift the roots as soon as the top is killed by the frost in autumn and store them away in a little dry earth with the Dahlias in a Potato store, where they are quite secure from frost. When I commence propagating in the spring these are taken out, cut into lengths about an inch long, and dibbled into pans of light sandy soil, so that the upper portion of the root is about level with or slightly above the soil. They are placed on the door of the stove and kept moderately moist and soon start into growth. I was led to adopt this system by finding during the early summer of 1890 a quantity of small plants in one of the flower borders. On examining these I found that they were pieces of roots that had been left in the ground from last year.—WINTONIAN.

**New or rare flowers for drawing.**—Readers will kindly remember that we shall be greatly obliged for any specimens of new or rare plants, or information concerning them.

**Peas failing** (*J. R. S.*).—From the appearance of those sent we should say that they have failed through want of moisture and feeding. In sending a query it is always advisable to give the district.

**Names of plants.**—*G. G. W.*—All dried and shrivelled up; do not pack flowers in dried cotton wool.—*J. McIntyre*.—1, *Nymphaea rubra*; 2, *Pistia stratiotes*.—*J. M.*—1, fallen to pieces, *Geranium* sp.; 2, *Silene rupestris*; 3, *Linaria alpina*; 4, *Epilobium Fleischeri*.—*F. W. Norman*.—*Allium senescens*.—*W. Shirley*.—The Bladder Senna (*Colutea arborescens*).—*Bonchurch*.—*Eryngium Oliverianum*.—*Edgely*.—The Spanish Broom (*Spartium junceum*).—*Anon.*—*Amaranthus melancholicus ruber*.—*G. Fuller*.—1, *Ionopsis utricularioides*.—*F. Beaumont*.—*Dendrobium Draconis*.—*M. A. N.*—*Gongora maculata*.—*B. B.*—*Cypripedium barbatum pulcherrimum*.—*J. Russel*.—1, *Odontoglossum Insleyi pantherinum*; 2, *O. hastilabium*.—*F. M. Burton*.—The flower of the *Oncidium Kramerianum* was quite shrivelled.—*G. Hunter*.—1, *Oncidium Forbesi*; 2, *O. dasystyle*.—*S. Dyer*.—*Dendrobium superbiens*.—*J. Edgcumbe*.—1, *Oncidium Batemannianum*; 2, *Ornithocephalus grandifolius*.—*W. Shirley*.—*Salvia Horminum*.



## WOODS AND FORESTS.

### TREE NOTES.

*PAULOWNIA IMPERIALIS* has, in common with most trees, made unusually free and strong growths during the present year, and some young trees in soil of a light, friable nature have perfect, immense, orbicular leaves fully 12 inches long and nearly as much in diameter at the widest part. It is needless, perhaps, to say that such trees are growing in well-sheltered situations; indeed, if such had not been the case, the leaves would have been torn to ribands, although it is noticeable that trees in more exposed places have produced leaves of much smaller size, and therefore less likely to suffer by the wind. In any case the leaves of the *Paulownia* are of too large a size and the texture too delicate to allow of the tree being planted for ornament in any but the most favoured and sheltered places in these isles. The young growths are fairly stout and sufficiently pliable to withstand an ordinary storm; but the leaves, presenting as they do a large surface to the wind, suffer considerably in squally weather. The *Paulownia* is undoubtedly a handsome tree, and one that where it will do well—in maritime situations principally in Southern England—should by all means be planted. To recommend it indiscriminately would be folly, and that, too, even for planting in the southern portions of these isles. The Foxglove-like flowers were well illustrated by a coloured plate in *THE GARDEN*, so that a description is at present unnecessary. There are examples of the *Paulownia* thriving well in Kent on very shallow, poor soil incumbent on gravel, so that it is, perhaps, less exacting in that way than the ample foliage and succulent shoots would lead one to believe.

THE INDIAN BEAN (*Catalpa bignonioides*) is a fitting companion for the *Paulownia*, but it is capable of thriving over a wide area, and is altogether more suitable for planting in this country. It flowers with great freedom and stands cold winters well, and the foliage, though large and flaunting, is yet tough and of good substance. A point in its favour is that the leaves are not produced until late in the spring; indeed, this very cause has led to more than one specimen of the tree being grubbed out and cast away as dead. The flowers are very handsome at present and seem to be unusually plentiful this season. They are yellowish white and violet tinged, the throat being thickly speckled with purple and yellow. Of the *Indian Bean* doing very well in England there are many examples, such as the finely-shaped specimen near the house in which the late Emperor Napoleon died at Chislehurst, that at Hayes Place (the former residence of the great statesman, Lord Chatham, and his son, the Hon. William Pitt); while there are many others that might be pointed out. It seems capable of accommodating itself to a great diversity of situations and soils, while its undoubted hardiness and ornamental character still further add to the value of the tree for extensive planting in the better-kept portions of English estates.

THE CUT-LEAVED ALDER (*Alnus glutinosa laciniata*), everything considered, is one of the most valuable of cut-leaved trees. It will luxuriate where, perhaps, no other could exist—in wet swampy land—and as regards neat foliage and that of a pleasing shade of green, it is surpassed by few others. For planting by the pond or rivulet-side, it is an excellent tree; indeed, such places suit it far better than warmer and drier positions, and where half its beauty is lost before the summer is over. Cut-leaved trees

are not sufficiently recognised by planters, the late craze for worthless, in most cases at least, conifers having caused the useful hardy section of neat-foliaged deciduous trees to be neglected. This cut-leaved Alder is one of those very ornamental trees that could well take the place of the wind-shorn and almost branchless *Wellingtonias* and *Araucarias* that may be seen in many a good and otherwise pretty lawn and park, and which in a few years will have to be grubbed out and replaced by some of the very trees that the conifers were intended to supplant. Many of these cut-leaved deciduous trees make excellent lawn specimens, to wit, the cut or Fern-leaved Beech, some of the Oaks, &c., and as they can withstand a great amount of wind and exposure without failing in consequence, they can be strongly recommended.

THE PURPLE-LEAVED BEECH (*Fagus sylvatica purpurea*) associates well with the common run of our forest trees, and a pretty sight it is to see dotted here and there around the margins of large plantations and park clumps a few specimens of this brightly-tinted tree. There are numerous varieties of this Beech, and it behoves one to see a specimen in leaf before it is consigned to any particular position. Some of the forms are very slightly purple or bronze; others, again, are of the deepest tone, the latter being of the greatest value for ornamental effect. It is worthy of note that the Purple-leaved Beech can be raised from seed, and in a great many cases the depth of colouring is quite equal to that of the parent plant. Grafting is, however, usually resorted to, but the thickening of the stem at the point of junction of stock and scion is not always very pleasant in appearance. However, it is well to know that the tree can be raised true from seed. A. D. W.

### RENOVATING OLD TREES.

Now is the season to examine fine old trees upon the lawn and in the park, as those that are falling into a state of decay can be readily detected at this season by the appearance of the foliage, and by taking a note of the cause of failure the forester will thus be enabled to apply a proper remedy before it is too late. Old deciduous trees often contract disease which may be attributed to a variety of causes, such as poor and unsuitable soil, excessive damp or wet, caused by drains in the immediate vicinity of the trees having got choked up by roots or other obstructions, any or all of which, if not rectified in time, soon lay the foundation for a series of other diseases, such as heart-rot, mould, rust, mildew, and the development of different species and varieties of fungi, &c. The devastating inroads of any of these may often be prevented by timely care and the application of proper remedies judiciously applied according to the requirements and circumstances of the case. In cases where the soil has become exhausted, and the vital energy of the tree impaired thereby, a good dressing of rich compost will be beneficial in restoring it to its wonted vigour, and for this purpose perhaps nothing is better than road-scrappings well prepared and mixed with lime; at all events I have often used such with the best results. Before applying the stuff it will be an advantage to remove as much of the exhausted soil as can be conveniently done without cutting or injuring the roots. When the trunks of such trees have got coated with various forms of cryptogamic plants, such may be killed by washing and scrubbing the stem with lime water mixed with soot, which will cleanse the surface of the bark and render it more healthy, and exercise a salutary effect in promoting and restoring the tree to health and vigour. Trees that have died or are past hopes of recovery had better be stubbed out by the roots, and the bark removed from the trunk and burned along with the diseased branches, roots, and chips of wood in order to destroy and prevent the fungus spaw from spreading and attacking other trees in the

vicinity. In cases where it would be desirable to plant another tree in the spot from which the former has been removed, part of the exhausted material should be replaced by rich fresh soil, which will ensure success. Examine drains thoroughly to see that they are in proper working order, and where repairs are necessary have the work executed at once, or at any rate before winter, as such repairs can be done to better advantage during dry weather.

**Tree management.**—Anyone observing timber trees in woods and in hedgerows as he passes by rail through any 50 miles of England can hardly fail to be struck with the absence of anything like method in timber management. He may find some exceptions to this general rule in some few woods which are of sufficient magnitude to return a regular yearly income. But, even in these cases, the knowledge of the subject is almost invariably inferior to that displayed in the culture of land for ordinary purposes. Two distinct systems are followed, both equally injurious to the general good—in one district everything is cut down; in another, everything is left to stand. In one case the trees are injured by indiscriminate crowding; in the other, whole districts are dismantled of their fairest ornaments, and neighbouring crops are left to starve through their natural shelter having been destroyed. In both instances, the largest profit which can be derived from land by the judicious admixture of agricultural and timber crops is lost to the individual proprietor, and, of course, through him lost also to the country.

**Evergreen trees in Scotland.**—Notwithstanding the fact that the climate of Scotland is not so well suited to deciduous trees as the districts south of the border, no one can deny that it ranks amongst the best in the world for evergreen shrubs, being neither too hot nor too cold for the generality of them. They are all to be met with in Scotland in as great a state of perfection as anywhere in England and Ireland; and, strange as it may appear, it is nevertheless true that certain exotic shrubs will thrive in Scotland, while the deciduous trees from the same countries are more or less injured. Great Britain can perhaps boast of as many indigenous evergreen plants as almost any country, thus naturally proving that it possesses a climate very suitable for them; the climate of Great Britain enables us to cultivate infinitely more species and varieties of hardy evergreen shrubs than any other civilised country in the world can at present boast of. Evergreens, indeed, are not cultivated anywhere in these islands to the extent they ought to be. No doubt they are a little more expensive than deciduous shrubs. This extra expense is, however, well repaid by the clothed appearance which they give to our gardens and pleasure grounds, both for summer and winter effect. So much is this the case, that foreigners are always particularly struck with the quantity and size of the Evergreens cultivated in the northern portion of the British Islands, such shrubs being particularly missed in France and Germany, and even America, which furnishes us with some good evergreen shrubs, such as *Kalmia latifolia*, *Rhododendron maximum*, and *R. catawbiense*, which are generally found growing in a natural state in well-sheltered woods, where the severe winter frosts cannot reach them. The same remarks hold good with Evergreens from European countries where the summer climate is infinitely superior to that experienced in Great Britain.—J.

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No. 1066 SATURDAY, September 10, 1892. Vol. XLII

"This is an Art  
Which does mind Nature—change it rather; but  
THE ART ITSELF IS NATURE." *Shakespeare.*

## ROSE GARDEN.

## ROSE NOTES.

THE ROSE SEASON. Though with the increase of Teas, the lateness of the season, and from other causes it would be premature to write of the close of the present Rose season till towards the end of October, yet the first section of the season may be taken to have closed with August or earlier. In fact, the longer one lives among Roses, the more may he in such seasons as this be ready to agree with the facetious rosarian who said that August was his most roseless month—a curious, but forcible way of putting a more or less familiar fact. July has now become the month of the blooming of Roses beyond all others. August is utilised for gathering up the vital energy and extending the blooming period of the Rose through September and October. Of course there are exceptions to these dates for the order of blooming, and hence, fortunately, with a good collection of Roses under liberal culture, the rosarian is seldom without Roses in the open from May, or shall I say, unless on walls, from June to September. "Ridgewood" is able to give a very favourable account of the perfect blooming alike of the special double and the thin-petalled varieties. Possibly the on the whole abnormally cool summer, though hardly the predominance of north and east winds, favoured both. It is certain that our very full Roses need time for the orderly unfolding of their closely crowded petals, and the thinner Roses of the Verdier and other types open their eyes too wide when they expand in haste in the burden and heat of a cloudless day. Possibly the cool summer may also be credited with the intense colouring of the darker coloured red and maroon Roses, which were notable features in our crowded streets and markets as well as in our gardens and show tents throughout the Rose season of 1892. I never remember to have seen such brilliant flowers of General Jacqueminot, Prince Arthur, Fisher Holmes, Duke of Edinburgh, &c., as were so freely offered at a penny a piece in the streets of London this season. These and other Roses literally glowed with colour. The more delicate pink coloured Roses with Mrs. John Laing at their head have also been perfect in colour and form wherever seen. It seems singular that while some of these Roses have leaped to the front in popular favour almost at a bound, such charming Roses as La France and Boule de Neige are seldom or never met with in quantity in our markets or in the streets. Two newish Teas, viz., The Bride and L'Idéal, have made a good record of their merits this year. Among older Teas, Marie van Houtte has been lovelier than ever, if that is possible, while Mme. de Watteville and Catherine Mermet have also been at their best. That king of all dark Roses that has so long reigned supreme over the growing ranks of its rivals—Charles Lefebvre—was never finer in colour, form, size and finish than this season. General Jacqueminot has also proudly maintained, perhaps enhanced, its old pride and fame. It is to be hoped that the coming half, or quarter shall we say, of the current season's Rose harvest may match "Ridgewood's"

fair and just estimate of its past performances (page 201), and if so, rosarians will have little cause to complain of 1892.

IMPROVING ROSA RUGOSA. I generally agree with "A. H.'s" notes about Roses, but his remarks on hybridising *R. rugosa* into double-ness (page 201) rather alarm me. Is it not far better, more beautiful and distinct as it is? Already it is one of our very few Roses that forms a splendid shrub and feature in our landscapes if we will but use it freely, give it its head and let it grow and bloom as it lists. To say that the *rugosa* Rose is a perpetual bloomer conveys no true idea of the length of time that its very large, beautiful pink or white blooms continue to succeed each other, less in batches or series in succession, like the majority of Perpetual or Tea Roses, but in straggling and stray blooms throughout the greater portion of the season. And then the hedges or fruit continue in great beauty and brilliant colouring for months unless devoured prematurely by birds. And the leaves from first to last, the branchlets, the prickles, the habit of the *rugosa* Rose, furnish a unique feast of beauty. The young foliage, for example, is unequalled among Roses or other plants, and the same may be said of its dying hues of deep purple and light gold.

Has anyone tried a massive boundary or free hedge of this superb Rose, an impenetrable barrier or fence owing to its formidable prickles? Before any serious attempt is made to perhaps spoil or mar the bolder characteristics of this Rose through crossing it into a greater likeness to existing Roses, I hope its substantial landscape virtues will be more valuable tested through extensive planting and semi-free culture and growth. I do not know how others feel about this fine hardy Rose, but I never meet with it in garden and landscape but I crave for more, and yet more just as it is, and not toned down and spoiled through hybridisation or cross-breeding. D. T. F.

Japanese Rose (*Rosa rugosa*).—Last season I called attention to the grand qualities of the forms of this Rose, and after the recent wet and boisterous weather, I see more than ever how very useful, hardy and showy they are. Among the very earliest to flower and certainly the last to leave off, while even the plants carry a fine show of grandly coloured berries, I think *Rosa rugosa* one of the finest and grandest decorative shrubs we have. The foliage is so green and lasting, never affected with red rust, orange fungus or mildew. *Solanums*, *Aucubas*, *Pyracanthas*, *Ardiasias*, &c., are grown for their berries only. Why not grow these Ramanas Roses with the same object? Seedlings are easily raised, the flowers of these varying much in colour.—R.

Chinese or Monthly Roses.—These are occasionally called Bengal Roses, and for beds or borders must rank amongst the very best we have. Commencing to flower early in June, they continue to bloom until October and sometimes even later than this. These Monthly Roses are of various colours, although one seldom sees any except the old Blush and old Crimson varieties in general cultivation. They are great favourites with many, and are certainly deserving of every praise on account of their freedom of flowering and free-growing qualities. I was very much struck with the beauty of a mixed bed of these in a neighbouring rectory garden a few days ago. Although exposed to much rough weather recently, these plants were very showy again after a few hours of sunshine. The rector told me that he could have cut a fine bunch of mixed colours at any time since the early part of last June. As they will grow well in almost any soil and are the most suitable of all Roses for town and suburban gardens, I think these Chinese Roses want more attention drawn to

them. Although they are far more satisfactory than any other Rose under a neglected state of cultivation, it must not be forgotten that they revel in good soil of a fair depth. As these Roses are almost always grown on their own roots and are so readily struck, they are the best for the inexperienced amateur, because all growth is valuable, and there are no annoying suckers cropping up that come from the stocks so many other classes are worked upon. They will do best under a fairly hard system of pruning. By a little care in planting the stronger growers towards the centre of a bed and edging with such varieties as *pumila alba* and *Fabvier*, a fine effect may be had. *Rival de Poestum* is a splendid pure white; *Conticéna*, a good pink or rose colour; *Cramoisi Supérieur* a good deep crimson; *Laurette Messimy*, of which a coloured plate was given in THE GARDEN of October 24, 1891 (p. 378), a newer variety of exceeding beauty and of pale flesh-pink colour, opening into a bright carmine-rose as it ages.—R.

## ROSE LAMARQUE.

I WAS very glad to see the charming woodcut and faithful description of this fine old Rose in THE GARDEN of September 3 (p. 203). It has but one failing—its tenderness, for not being fit for exhibition should hardly be reckoned as a fault, but a virtue, and were it a fault, it is fully atoned for by its substantial decorative merits. Its fully-grown blooms can hardly be said, however, to be too small, but rather too thin and flabby for show purposes. Your artist is to be commended for not giving a fully expanded bloom of Lamarque in your woodcut. Such a bloom would hardly be kind to Lamarque nor appreciated by the readers of THE GARDEN. Walls clothed with the graceful semi-shining leaves and pure white clusters of this Rose are among the most refreshing and pleasing Rose experiences in some of our finest old gardens. Some might prefer *Niphetos* in its normal or climbing form, but I am not one of those, greatly as I admire and largely as I have grown it. I agree with the writer in all he says of the propagation and planting of this fine old Rose. It, however, does quite as well, and is as much an Evergreen on its own roots as on the Brier or any other stock. It is also safer, as we shall see. South, south-west, or west are also among the best aspects for this Rose, though it may be had in great perfection in the dog days by being grown on colder aspects and protected from the severities of our coldest winters. On no aspect in the open air—and Lamarque is far and away best as an open-air Rose—is this Rose safe when the temperature takes a free run into the danger land, bounded by 20° to 32° of frost. Under such hard conditions this lovely Rose is often cut down, but seldom or never destroyed. No living Rose possesses greater, swifter recuperative force in root-stock or roots. So rapid and complete is the work of recovery, that the blackened branch of the spring becomes the silver clustered drapery or bower of the same summer or autumn.

Of course, Lamarque may be readily protected from killing or crippling frosts on warm walls. But accidents will occur, and some also prefer to have their Lamarques renew their youth and their vigour by leaving them very much to their fate. And that fate is far less disastrous than might have been expected. Plants of Lamarque from thirty to forty years old have been known to bloom annually with little or no protection. The oldest were on their own roots. During this period the branches were often deeply scored with black lines of frost, and only once were the plants killed to the ground-line. Tremendous growths



were thrown up in a few months afterwards, and the plants literally renewed their youth.

One way of keeping such Roses as Lamarque, Niphetos, Maréchal Niel, Cloth of Gold, &c., as hardy as possible in our climate is to grow them on well-drained and rather poor rather than rich soils. Moderate growths are the hardest and flower the most freely, points worth constant recognition in the cultivation of such choice and semi-tender Roses in the open air in our treacherous climate.—D. T. F.

—This Rose well deserves all you say of it at p. 203 of last week's issue. I have had twelve years' experience of one plant which was raised from a cutting and planted at the foot of the back wall of the greenhouse in quite a narrow border; the stems are 12 feet long before reaching the roof under which it is trained. At Easter every year I cut hundreds of blossoms, which are much esteemed for church decoration. This variety flowers over a much longer period than many Roses of its class. I cut a quantity of blooms during the summer also. The great point to observe in its successful management is to avoid overcrowding of the shoots. During the month of July the plant receives its annual pruning, cutting out old and weakly branches to make room for vigorous growths, which are freely produced and from which the finest blooms are taken. This variety is rather subject to attacks of red spider, but frequently syringing with clear water keeps it in check. Covering a large space of a part of the kitchen garden wall facing south at Orton Hall, near Peterborough, is a grand specimen of this Rose. Another, but a smaller tree, flourishes on the vicarage in this village.—E. M., *Swanmore Park, Bishop's Waltham*.

#### MANURES FOR ROSES.

Now that the planting season is at hand, a few notes upon the manures most suitable for Roses may be welcomed. I am certain that many soils have been injured as far as the Rose is concerned by injudicious applications of a manure that was unsuitable. For example, if your soil be naturally hot and dry or of a sandy and porous nature, I would advise you to use neither soot nor guano. These have a great tendency to dry the soil yet more, and it is only in stiff and strong soils that they are really beneficial. On land of the last-named character these two manures are not to be despised. When planting Roses upon light and dry soil, such as is now under notice, it will be much better to use some cooling manure, and also one that will retain moisture. I would recommend a mixture of well-decayed cow manure and stable manure. If these are thoroughly rotted and turned over a few times they will benefit such soil more, and in a far more permanent manner than soot or guano. A little agricultural salt incorporated with any mixture applied to very light land is decidedly beneficial. I well remember once having a large bed of Roses upon the site of some Asparagus beds that had been frequently manured with salt. These plants grew away more freely and later during the following summer than some upon the opposite quarter and where no salt had been applied. Used carefully, salt is an excellent and cheap manure; it keeps the soil cool and moist. I am a believer in the benefits accruing from a thorough mixture of manures, but if tied to one manure for Roses and upon an ordinary soil, I should unhesitatingly choose pig manure. This is very powerful and lasting, and if lightly forked in when used as a top-dressing, or a few ashes be mixed with it before application, the unpleasant odour will be neutralised. Some apply lime and night soil to this manure, but these disseminate so much of the valuable ammonia, that I always use ordinary soil or ashes. Night soil can be put to no better use than trenching it well into the ground when forming a rosery. Here its fertilising and lasting qualities will be seen for a long time, and when dug in no unpleasant odour results. Woollen waste is a very useful manure for stiff soils of a clayey character. I have found it a very cheap and

lasting manure. Fish manure, on the other hand, is very evil-smelling and powerful, soon exhausted, and by no means cheap except in a few favoured localities. For general work, a mixture of decayed cow and horse manure is the best. This should be turned over frequently, so as to avoid any white and drying heat in the centre of the heap, and also to secure all the moisture from urine or rain. Bone-meal is an excellent artificial manure. Roses are hungry plants, but they want steady and constant feeding to secure good growth and flowers; not excitement, with its consequent sappy growth, followed by a relapse through the soil having been impoverished with artificial manures. Bone-meal, however, with woollen waste, rags, sweepings from the shoeing forge, &c., mixed in small quantities with thoroughly decayed manure, will suit all soils equally well and form a good mixture for Roses.

A. P.

#### NOTES OF THE WEEK.

**Rock plants at Chiswick.**—We understand that the Royal Gardens, Kew, have presented to the Royal Horticultural Society upwards of 200 named plants for the rockery at Chiswick. Now that the public taste has set in in this direction, this gift is particularly acceptable.

**A fine Douglas Fir in Shropshire.**—A friend sends us a note of a fine Douglas Fir at Walcot, Lydbury. It was planted by Mr. George Bond, March 22, 1812. It measured, May 12, 1892, 107 feet high to top of leader, girthed 12 feet 9 inches at 4 feet from ground, and contains 200 feet of timber.

**The miniature Sunflower** (*H. cucumerifolius*) is a delightful autumn-flowering plant, and one that should be in every collection. It is well named; its small flowers of a bright orange-yellow with a jet-black disc, rising from a bushy undergrowth of pale green, make a delightful contrast. It may be termed a hardy annual, and is one of the finest plants for cutting we know.

**Micromeria croatica.**—A hardy species of much merit for exposed slopes on the rockery, where it has been flowering for the last month, and is still in great beauty. Its free, graceful habit is almost as interesting as the flowers are pretty, and groups of this rare species hanging over low ledges are really very fine. It strikes readily from cuttings and is perfectly hardy.

**Campanula lingulata** is new to us, and although somewhat resembling *C. dahurica*, it is sufficiently distinct and attractive to include in even small collections. It attracts attention even in the seedling state by its long, much crinkled, and deep green glossy leaves, looking as if they had been varnished. The flowers are borne in dense heads, of a rich deep blue, and really distinct and fine. It is a native of Southern Europe, and promises to be a good hardy rock plant.

**Silene Schafta.**—One of the most charming rock plants in flower with us at present is this dwarf extremely free-blooming perennial, which is indispensable for autumn flowering. It is said to be rather shy in some parts of England. A grower in Cheshire has the greatest difficulty in keeping it alive even, and his collection of alpine is by no means a small one. We grow it in coarse, gritty soil on a sharp slope, and find this answers best even in high districts. It has a branching, tufted habit, and produces with great freedom its rich rose-purple flowers each almost as large as that of *Lychnis chalcidonica*. It strikes readily from cuttings and may also be raised from seed.

**Crocus Sharojani**, one of the rarest and most desirable of all the autumn Crocuses, opened its first flowers the other day. Although beautiful and the only orange autumn Crocus, it is a most unsatisfactory one to cultivate, and although at one time fairly plentiful, it is now comparatively scarce. It seems to resent our cold, wet autumns and late spring frosts; at any rate, the foliage is usu-

ally browned, retarding, I believe, the development of the new corms. Another reason may be looked for in the fact of its being the earliest to bloom. It should, of course, be lifted and replanted a month before the majority of them, and at least a fortnight before *C. vallicola*, *nudiflorus*, &c. *C. Sharojani*, I think, must be lifted every year, but it is a mistake to keep it long out of the ground. I have never yet seen any seed on it, and it increases very slowly.

**Bambusa Fortunei var. aurea.**—This yellow variegated form of the dwarf *Bambusa Fortunei* is represented by two or three tufts in the new Bamboo garden at Kew, and, judging by them, it is a plant which is worthy of a place in any garden. It is somewhat stronger growing than the typical green-leaved *B. Fortunei* or its commoner var. *variegata*, the stems being stouter and the leaves larger and broader. The latter are striped lengthwise with yellow, which gives the plant a very bright appearance, and makes it a conspicuous object at even a considerable distance. It attains a height of little more than 2 feet, and may therefore be accommodated in the smallest gardens. The treatment which suits the larger species of *Bambusa* should also be given to this, viz., a rich open soil and abundance of water at the root. A sunny, sheltered position will also do much to intensify the colour of the leaves.

**Iris Kämpferi.**—The remarks of the Rev. H. Ewbank in your issue of August 20 upon the successful treatment of this Iris remind me that in my note upon it in the issue of July 23 I omitted to state that the subsoil in my garden, at the depth of 2½ feet to 3 feet, is heavy clay. While, therefore, the Rev. H. Ewbank has successfully employed artificial means for preserving moisture in his Iris beds, my borders are naturally so favoured. With reference to Mr. Whitworth Shaw's notes on *Iris Kämpferi* in your issue of August 6, allow me to say that it is not every amateur who has a pond and the means of treating plants as aquatics. Also that it is a well-known fact that many plants, including *Iris Kämpferi*, are not hardy when grown as aquatics, but readily succumb in winter in a cold, damp soil. Those, therefore, who wish to grow *Iris Kämpferi*, but have not the facilities for treating it as does Mr. Shaw, will do well to accord to it a warm spot in which it may pass safely through the winter. If the subsoil in their gardens is retentive of moisture, a moderate supply of water will be all that the Irises desire. If, however, the soil is porous and sandy, let them adopt the excellent advice of the Rev. H. Ewbank, and line the bottom and sides of their Iris beds with clay.—R. A. JENKINS, *Highgate*.

**New Kniphofias.**—Among the thousands of seedlings annually raised here, a large number turn up different in form, size, and colouration from those under cultivation, but not distinct enough to merit a special name. Yet I can add four good novelties to the list of those which are most striking. *K. refulgens* has the general appearance of a highly cultivated, large-flowered form of aloides, the difference consisting in the ovoid form of the spike and in its colour, which is a uniform deep blood-red. *Niobe* has rather broad leaves of middling length; stalk 3 feet; spike narrow, cylindrical, about 10 inches; flowers tiny, but very numerous, bright orange-scarlet. The very broad points of the tubes turn yellow when opening and give the spike a very attractive appearance. It is a cross between *natalensis* and *corallina*. *Luna* has very long leaves; narrow dark green stalk, 4½ feet long; spike 12 inches. The flowers are brick-brown and change to pale straw-yellow. Although the colours are not gaudy, it is nevertheless a very attractive plant. It is a cross between *natalensis* and *Saundersi*. *Triumph*, perhaps up to date, is the best of all my seedlings; leaves broad and massive, bright green; stalk 3 feet to 3½ feet; spike about 12 inches to 14 inches; one to three adventitious spikes on the same stalk. Flowers bright deep shining yellow; stamens orange-red, protruding, and giving a peculiar lustre and brightening wonderfully the colour of the spike.—MAX LEICHTLIN, *Baden-Baden*.



## FLOWER GARDEN.

## THE EDELWEISS IN DEVON.

THE specimen of the alpine Edelweiss of which I sent you a photograph, and which is represented in the annexed engraving, was planted three years ago in rather poor gritty soil in a crevise between lime rock and in a sloping position with a southern aspect. This evidently suits its best. The first year there were only two small blooms on the plant, last year it had six considerably larger, and this year there were eleven blooms, many of the flowers measuring from 12 inches to 14 inches in circumference round the outside edge of the points. This year I tried some plants in another part of the rockery in richer soil

persistent bloomers than the *Viola cornuta*. It is well to make doubly sure of continuity of blossoming by adopting "R. D.'s" additional safeguard of picking or clipping off all the faded blooms once a fortnight or so, and before they can possibly ripen seed. The white variety of *cornuta* is, however, my favourite, and we have few hardy flowers to equal it for the garden, or for small vases, baskets, bouquets or chaste table decorations. D. T. F.

## STORING TUBEROUS BEGONIAS.

THE tuberous Begonia is now used to such an extent as a summer bedding plant for the embellishment of the flower garden and borders, that it becomes a question as to the best method of safely storing the tubers through the winter months, as well as to save time in spring. As the season will soon be upon us when the whole of the stock must be lifted and stored safely from frost, I will simply detail my practice in the hope that it may be of service to readers. The whole

care should be taken to place a couple of strips of wood, one at each end, so that the boxes do not fit down too closely over each other, as by admitting a current of air between them they will keep in good condition. When the tubers are stored in this way there is no trouble with them in the spring, as they have simply to be introduced to light and given water to induce them to start again into growth, and they receive no disturbance whatever until they are again planted into the flower beds. When seedlings are being dealt with that have been stored in sand, after having been shaken out they may be strewn thickly over a moist surface until they commence growing.

Clarendon.

C. WARDEN.

**Variegated Arabis.**—There are several forms of the Arabis, especially of the woolly albida forms, but these are irregular growers, need much looking after, and often need replanting. One of the prettiest is the variegated form of lucida. This is rather scarce, though apparently hardy. It in-



The Edelweiss in a Devonshire garden. Engraved for THE GARDEN from a photograph sent by Mr. G. S. Symons, Chaddlewood, Plympton.

and on the flat with the roots some little distance from the rock; there were numerous small blooms, but all were a dirty greyish-green in colour, a great contrast to the silvery foliage and snowy-white woollen bracts of the beautiful specimen you have engraved, and which has been the admiration of all who have visited our gardens during the summer. The German name Edelweiss means "Noble White," with reference to its beautiful colour, and it is also called "Etoile du Glacier," "Star of the Glacier." When grown successfully it is certainly one of the most beautiful of alpine plants. G. S. SYMONS.

Chaddlewood, Plympton, Devon.

**Viola cornuta.**—"R. D." (p 196) does good service in calling attention to the durable and substantial merits of this old favourite. In congenial localities, on suitable soils, and with a rainfall from 30 inches upwards, there are few more profuse and

of the stock of the above plant is allowed to remain in the beds until the heads are somewhat crippled with frost, which is generally early in October. A number of shallow boxes about 4 inches deep are provided. The boxes have holes made through the boards at the bottom, but no drainage is put in them. When the lifting is commenced, the box is brought near the bed from which the Begonias are being dug up and is tilted at rather a sharp angle, and as the plants are lifted the surplus soil is removed from the balls of earth and they are packed closely in the box, beginning at the lower end. By choosing the tubers of the right size, a great number may be put into a comparatively small box. As the lifting proceeds the bulbs are carried to an airy vinery, where the tops soon die off and are removed. If the tubers have been packed carefully into the box, there will be no spaces to be filled up with soil; but, on the other hand, should they be extra large, these hollows should be filled up with not too dry soil. When it is seen that the tubers are sufficiently dry, the boxes can be carried into some safe shed or room, or even placed beneath the stages in houses, so long as they are free from drip. If the boxes are stored one above another,

creases slowly, and, oddly enough for an alpine plant, seems to thrive best with ample moisture. The plants form pretty rosettes of compact yellowish-green glossy leafage, and are found excellent as edgings to beds of mixed or hardy plants. It is employed to edge a mixed bed at Hampton Court. It is not well to allow this variety to flower, as the merits of the variegated foliage are to some extent detracted from. Stock can only be increased by division of the plants, or careful removal of side growths, and dibbling them into nursery beds. —D.

**The sweet-scented Tobacco.**—I have grown this for several years in various ways. At the present time I have it planted somewhat largely in various situations. I find it a most useful plant for growing against a wall in front of Roses, &c. In this position I have grown it for four years in succession. This wall faces south. During the last three years I have never needed a fresh supply of plants, as the roots have produced an abundance of young plants, and this without any trouble. In the spring of this year when the men were digging this border, I examined the roots and observed they were quite fresh, although only a few inches under the soil. It is true the soil never gets very



wet during the winter. The roots have remained in the ground with equally good results in a bed of hardy Fuchsias, with a covering of leaf soil over them during the winter for the last three years. I find that plants from the roots come into bloom much earlier than those obtained from seed sown in the spring, while the plants do not grow so strongly as the seedlings.—J. C. F.

### NOTES FROM LOXWOOD.

TO THE EDITOR OF THE GARDEN.

SIR,—The summer, which with the advent of September one may call "past," has been a very good one here for all herbaceous plants, with some exceptions, and a few notes may not be uninteresting. Aquilegias in the early summer were glorious, and I wonder that these are not grown by many in greater masses. One often sees them dotted about an herbaceous border, but grown in large masses in sheltered and half-shady places is the way they look best. The hybrids of *cœrulea hybrida* last well for a year or two, but after that fresh plants, easily raised from seed, should take their place. *Aquilegia glandulosa* here, however, never flowers well after the first year, and to get them to bloom freely I find it necessary to treat them as biennials and raise plants from seed every year. The beautiful drawing of *Genista Andreana* recalls a very pleasing effect of this plant on the rockery in close proximity to *Cistus florentinus*. This *Cistus* and *C. lusitanicus* are the best for a small rockery, being so much dwarfer than many others. Working for pleasing combinations of colour in herbaceous borders and even on rockeries of small size affords great delight, and to effect this and avoid inharmonious contrasts should be more attended to. For example, what could be more painful than *Aubrietia Leichtlini* and *Lithospermum prostratum* in close proximity, which I saw this summer? On a rockery a bold mass of that lovely weed *Veronica rupestris*, backed by a good stretch of *Cheiranthus alpinus* or *Marshalli*, gives a lovely contrast. *Cheiranthus Dilleni* is a beautiful low-growing species with yellow flowers, strikingly shaded and most effective.

For the front of a mixed border, *Cheiranthus alpinus* associated with *Polemonium Richardsoni* is very pleasing, and a combination of the two would make a lovely bed. *Lychnis Lagasce* and *Silene alpestris* both flower about the same time and make a delightful effect. *Lychnis Lagasce* perishes in the winter here, and as its chief charm is a broad patch too large to be covered by glass squares, I raise it every year from seed and winter a number of plants in boxes in a cold frame. I was very successful this year in getting a fine mass of yellow in conjunction with *Delphiniums*, and the effect of the lovely blues of these grand border plants mixed with strong plants of *Lupinus arboreus* was most striking. *Lupinus arboreus* is a grand plant or shrub, but I find it short-lived, and to keep it have to raise seedlings every two or three years. It is very bad to transplant except as quite small plants. My rockery is only a year or two old, and the situation hardly exposed enough, I fear, to grow many of the rarer and choicer alpinas, but a few that do well and I find easy may be useful to beginners: *Erodium Reichardi*, *Erodium macradenum*, *Dianthus alpinus*, *Dianthus neglectus*, most of the encrusted Saxifrages, as *Burseriana*, *sancta*, *luteo-purpurea*, *juniperina*, *Boydii*, *cesia*, *coch-leata*, *paradoxa*, *Tombeanensis*, &c., but squarosa always fails.

The *oppositifolia* group of Saxifrages also does well, but the *Androsaces*, as a rule, badly. Al-

pine *Primulas*, with the exception of *rosea* and *nivalis*, I find difficult. *Ranondia pyrenaica* flowered very well, and *Gentiana verna* is thoroughly happy. But anyone commencing a rockery may have intense delight by clothing it with simple things that cannot fail to do well, and by degrees attempting the choicer and rarer alpinas which puzzle our most experienced cultivators to grow out of doors all through the winter. A few things absolutely necessary to every rockery and quite easy to grow are dwarf *Alyssums*, such as *serpyllifolium* and *spinosum*, the lovely dwarf *Phloxes amœna*, *Vivid*, *setacea*, *The Bride*, *Nelsoni*, &c., *Aubrietias*, *Cheiranthuses* already mentioned, a selection of the best mossy Saxifrages, *Thymus lanuginosus*, *serpyllum albus*, and *coccineus*, *Campanulas* in variety, such as *turbinata*, *pulla*, *G. F. Wilson*, *Portenschlagiana*, *abietina*, *Dianthus deltoides*, *Linaria alpina*, and scores of other easily grown and lovely rock plants. In a border that is very shady, *Mertensia sibirica* and *Lychnis Haageana hybrida* are thoroughly happy; both are lovely, and the splendid mass of harmonious shades of red the latter presented delighted all visitors. *Primula cashmeriana* grows with me like Cabbages and is a beautiful sight in spring. I divide it every second year. I quite agree with the notes I have seen in THE GARDEN as to the shy-blooming of *Heuchera sanguinea*. I propagate young plants every year, but can never be certain of either old or young ones flowering with certainty. I have read with much interest the notes in THE GARDEN on self *Antirrhinums*. For several years I have grown masses of a pure white and deep crimson and good yellow. Of course, I propagate them by cuttings taken in the autumn. They are most useful for planting in mixed borders where early spring bulbs and *Anemones* have flowered, and nothing gives such a pleasing mass of colour. Two plants that have done better with me this year than ever before are *Michauxia campanuloides* and *Meconopsis Wallichii*, both biennials, but so lovely, that they are worth a good deal of trouble. The former, I find, likes full sun, the latter shade and a damp place.

I fear my letter has lengthened out much more than I intended, and I therefore refrain from mentioning many things I should like to. Personally, I much enjoy reading gardening memoranda from amateurs who are practically their own gardeners, and it is in the hope that it may not be uninteresting to others that I send these notes. M. C.

Loxwood House, Billingshurst, Sussex.

**The Mezereon in berry.**—I recently came across a small bush of this *Daphne* more profusely berried than I have ever seen, the entire plant being simply one mass of bright red berries, and in this stage it formed a very attractive feature. It was growing in a deep loamy soil that was at no time parched up, and yet the situation was fully exposed to the sun, which conditions suited this *Daphne* perfectly. When berried in this way the *Mezereon* must have a place assigned it among the best of our ornamental fruiting shrubs, while we are not limited to the red-berried variety, as the white-flowered form produces fruits which are yellow when ripe, and afford a pleasing contrast to those of the commoner kind.—H. P.

**Alternanthera cuttings.**—These should now be secured where old plants are not retained in pots for another season's stock. If left much later there will be the risk of early autumn frosts before the cuttings are taken. These will strike best in a close frame or pit with a little warmth, and as soon as struck should be freely exposed to sun and air. Much growth before spring is not

desirable, serving no practical purpose. Shallow seed-pans are very good ones for these cuttings; these can be easily kept upon a shelf in a warm house during the winter. Old plants can, of course, be lifted later on, but this is generally deferred until the first frosts have caught the plants; then afterwards they do not keep nearly so well; in fact the stock is thus sometimes lost entirely. All things considered, therefore, the autumn-struck cuttings are the best.—H. G.

### NOTES ON HARDY PLANTS.

**Helenium Hoopesi.**—It seems that this showy species is one of the early introductions of our friend Mr. W. Thompson, who had it from the Rocky Mountains. It is a fine decorative plant for early summer, a distinct and good species in the botanical sense. Those of us who have crowded gardens must needs be constantly discarding something, but this is not a plant that I for one should as yet care to get rid of. We have nothing in its style at the time it blooms, and none of the later kinds that I know equal it for rich colour.

**Clematises.**—Why do not these cling to a Lily? I have a fancy for growing Lilies in the midst of herbaceous climbers, and have had pleasing results, at least to my mind, with perennial Peas and *Lilium auratum*, *Apios* on the Turncaps and *L. testaceum*, and *Tropæolum tuberosum* on *L. pardalinum*. Lately I have been trying *Clematis Jackmanni* with *Lilium lancifolium* or *Kretzeri*. I placed the two, as I thought, conveniently together, but the *Clematis* will not take hold of either stalks or leaves or stems. Nothing could possibly seem more tempting, but whilst the *Clematis* catches at Roses, its own old stems, wire and even thick iron, it will not touch the Lily. Here and there I notice a feint to turn its tendril-like leaf-stalk round the peduncles of the swelling Lily buds, but it retires abruptly, leaving a double or kink in that part of its stalk and preferring, on what seems like a second thought, to remain unwedded to such a neighbour. Both have grown up together, and the *Clematis* makes almost a canopy in and over the head of Lily, and yet they do not combine as do other things as above mentioned. If there is merely some local cause for this, or similar results obtain from experiments elsewhere I know not; I am only sure of my facts with my own individuals. In any case the facts are not without interest.

**Angelica Archangelica.**—The bold and bright green foliage of this strong-growing plant is a feature that would commend it to many for at least the wild garden or even the more dressed parts. To my mind the chief quality is its fine Sandal-wood or Orris-root-like smell. When grown near a walk, and especially if touched, the sweet smell is given off abundantly all summer. Where sweet-smelling flowers and herbs are in request, this should be employed. In deep rich soil, kept clear of other plants and weeds, it grows to large dimensions, which feature, coupled with the delicate pale green colour of the herbage, renders it no mean decorative object.

**Lewisia rediviva.**—The present reappearance or new growth of this curious and beautiful succulent plant is quite normal, so far as one can speak of the normal state of a species under such totally different conditions under which it exists in this country compared with those of its own in the far Western States of N. America. It does not matter whether you are dealing with newly-imported roots or you observe plants that may have been established for years and grown in the open air, the results are alike. As regards the reappearance of the new foliage in late summer or autumn, I have watched the plant for six or seven years and it is always the same. The curious way in which the plant seems to die off totally in May or June, when its big, satiny, delicate pink flowers have just gladdened one by their singular charms, leaves a rueful doubt as to whether it will ever come again; but at this season it truly verifies its appropriate fanciful name of the Resurrection



Plant. I know some people who have, on seeing it collapse in early summer, too hastily disturbed its dormant roots and given it place to another plant on the supposition that it had surely died. I believe I have pointed this out before, but fresh occasion occurs for reminding those who have possessed themselves of this singular species that it may not only be putting in its usual appearance about this season, but that it is really a hard plant to kill, and, it may be added, owing to its scariness, as difficult often to replace.

**Trientalis europæa.**—This is the time to transplant or propagate this charming, if humble plant. If you will observe the minute knobs—the newly formed ones—you will see they are very active, sending forth their silvery thread-like roots and pushing upwards their next year's herbaceous stems. You should catch the plant before this underground growth ceases, and then the young plants will rest all the more comfortably in winter in their new homes from having become settled. Nothing in the way of soil suits the plant better than plenty of leaf-mould; indeed, two-thirds leaf-mould well decayed and the other part sandy loam. The texture of this compost exactly fits a plant with a free and rapid root-running habit. As to position, I have long grown it in full exposure with plenty of moisture, as well as in more shady parts. In the former it may only reach a stature of 3 inches, but its flowers are as numerous and large as when grown in shade where the growth may be a foot long. By no means disturb your plants in the teeth of winter. Late summer is the best time; failing that, transplant in April, even though the growths may be considerable. The straggling or scattered appearance of the plant is due to the bounding habit of the root stolons already adverted to, and is, of course, quite normal, but you can alter all this and get a more tufty habit of the miniature tree-like growths. Simply plunge to a depth of 6 inches, the old broken rims of big flower-pots forming a round enclosure of the desired size. One strong plant may soon fill one of these of a diameter of a foot, only make sure the joints are fairly secure, as the roots will rush to the side and soon find out the faults. A stopping of clay at the outer side of the pot structure would do, as the roots would not easily, or like to, go through that.

Wardle, K'elstell.

J. WOOD.

#### ARRANGEMENT OF PLANTS IN BORDERS.

GARDENERS have yet something to learn in their methods of planting the borders devoted to hardy plants and the front lines of shrubberies. They are far too much crowded: This is a common fault. They attempt too much, employ too many things, and it not unfrequently happens that common subjects hide those of a choicer and therefore more valuable character, and too much crowding interferes with a perfect development.

In visiting private gardens and not a few nurseries these impressions are forced upon the mind, and it is frequently the case that common things are rank growers and are allowed to spread about and over the borders, occupying much more room than should be allotted to them instead of being kept within due bounds. Indeed, the hardy border, which could be made a delightful feature in some kitchen gardens when employed for the ornamentation of broad walks, fails to do this effectively because of being overcrowded and through neglect. Fault is often found with our floral decorators that in arranging groups for effect they employ too many plants for the purpose of filling a given space, and so destroy their individuality. The same charge can be brought against some of those who plant borders. Plants that form pretty pictures as individuals are hidden by those of straggling and uncouth habit through undue crowding; whereas, could they display themselves to the best advantage, they would be admirable in outline and effectiveness. This fact was strongly impressed upon my mind when recently at Messrs. Sutton and Sons' Portland Nursery at Reading. On one side of a broad walk they have a border

the front line of which is formed of *Portulacas* that do remarkably well in the light sandy soil and are particularly brilliant in the glow of the summer sunshine. Then such things as *Hyacinthus candicans* and plumose *Cockscombs* planted in threes, so that each individual plant can be fully seen; herbaceous *Phloxes*, *Delphiniums*, *Hollyhocks*, *Chrysanthemum maximum*, *Sunflowers* of various types, &c., are so planted that one does not hide the other, and yet the border is quite full enough to be effective. Some planters appear to be under the impression that one object to be sought in planting is to entirely cover the ground and so form a kind of floral jungle. I confess to liking to see the soil also about the plants and be able to note that it is kept clean and well tilled, and there is this among several advantages in not overcrowding, that the gardener is able to get among his plants, tying up such as need it, thinning out others that require it, and otherwise giving them necessary attention.

R. D.

**Agrimonia odorata.**—I was pleased to note Mr. J. Wood's favourable note on this very old favourite (p. 196), and quite agree with all he writes of its sweetness and showiness. Unlike most plants, it can hardly be said to lose its interest and fragrance when it falls into the sere and yellow leaf. My first acquaintance with the plant was in the woodlands of Perthshire, where it was held in considerable repute as a pleasing substitute for tea. The dried leaves, as well as the flowers, retain much of their pleasing odour. Tea was from 6s. to 10s. per lb. in those days, and dried *Agrimonia* was much sought after as a substitute or addition to make the tea go further, and also to add a peculiar delicacy and aroma to it. Does anyone use *Agrimonia* as an addition or substitute for tea now a-days?—CALEDONICS.

**Self-coloured flowers.**—I read your article upon "Self-coloured Flowers" in THE GARDEN of the 20th ult. with great interest. For years I have been an admirer of hardy plants. In Scotland the *Geranium*, *Calceolaria*, and *Lobelia* still reign supreme in the majority of suburban gardens, with the usual result, that few take any real interest in their gardens. I have found groups of self-coloured flowers produce by far the best effects. I have an *Antirrhinum* which is fairly pure white, dwarf, and a most persistent flowerer; also a rich crimson (*The Moor*), a good flower, being large, with a good lip, but not such a continuous bloomer; they are both very effective in groups. At present a large group underneath a large standard *Holly* is lovely; the *Antirrhinum* I find is one of the few plants that succeed really well during summer in such a position. The most effective group I have just now is a *Carnation*, *Maggie Laurie*; it is a lovely shade of flesh-pink, has abundant grass of a fine healthy tint, and sends up a second flowering stem just as the first one comes into bloom; it continues flowering after all other *Carnations* are past. I grow most of the best self, but find some of the finest colours and bursters. *Maggie Laurie* never bursts; indeed it is the finest self *Carnation* I know.—B. W. J., *Edinburgh*.

**Lilium speciosum Krætzneri.**—This variety of *Lilium speciosum* has for the last month or more been seen in considerable numbers in the various florists' shops, as well as at the different exhibitions held during that time in the neighbourhood of London. Like all the other forms of *L. speciosum*, it does not bloom in the open ground at the earliest before the middle of August, while frequently the first blooms are much later than this in opening, so that in order to get the flowers early they must be brought on under glass. The flowering specimens are all, or nearly all, the produce of bulbs imported from Japan, for though some forms of *L. speciosum* are largely grown by the Dutch, this is one that is at the most cultivated by them in very limited numbers, while, on the other hand, immense quantities are sent here from Japan. In this variety the flowers are white, with the exception of a greenish stripe down the

centre of each petal. Among the imported bulbs many magnificent ones are often to be found which will throw up two, three, four or more flower-stems, so as to form a handsome specimen. Occasionally interspersed with the imported bulbs of *Krætzneri*, but at most in very limited numbers, there is a second variety (*album novum*) that differs principally in the pollen being yellow instead of brown, and the blossom being less symmetrical than that of *Krætzneri*. Besides these white varieties, great numbers of coloured forms are also sent here from Japan, the bulk consisting of two kinds—first, a very good type of *rubrum*, and secondly, the richest tinted of all the specimen section, being that usually known as *Melpomene*. This can always be recognised by the leaves being rounder and deeper tinted, while the stems and leaf-stalks are of quite a chocolate hue. The flowers are very deep in colour, with a margin of white. I have this season seen a good many of this variety interspersed with the other red-flowered form, but when brought on under glass the rich colouring is not so pronounced as is the case when the blooms open outdoors, or are only taken under cover when just on the point of expanding.—H. P.

**Sphagnum Moss for alpine plants.**—I have read with much interest the notes of M. Correvon in your last issue (p. 164) referring to his success in growing choice and delicate alpine plants in *Sphagnum* Moss alone. M. Correvon, however, is fully convinced that this method is only possible in a very dry, sunny climate. A few months ago I gave an account in these columns of my experiments with *Sphagnum* Moss, and subsequent results have more than ever confirmed my belief that *Sphagnum* alone should never be used for alpine plants in Great Britain. *Arnica montana* and other alpine plants in pure *Sphagnum* Moss in Messrs. Veitch's nurseries at Exeter were looking very sickly when I wrote my former note, but now they are dead. On the other hand, *Ramondia pyrenaica*, *Azalea procumbens*, *Arnica montana*, *Saxifraga Hirculus*, *Primula farinosa*, *Linnaea borealis*, *Gentiana bavarica*, and others which were planted in the rock-work in a mixture consisting of one part of soil, one part of broken stones, and one part of *Sphagnum* Moss, all appear in excellent condition and far surpass my expectation. During the hot and dry weather a month or so ago I gave *Gentiana bavarica* an extra mulching, covering the ground all around the plant with *Sphagnum* Moss and stones; the result has been most satisfactory, and a fresher or healthier looking plant I have never seen.—F. W. MEYER, *Exeter*.

#### FRAGRANCE FOR OUR CARNATIONS.

"A GROWER" does excellent service (p. 194) by calling marked attention to the diminishing quantity of scent in our *Carnations*. A similar loss is equally or more notable among *Picotees*, *Cloves* and *Pinks*. A few years since their presence in bed or border was heralded from afar by the fullness and sweetness of their fragrance, rivalling that of *Roses* or a concentration of the richest perfumes. But now these old-fashioned sweet flowers are often as scentless as the *Baroness Rothschild Rose*. Nor is this to be wondered at while in a column or more of popular description of new *Carnations* and *Picotees* at the annual show of the *Carnation* at Oxford such an able and appreciative writer as "R. D." has not a word to say about fragrance, and this crowning quality of these superbly lovely flowers is wholly ignored.

All this must be reversed before fragrance gets back to its proper place of supremacy among these charming flowers. On a recent visit to one of the oldest and largest homes of *Carnations* and *Picotees*, I was pleased to find Mr. Turner, of Slough, fully alive to the importance of fragrance as a vital factor to the full perfection of these plants, of which he grows an enormous collection of all the finest new and most valuable older varieties.



In looking through the collection in full bloom with such an expert as Mr. Turner, whose father before him was also a specialist in the successful culture and improvement of Carnations and Picotees, it would have been difficult to say at times whether the sense of smelling or of seeing were the more gratified. This seems to show that the loss of scent may not have gone quite so far as "Grower's" statements show. The well-stocked nurseries at Slough were assuredly steeped in their fragrance at the time of my visit early in August. Be that as it may, growers, and especially the societies, have the matter of fragrance in their own hands. Let all Carnations or Picotees be refused a certificate, relegated to a second place, or not sent out if destitute of fragrance.

The public should also demand a full measure of fragrance in every Carnation, Picotee, Clove or Pink. A similar rule might with great advantage be rigidly enforced among Roses. A Carnation, a Rose without fragrance, should be considered on a level with a Peach, Pear or Apple without flavour, and ought neither to be propagated, distributed nor grown. The result would not be any loss of colour, form, beauty, but fragrance added as a clear gain to all the other charming qualities that already so notably distinguish our Carnations and Picotees. To ask in these matters within certain limits is to receive; to demand and work for more fragrance, on old constitutional lines or by new methods, among such flowers as Carnations, Picotees, Cloves, Pinks is to have it, and the public should rest satisfied with nothing less. D. T. F.

#### NOTES ON LILIES.

I WAS very interested in the article on page 194 on "Lilies at Bournemouth," more particularly as the writer's experience of Lilies that resent disturbance and those that do not mind a change is much the same as my own. As one's successes naturally claim first place, I will under this head mention those that can, as a rule, be depended upon to flower well the first season after removal. Most of those with upright blossoms borne in terminal heads will find a place in this group, that is, such kinds as *L. davuricum* or *umbellatum* in its numerous varieties; *L. elegans*, represented by even more distinct forms; *L. Batemanniae*, whose bright apricot-coloured flowers are borne later in the season than most of the others; and *L. croceum* (the old Orange Lily), of which such flourishing examples are sometimes to be met with in cottage gardens. The Tiger Lilies, too, must be especially mentioned, more particularly the variety *splendens* or *Leopoldi*, more beautiful than any of the others, while it is also of good constitution. Other satisfactory Lilies are *L. speciosum* in all its forms, *L. auratum* and *L. longiflorum*, more particularly the varieties *Harrisi* and *Wilsoni*. Of the five groups into which the genus *Lilium* is divided, the most extensive is the Martagon section, and the greater part of the species included under that head cannot be depended upon to flower well the first season after removal. The least affected, as far as my experience extends, are the Japanese *L. Hansoni*, whose golden blossoms are among the first Lilies to expand; *L. testaceum*, if planted early in the season; and *L. Leichtlini*; while, on the other hand, *L. monadelphum*, *L. carniolicum*, *L. pomponium*, *L. chalcidonicum*, *L. canadense*, *L. pardalinum*, and *L. superbum* will sometimes not appear above ground at all the first season, or many of them will make but a puny growth, with here and there a fair spike. In the following year far better results may be reasonably anticipated. Even of these just mentioned, the North American representatives, viz., *L. canadense*, *L. pardalinum*, and *L. superbum*, are not quite so much affected by removal as the four species immediately preceding. Of the Martagon Lily we have two very distinct varieties in cultivation—the white (*album*) and the deep coloured sometimes called the black Martagon (*dalmaticum*), both of which flower better after being shifted than the typical or common Martagon

Lily. In the case of that universal favourite, the white or Madonna Lily (*L. candidum*), there is little doubt that it is often planted far too late, as by August the flower-stems decay, when root-action recommences with additional vigour. The greatest measure of success in transplanting the Madonna Lily is when the operation is carried out in August, or as soon after as possible, and in this way I have had good results the first season, but at the same time, I must admit, not invariably so. H. P.

#### SUMMER FLOWERS.

THE hardy flowers of this present time are very beautiful, and prove beyond doubt that if we rely solely upon them we shall not be quite so much at the mercy of the elements as our friends are who still trust mainly to tender summer things. But the charm of the hardy flower garden is its variety, and if we plant it rightly with a proper selection of things, it is always gay and never monotonous. New charms and aspects are almost of daily occurrence, when flowers come and go in due season. Now, where in June the noble Tree and herbaceous Peonies spread out their great leaves, surmounted with immense blooms, the Delphiniums are the conspicuous feature, with a few tufts of the old white Lily here and there. Time was when even so pure and sweet a flower as this Lily was rooted out to make room for the bedding plants when the craze was at its height; but happily this is greatly changed. Now, the Delphiniums, so stately in appearance and great in number and variety, must have a place, for they are among the tallest, noblest flowers of the garden. No hardy flower exists in such varied shades of blue, from the palest silver blue tint to deep indigo and violet-purple. The scores of fine named varieties now in cultivation testify to the industry of the florist, who, in thus improving and developing our best hardy flowers, is doing good work. We cannot better show our appreciation of it than by adorning our gardens with the rich material provided and adapted for the purpose.

A great blue Daisy-like flower that comes in July, and is worthy of being planted as a bold group, is *Erigeron speciosus*. It does not grow much more than 18 inches high, and at the present time it is a mass of flowers, which are large and borne in clusters. It is beautiful to look at and useful to cut. *Scabiosa caucasica*, too, is one of the best of hardy plants. Although we include it among the flowers of July, because it is then so fine, it is a plant of long duration, and a group is hardly without flowers from June to November. It is appreciated by the few, but ought to be grown by many. Further interest attaches to it also, as we shall shortly have a white form, such having recently originated in two places, and will doubtless be distributed when plentiful. The new *Coreopsis grandiflora* proves so great an advance upon all the other perennial kinds, that they look insignificant in comparison. A group of plants raised from seed and now flowering for the first time has a magnificent effect. It is a graceful waving mass of rich orange-yellow. Some of the finest blooms are more than 3 inches across, and these being borne on stalks that can be cut of any length up to nearly 18 inches, the flower is as valuable for cutting as it is for creating fine effect in garden borders, and, further, when cut it is enduring and looks remarkably well. A great popularity should be in store for this plant. The same hue, yellow, is now predominant among another family of fine flowers, the *Oenotheras*. That fine biennial species, *O. Lamarckiana*, should be in the shrub plantations or the wild garden, but in some of the perennial species we have fine showy flowers. They are, in fact, for the garden, as the flowers do not last when cut, but bold groups of such kinds as *Youngi* and *fruticosa* major have a rich effect on a bright sunny day, when the sun shines brightly on their polished yellow flowers. Then, if we have a place where plants of a trailing nature are required, we must have the

Missouri Evening Primrose. It creeps over the ground, and from its tufts of leaves keeps sending up for weeks in succession immense flowers of a lovely soft yellow shade. It is a constant and enduring plant, dying down and reappearing without loss or injury year after year. A charming companion in habit, but of the two rather more rambling, is the Dandelion-leaved species, *taraxacifolia*. The flowers of this are as large as those of the Missouri kind, but pure white on expanding, fading to pink. It is not so constant and often dies in winter, but as a set-off it seeds freely, and, if its site is not disturbed, young plants in abundance will appear in spring and flower before summer is far advanced. The white form of our native Mallow (*Malva moschata*) is also worthy of culture. It is very pure in colour, most profuse in bloom, and lasts for a long time either in the borders or in a cut state. Another glowing piece of colour is made by *Alstroemeria aurea*. The group is a batch of seedling plants, and several of them show a disposition to vary a little from the usual colour of the kind, which is a rich orange-yellow; whereas some of these are of a bright and decided orange-red hue. The merit of this species is that it has abundance of healthy leafage as a set-off to the flowers, which are truly brilliant, exceedingly profuse, and borne on stalks of varied heights, from 1 foot to 2½ feet. It would be possible to extend this list with even first-rate things. The intention has not been to make it comprehensive, but rather to draw attention to a few things which, in our case, are boldly grouped with a view of keeping the garden bright from the time that the first bloom of the Tea Roses is over till Carnations come in and brighten the garden with their rich colours.—Field.

**Hardy plants in the flower garden at Rousden.**—The question is often asked if hardy plants can be used in the flower garden with good effect. For the benefit of those I will name a few that were very effective in Sir Henry Peek's garden at Rousden, Devon, at the time of my visit, July 13. The following were planted in beds on the turf in a flower garden adjoining the mansion. The garden was a circular one with various flowering and other shrubs around it. There were three good sized beds of Iceland Poppies, one bed of each colour. The plants were strong, the foliage hiding the soil, and at a distance nothing could be more telling. Aquilegias of different colours and varieties, large beds of the dwarf Sunflower, very strong Calliopsis of the lanceolata type, beds of Dianthus, some of the better kinds of dwarf Michaelmas Daisies, Carnations, &c., were also very beautiful. In addition to these were beds of Sweet Sultan with some of the better kinds of annuals. In this garden I could not see a tender bedding plant. The garden was gay at the time of my visit and appeared as though it would continue far into the autumn. Many people are under the impression that a garden would look weedy if hardy plants were grown; but such is not the case if a good selection is made. This garden is quite distinct from a flower garden that is used principally for tender plants. In this garden, too, many hardy plants are used. The centre of a large raised bed was planted with *Funkia cordata*; this was from 8 feet to 12 feet across and the effect was very good. In the borders in the kitchen garden were some fine patches of *Lychnis chalcedonica* just coming into bloom. A large mass of *Campanula pyramidalis* was also very showy. These were the strongest plants I have ever seen in the open border, showing the seaside is highly favourable to this fine Harebell.—JOHN CROOK.

#### SHORT NOTES.—FLOWER.

**Cosmanthus grandiflorus** (H. Treubridge).—This is the name of the flower you send. It was found by Douglas in California, but it is to the Messrs. Veitch, of Chelsea, we are indebted for this very pretty plant. They introduced it through their



traveller Lobbi. It is a free grower and an abundant flowerer, the flowers being each about 2 inches across and of a delicate purple. —G.

**Vellozia candida** (H. Eral).—This appears to be the plant a specimen of which you send gathered near Rio. I have seen the plant growing, but it was some years ago. You say the flowers are solitary and white. There are several species, but they are not much known, some having yellow, blue and purple flowers. —W.

**Flowers from Oakwood.**—I bring you a head of white *Aranthus* from Oakwood. The plant was put out in August, 1886, and has had no protection; it had four stems of flower this year. I also bring a spike of *Tuberose* from a plant bedded out here. We find the flowers finer from plants out of doors than from those in the greenhouse. —G. F. WILSON.

**Gentiana Kurroo.**—“T. W.” sends me flowers of this beautiful plant, which was introduced from Cashmere some twelve or thirteen years ago by Mr. Wm. Bull, of Chelsea. Its flowers are of a beautiful azure-blue, dotted with white, the throat being white. It was figured in *THE GARDEN*, March 20, 1880 (p. 200), and I am glad to find it is not lost to cultivation. —W.

## KITCHEN GARDEN.

### WHITE AND BROWN SPANISH ONIONS.

UNDER this heading may safely be included a large number of forms, differing very slightly, if at all, from each other, but all of good shape and serviceable. When first sent out, the so-called novelties do surpass the older forms, but in the course of a few years the stock appears to deteriorate, this confirming me in the theory that the superiority rests more with the better grown seed and the extra attention to cultural details than from any inherent and fixed qualities they possess. In the case of seed-saving from novelties, the bulbs are all well selected and carefully ripened, while the greatest care is bestowed upon them when producing seed, the consequence being that an extra good stock is available for distribution. The commoner

minate more surely and strongly, and the subsequent progress of the plants be far more satisfactory than is the case with inferior seed and what results from it. I may be wrong in my deductions, but I have not met with anything to surpass the stock of true White Spanish as

hollow underneath; consequently they do not weigh particularly well, and lose ground in competition with the newer forms of a different type with well-rounded bases. Nor do they keep over well. Properly harvested, bunched, or roped up, and kept cool and dry, the season may



Onion Brown Spanish.

saved and grown for many years past by a friend in Dorsetshire. Had he so chosen, he might have exhibited it repeatedly, and then have sold it as a distinct and new form, but it would have been a good stock of the true White Spanish Onion all the same. A good bed of Onions is always an object of pride with most gardeners. Exhibitors generally have adopted

last to March, but rarely extends far beyond that month. As regards table quality, little or no fault can be found with them.

GROWER.



Onion White Spanish.

forms receive very different treatment, the principal aim being to save as much seed as possible, the lowness of prices forbidding any extra pains being bestowed upon them. Personally, I always prefer to pay a fairly good price for the best seed, being well assured this will ger-

the plan of raising a considerable number of plants in boxes, the seed being sown early in February, transplanting to the open taking place towards the end of April. Although quite small when thus put out, they are yet considerably ahead of any obtained by sowing seed in the open ground, and this gain is subsequently more than maintained. The plan of sowing seed in the autumn with the Tripolis, subsequent treatment also being identical, also results in the formation of extra large and early bulbs, but these usually become much too coarse and ugly; whereas those raised in the spring mature nearly as early and are far more taking in appearance. A rich yet solid root run is necessary for the production of firm, short-necked, long-keeping Onions—this,

whether the seed is sown where the plants are to grow or transplanting is resorted to. Well-grown, early-matured bulbs of the White or Brown Spanish types present a very clean appearance, the necks being small, but, as a rule, they are somewhat flat and often rather

**Seed Potatoes—value of selection.**—Everybody who digs Potatoes is aware that some roots are much more prolific than others, and the sample is also altogether better, and if these prolific roots are placed on one side and planted next spring the crop will be larger and better than when selected in the usual haphazard way. If this principle of selecting the tubers from the best and most prolific roots is continued for several years, a marked change in the market value of the crop will be observed. The value of selection may be seen if carried out in connection with every family of plants. The Strawberry, for instance, gives very marked results. The Tomato, again, and the Jerusalem Artichoke will gradually, but surely, cast off their roughness under the manipulation of the grower who carefully selects his seed tubers. The best way to keep seed Potatoes is, after thoroughly drying them in an open shed, to pack the tubers in shallow boxes in single layers crown upwards. The boxes can be so made that they can be packed one upon the other in any light building secure from frost, and when the planting season comes round each tuber will be provided with one strong green spur shooting out from its main crown eye. And this is the condition in which Potatoes, especially those intended for an early crop, should be planted.—E. H.

**Large Potatoes.**—In spite of repeated protests against the introduction and cultivation of huge Potatoes, the tendency would appear to be in favour of an increase rather than a diminution of size. More especially is this to be noted in the case of those shown in collections of vegetables at Shrewsbury, Bath, Taunton, Salisbury, and elsewhere. It is now nothing uncommon to see tubers of enormous size shown in collections, plenty of them being 6 inches or more in length, and not far short of 4 inches across. They are of excellent form, I admit, but the question is, why favour the cultivation of such huge tubers? It is true they would bake well, but it is good boiling Potatoes that are



most in demand, and I hold that cutting up large tubers spoils them, while it is next to impossible to boil them whole properly. Judges are supposed to look with a lenient eye on large vegetables when these are shown by cottagers, but the latter now-a-days rarely stage anything so large as do the leading exhibitors who are private gardeners, and it is quite time the growth of such huge productions received a check. There is plenty of well-formed medium-sized varieties to select from, and those extra large sorts might well be left to cottagers to grow and show. Not, however, till judges decide in favour of smaller tubers will exhibitors cease to stage the extra large ones, and the sooner something of the sort is done in that direction the better.—M. H.

#### ANOTHER WAY WITH MUSHROOMS.

"In soiling or casing Mushroom beds, whether under cover or in the open, let the soil be rammed as firmly as possible, for the harder the mould the finer and fleshier the Mushrooms will be." This is the time-honoured rule in artificial Mushroom culture, but I am so convinced that serious mistakes have been made in making the mould too hard, although the system is still upheld by most of our recognised leaders in horticulture, that I will give the results of my experience.

For many years, in cultivating the Mushroom, I adhered to the orthodox custom of making the casing soil of the beds as hard as possible. My success had been fair, but like the majority of growers I had occasional failures, some partial, some total, and all unaccountable. I had given the matter of failure considerable thought, but, in endeavouring to discover the possible cause of failure, the condition of the casing soil never struck me until it was forced upon my consideration under the following circumstances. Late one autumn I had occasion to improvise shelves in an old glass-house for the purpose of Mushroom growing. These were constructed one above the other, but, owing to the position of the hot-water pipes, the two beds on the one side of the house were so close to each other for a length of some 20 feet or 30 feet, that it was found troublesome to beat the soil down in the usual way; it was, therefore, simply laid on, levelled, and left without any ramming whatever. The manure below was, with some difficulty, made as hard as that of the other beds in the house, so that, with the exception of the non-ramming of the soil, the conditions under which this length of bed was made and spawned were identical with those given to the other beds in the house. The winter proved severe, and a regular heat could not be kept up in the house, consequently the delay in the appearance of the Mushrooms was far beyond the prescribed six weeks. I expected little or nothing from the portion of bed that had not received the orthodox ramming. What was my astonishment, then, to find that not only did the Mushrooms come strong and healthy and in abundance, but actually appeared three weeks earlier than on any part of the rammed beds. Naturally, I at once began to ponder over the possible cause, and I came to the conclusion that the non-ramming of the casing was the key to the mystery. Another fact I noted at the time was that the Mushrooms did not come in the usual dense clusters, but singly and evenly all over the bed of loose soil. I did not, of course, consider all this as conclusive evidence that it was best not to ram the soil of a Mushroom bed, so kept on experimenting with other beds made in a similar way. In every case not only did the Mushrooms appear "up to time," but singly, and not in clusters as in the first instance, and remarkably fine.

I certainly found it of considerable advantage to have the Mushrooms come singly, and not in dense clusters, because in the latter case large numbers are invariably destroyed in an embryo state in gathering the large ones of the clumps. The roots of the clumps, too, are difficult of removal; whereas in the isolated state each Mushroom comes up from the loose soil, bringing with

it every particle of root that would, if left in the mould, be likely to cause rot and decay in the succeeding growths. I also found, after close and long-continued examination of beds rammed in the usual way, that where large clusters of Mushrooms in all stages of growth appeared it was usually where the soil was looser than the surrounding parts, and where, doubtless, the mycelium found more congenial conditions. It is quite a common thing to be told that you cannot do better than imitate Nature, and make the casing soil of our beds as firm and hard as possible. In the cultivation of any plant in our gardens, I incline to the opinion that it is well to bear in mind the conditions under which the particular plant is found growing in a state of nature. But I venture to think that in ramming the soil of our artificial Mushroom beds we are doing the very opposite of imitating Nature; in fact, that we are rather displaying a total disregard for and ignoring the dictates of Nature. Where did anyone ever find Mushrooms growing on any portion of a pasture that had been stamped and trodden by hoof of cattle or foot of man so as to render it alike impervious to air or moisture? The well-trodden and rammed Mushroom beds of our gardens are, as a rule, rendered absolutely impervious to air, and to moisture to a large extent. Not so the soil of the meadows. Our natural Mushroom beds have received no greater pressure than the occasional tread of browsing sheep or cattle. Nature has also made provision for the aëration of our wild Mushroom beds. Lift a spadeful of soil from the meadow, and what do we find? The mass permeated by innumerable roots and fibres of Grasses and plants of various kinds, and which, by gentle pressure, crumbles in the hand, and quite unlike the hard casing of an artificial Mushroom bed. Again, Mushrooms are not produced in Nature, as on our garden beds, in hard, dense clumps, with a few taking the lead and leaving innumerable small ones.

We are frequently told that Mushroom beds, made in the usual way, succeed admirably. Certainly they frequently do, but it cannot be denied that they almost as frequently fail, partially or totally, and it would not be too much to assert that in not a few instances the cause might be traced to the hard firm texture of the soil covering of the beds. Not much damage is done should the soil when placed on the beds be in a moderately dry condition; but should it be wet, the chances of a good crop of Mushrooms are, I imagine, considerably reduced. How often, for instance, have we heard it repeated by growers of many years' experience that, even by exercising the greatest care in the formation of the beds, failure is not unfrequently the result; whereas, from press of work or other reasons, beds merely "thrown together" have proved great successes. All this, to my mind, points to the fact that too much care can be taken to have both the manure and soil rammed and trodden in the way and to the extent recommended by the recognised authorities on the subject. One of the most potent factors in the production of large quantities of Mushrooms for market I believe to be the extensive use of manure just as it is thrown from the stable and without removing a single straw. In that state it is almost impossible to make a bed as hard as one composed of pure droppings, and the comparative looseness of the mass increases the chances of heavy crops, the mycelium having a freer medium to "run" in, and the chances would, I believe, be still greater if growers would imitate Nature more closely and leave the soil of their beds more permeable to air and moisture.

In days gone by it was a common practice in casing outdoor beds to have a bucket of water handy in which now and then to dip the spade, and thus enable the operator not only to make the casing quite hard, but to put a polish on it, to the total exclusion of moisture and air. This practice has for some years been very generally abandoned, and why? Experience of repeated failure forced the fact upon men's attention that the polishing system was an erroneous one; but they did not go far enough. It was well to discontinue plaster-

ing, but it would have been still better had they discontinued ramming to a great extent. I am alive to the difficulty of placing loose soil on outdoor beds of the present conventional form, but could some other shape not be devised to allow of an angle of rest for the soil without the aid of a rammer? The evil of the present mode of casing our outdoor Mushroom beds with a hard coating of soil is of a dual nature. First of all, the hardness of the soil prevents the free "running" of the spawn, which is forced to seek for and find the most vulnerable parts of the casing, clusters with wide intervening gaps being the result. In the second place, the stiffness of the soil is such that when shrinking takes place in the manure below—and where is the bed that never shrinks?—the casing remains as it was put on, a cavity being formed between the two materials, and effectually preventing the mycelium from reaching the mould. When shrinking takes place, if the soil is not immediately pressed down on the manure, a good crop of Mushrooms need not be expected. Should, however, the soil be pressed back on to the manure before the spawn has to any great extent "run," little or no harm may result, but should this be delayed beyond the sixth week from time of spawning, and at a time when no handling or disturbance of the beds is admissible, the result as regards crop is certain to be unsatisfactory. As is well known, the mycelium is most impatient of disturbance in any form whatever, and any handling of the beds at this critical period is sure to produce a bad result. The disastrous effects of shrinking are avoided when the mould is left loose to follow the manure in its shrinkage.

I have for some time been experimenting with a view to a departure from the usual formation of outdoor Mushroom beds, in order to admit of the non-ramming system, but the results of these experiments, as well as some notes on the very important question of littering or covering with straw and other materials our outdoor Mushroom beds, I will give at some future time.—ACARICUS, in *Field*.

#### WINTER ONIONS.

SPRING-SOWN Onions, or those grown especially for providing a good supply of these indispensable roots, did not keep well last winter, this being principally due to faulty maturation and harvesting. They cannot well be too solid and well ripened, any that are soft and the tops of which keep green till very late in the season invariably keeping badly. This summer we have had a fair amount of sunshine, and in many instances Onions were early checked in growth by drought, the consequence being that a capital lot of serviceable roots will soon be ready for storing. Large Onions rarely keep well, and at no time are preferred by cooks, those medium-sized to small being most appreciated, also keeping well. Any that had a tendency to grow late, the tops remaining stiff and green, ought long since to have had their necks twisted down, this favouring the enlargement of the roots or bulbs, as they are sometimes termed, and also hastening maturation. If there are any still fresh and green, these will be of little value for keeping, and ought to be the first used. All with their tops nearly or quite dead—and in my case the bulk of the crop is in this state at the present time (September 2)—are quite fit for drawing and harvesting. I will go further, and assert that it is most unwise to leave them any longer on the ground, as the latter is in a very wet state and would quickly start the Onions rooting afresh, to their great injury. Onions prior to being stored ought to be well harvested in the sunshine, preferably on shutters, wattled hurdles and such like in the open, an occasional turn being necessary. Should, however, the weather be dull and wet, the better plan would be to place them either on the dry



stages and floors of vineries cleared of Grapes, or in empty frames and pits, where they would keep dry and ripen properly. If there is any doubt about the roots being thoroughly well harvested, a few hours in an old-fashioned oven made fairly hot would get rid of superfluous moisture and ensure good keeping.

In order to be certain of the roots keeping well, they must have plenty of cool air playing about them, and this is not possible when they are stored in heaps or in baskets and other receptacles. All things considered, the old-fashioned plan of roping them is yet the best. If they are neatly strung to either straight stakes or lengths of strong string—and it is surprising what a number of roots may be slung to a stake 3 feet or less in length—all can be suspended in a cool, dry shed and drawn from as required. An ordinarily severe winter will not affect roots hung up in open-fronted sheds; but it is not advisable to run any risks, and a covering of mats, sacking, or even newspapers should be provided whenever severe frosts are anticipated.—I. M. H.

—In many localities there is much difficulty in getting good crops of Onions, owing to the attacks of the maggot, and in such cases it is wise to make a sowing of some hardy kind, such as the Giant Rocca, at a sufficiently early date to allow of the plants getting strong enough to pass the winter without injury. These never seem to be attacked, being probably too tough for the grub to feed on, and if they are liberally cultivated they will make fine roots by the following autumn. The position cannot be too open for them, as the more sun and air they get, the more likely are they to come through the winter in good condition. Firm ground is important, as enabling the young plants in hard weather to resist the action of frost, which in loose soil is apt to throw them out. Manuring for winter Onions is, I think, an error, as likely to induce a rank growth, which is not desirable at the close of the autumn. During the early period of growth weeds must be kept down, but those that spring up towards the end of the growing season are better left. They serve to protect the plant from frost and keep the ground firm round the roots through the winter. In this case it is wiser to make a sacrifice of neatness. The following spring they may either be cleaned, a dressing of some concentrated stimulant stirred into the ground, or they may be transplanted on to well-enriched soil. By the latter method extremely fine roots will be obtained, equaling in size the imported samples commonly sold in shops; but even without disturbance some good Onions can be grown.—J. C. B.

## ORCHIDS.

### WARSCIEWICZELLAS.

In a letter received from a reader living at Wavertree, he says he sends a flower of *Huntleya velata*, and asks for some information respecting these plants. I will not attempt to unravel the different genera of *Bollea*, *Pescatorea*, *Huntleya*, *Warszewiczella*, and *Zygopetalum*, but the plant which my friend calls *Huntleya velata* is usually recognised as belonging to the *Warszewiczellas*. It was found by Blunt when collecting for the Messrs. Low, of Clapton, in New Grenada. *Warszewiczellas* do not form any pseudo-bulbs, and the whole plant seldom exceeds a foot in height, making but few leaves. The best plants I have seen of these and allied genera were growing with Mr. Sander, of St. Albans, in an old flat-roofed house in his George Street nursery. This house was only moderately heated and somewhat shaded from the sun. The plants were growing in good fibrous peat and chopped Sphagnum Moss, well drained. This

latter point is most important, because the plants require liberal supplies of water all the year round, with, of course, less in the winter season. Mr. Sander's plants were flowering profusely. The following are a few of the kinds now to be found growing in various gardens:

**W. VELATA.**—The leaves of this are each about 6 inches or 8 inches long. The peduncles rise from the base of the leaves, several together, and are about 4 inches or 5 inches high and one-flowered; the sepals and petals are of a creamy-white, lip large, with a creamy-white ground, a crimson marginal border, and some forked lines of deep rich purple on the disc. The flowers are beautifully fragrant. It comes from New Grenada.

**W. WAILESIANA.**—This species was first found by Gardner on the Parahiba River, in Brazil. In general habit of growth it resembles the previously-mentioned plant. It flowers much in the same way and is most agreeably scented. The flowers are wholly white, stained along the centre of the lip with bluish-violet, and the five radiating bars at the base are of a deeper violet.

**W. MARGINATA.**—This plant resembles the first named species very much, but it is distinguished by the much larger size of its flowers, which are creamy-white, the lip having a marginal border of crimson, the base being stained with reddish-violet. It comes from about Ocaña, in Colombia, at 4000 feet to 6000 feet altitude.

**W. DISCOLOR.** is similar in growth to the others, and also in its habit of flowering; the sepals and petals are, however, broader, creamy-white, tinged with purple at the base; lip deep purple at the base, becoming much paler towards the front, the raised bars at the base of the lip being white. Costa Rica.

**W. WENDLANDI** is a pretty large-flowering plant. The flowers each measure between 4 inches and 5 inches across; the sepals and petals are nearly equal, white, lip large with a recurved point, much lobed at the sides, pure white, with a central blotch of purplish-violet in the centre, and having about seven equidistant lines of a deeper violet running through it. Costa Rica.

**W. WENDLANDI DISCOLOR.**—This is also very pretty. The flowers differ in having the sepals and petals yellowish-green instead of white; the flowers are produced about this season of the year, and are agreeably fragrant. Costa Rica.

WM. HUGH GOWER.

**Sobralia leucoxantha.**—T. Meredith sends me a beautiful flower of this fine species from a plant, I am told, not more than about 18 inches high. The flower is nearly 6 inches across, round and full, pure white, saving the lip, which is stained of a deep orange-yellow in the throat. It is a very lovely plant, the very short time the flowers last being amply compensated for by the succession which is kept up. My friend tells me that this is the ninth flower produced from the same spike, so that a fair sized plant having several flowering shoots would make a nice display for some considerable time.—W. H. G.

**Odontoglossum Andersonianum splendens** (J. G. Jones).—The flowers sent I consider a very fine variety of this plant, and which I have noticed on more than one occasion in the collections which I visit. The sepals and petals are pure white, not nearly so broad as those of a good form of *O. crispum*, spotted and blotched with chestnut. The lip, too, has the form of the typical *Andersonianum*, white, with a large blotch of chestnut; disc yellow. It should be kept in a moist atmosphere with *O. crispum* and *O. gloriosum*, which I should think are the two parents of your plant.—W.

### SHORT NOTES.—ORCHIDS.

**Cattleya aurea** (W.).—This appears to be a good and finely-coloured variety. It is, however, somewhat misleading, as in some cases the golden lines soon

fade out of the lip. Yours seems to be a variety with a deep self-coloured lip and handsome bright coloured sepals and petals. I should mark it *C. aurea* (Wheatley's variety).—W. H. G.

**Cattleya Rex** (W.).—I have no experience of this plant, but if the eyes keep plump all will be well, although the leaves have dropped. I suppose it is, as you say, "only a question of patience," but I shall be glad to know you have met with your reward.—W.

**Bolbophyllum rhizophoræ** (J. West).—This is the name of the plant you have received from West Africa. I have received it from the same spot, where it appears to grow beautifully in the Mangrove trees which line the river banks. The flowers are numerous, but small; indeed it is not worth growing.—W. H. G.

**Dendrobium Phalænopsis Schroderianum** (J. B.).—Yours is a very large good form of this plant, but it is not a very deep-coloured variety. There are many varieties of this plant, all being beautiful and well worth growing. Your *Cattleya Rehnelli* had faded almost beyond recognition when it reached me.—W.

## TREES AND SHRUBS.

### BROOMS IN THE LANDSCAPE.

It is one of the most inexplicable signs of the times that these beautiful plants are positively waning into narrower, thinner lines and smaller areas. Two reasons are often assigned for the reduction of Brooms—one, that they are too common, the other, that they are too tender. The first sounds like a bull amid the prevailing dearth of Brooms throughout the country. But it is not, for there are certain classes that object as far as possible to the employment in garden landscapes of common, especially if they are native, plants. Such artists would clear their rockwork if within the boundary of their pleasure grounds of native Heather, Gorse, Ferns or Houseleek, and convert Bournemouth into a wilderness by uprooting its Scotch Firs.

I have seen whole thickets of the common Broom killed by frost. As a rule the common Broom, in many respects the best and most useful of them, is more tender than the white Spanish, though not more so than the yellow, or as your correspondent truly calls it, *Spartium junceum*. The hardness of the common Broom, like that of so many other plants is very largely dependent on conditions, and within certain limits it is alike true of the common and most other Brooms, as of the common Whin, that the larger and older the more tender, or at least the more easily killed, which is not always the same thing, and *vice versa*. To preserve Brooms in good condition in landscapes, keep them near to the ground through frequent cutting; this gives the seeds as well as the root stems and roots a chance for new life, and yet higher, fresher beauty, and enables them to grapple safely with and come safely through most of our winters. Next to the common Broom comes the white Spanish. The yellow Spanish is simply magnificent where it will stand the winter. There are also several very distinct varieties of the common Broom referred to in your notes, the bronze Broom, of which a coloured plate is given, being the most notable. Others also differ in habit, character of growth, colour of flower, &c., the semi-white or cream-coloured Broom being the more striking. I lately noted a fine plant of the bronze Broom within a few miles of Charing Cross. The white Spanish seems, however, by far the most striking and effective, as well as the most free flowering in masses. A facetious friend suggested recently that it had but one fault—its colour. His idea of Brooms was that they should all be soft yellow, dissolving into creamy white on one side of the scale and deepening into orange or bronze on the other; but the bronze Broom had far too much of bronze for his liking. And as to masses of white Broom, why not use *Deutzia*, *Syringa*, or *Spiræa arifolia* instead? Why not, indeed! But the last comparison showed that he had at least caught so much of the very spirit and grace of the white Broom to be so freely used in our landscapes of the future; but it is impos-



sible to be angry with him for preferring the natural normal yellow of Brooms, as Linnaeus went into ecstasies over the golden Gorze. How much better, brighter, and healthier either would be in thousands of garden land-capes were the jaundiced Laurels but uprooted to make room for them.

D. T. F.

**Tecoma radicans.**—A very conspicuous object on the long wall at Hampton Court during the summer is what seems to be the major form of this hardy trumpet flower. The plant is an old one, as the main stem is very large; it is hard cut back every winter, then throws out stout growths from 24 inches to 30 inches in length, which bloom for a long season. No protection is given to this plant in winter, and it is a decorative climber which might be much more freely seen in gardens.—D

**Cytisus scoparius Andreanus.**—As mentioned (p. 189), flowering plants of this Broom are obtained in much less time when grafted than when raised from cuttings, while my experience of seedlings is that they do not come true. Cuttings do not root very freely, so that it is more than probable grafting will be the method principally employed for its propagation, at all events for some time, as the demand for it is so great, that all our nurserymen are increasing it as rapidly as possible. I tried cuttings in various ways, but the greatest measure of success was attained by taking the young shoots produced by plants that had flowered under glass, and after dibbling them into pots of sandy soil, they were kept in a close case in a gentle heat till rooted, which took about a couple of months, and then a good many of them failed to strike. Why not graft it on to seedlings of the common type?—T.

**Double-flowered Bramble.**—One of the finest examples of this I have ever seen recently came under my observation in an old-fashioned garden, where a rough fence in a dryish soil was completely covered with it, the blooms being borne in such profusion, that the entire plant was quite a mass of pink. The individual blooms are composed of a great number of closely-packed quilled petals of a very pleasing shade of colour. They a good deal resemble those of the double Daisy, so much so indeed, that the varietal name of *bellidiflorus* has been applied to it. Very few of our flowering shrubs will bloom in such a satisfactory manner as this Bramble where the soil is hot and dry, while its flowering season extends over a lengthened period. In addition to its adaptability for such a purpose as above mentioned, it is also seen to advantage when rambling over some bold arrangement of rockwork, or supported by some neighbouring shrub or small tree, which it will quickly take possession of. In planting this Bramble, its vigorous nature must be borne in mind, and if in proximity to weak-growing subjects, it will very likely smother them.—T.

**Statice latifolia.**—This is an especial favourite of mine, for not only is it wonderfully pretty in the flowering state, but it also remains in that condition a considerable time. It is one of the hardy species, whose deep descending Horseradish-like roots need a good depth of soil. The *Statice* in question forms a tuft of oblong shaped deep green leaves, from whence are pushed up several flower-stems, which develop into loose, open panicles of blossoms a couple of feet or more in height. As with many other species, the corolla of the flower is white, and does not last nearly so long in perfection as the larger blue calyx. A well-developed specimen in the open border will be an object of great beauty for a long time, while for cutting it is also very useful, and in this state it may sometimes be seen in considerable numbers in the streets of London.—H. P.

**Spiræa callosa.**—The different forms of this *Spiræa* (also known under the specific name of *japonica*) are valuable for their continuous blooming qualities, for many of them will flower throughout July and August, and sometimes well on into September. I have had some specimens of several

varieties under my observation which have been in bloom for nearly two months, and bid fair to continue for a considerable time. In their case the terminal corymbs of flowers are the first to expand, and as they pass over, the secondary ones quickly develop and prolong the display. There are numerous forms in cultivation, among the best being that very rich coloured flower known as the Knap Hill variety, while the white (*alba*) continues to bloom later than any of the others. A very fine group might be made of the different forms of this *Spiræa* alone, as the varieties vary a good deal in stature; thus while some run up to a height of 6 feet or more, both the white variety and *S. Bumalda*, which, though usually regarded as of specific rank, is doubtless a form of *S. callosa*, are only about a yard high.—T.

#### CLIPPING TREES AT KEW.

TO THE EDITOR OF THE GARDEN.

SIR,—Kindly allow us to mention in your columns a matter that merits attention. We are Americans, and though born in a country whose inhabitants have for centuries been tree slayers, we are ourselves tree lovers, and came across the sea to England to find a marvellously beautiful country, resulting from a general appreciation of the beauty of trees on the part of the people.

We have been impressed very generally by the acceptance of the truth that "Nature unadorned is adorned the most." However, we take the liberty to address you this note for the purpose of expressing a criticism upon what seems to be a most reprehensible practice in a quarter where we had no reason to expect it. In Kew Gardens we were led to believe we would find a great collection of trees which would exhibit the natural characteristics of species, and some marked tendencies of individual specimens that would attract the attention of an admirer of trees. Imagine our surprise in strolling about the beautiful grounds to encounter a set of workmen with pruning implements cutting the branches of various species to a common mould. Oaks, Elms, and Chestnut trees were receiving the same treatment. Symmetrical heads with no individuality of habit allowed to intrude seemed to be the model sought. When we came across a beautiful Beech showing all its natural beauty, we could not help remarking that "the man with the implements of torture must have skipped this one." It occurred to us that in the management of these trimmed trees some tree-pruner must have been imported, and allowed by some strange feature of your Civil Service to have secured a position of responsibility at Kew, for certainly under the beautiful tuition of the general practice in your landscapes, we felt that he could not be a genuine Englishman. Pardon this protest on the part of two interested visitors to your lovely country. If the practice had been a very general one we should have hesitated to express our indignation. It was the fact of finding it in vogue at a place we least expected it that has led us to address this note to you.

O. C. SIMONDS.

CHAS. W. GARFIELD.

**Angræcum articulatum.**—Although it is now over twenty years since this beautiful *Angræcum* was first introduced from Madagascar by the Rev. Mr. Ellis, it has only been during the last year or two that it could be seen in any great number in our Orchid collections. It may undoubtedly be counted amongst the most valuable in the genus, and especially so with regard to the small-growing group to which it belongs. For garden purposes I do not think there is any species more useful. The plant is only a few inches high, its stout, firm leaves being of a deep, but bright green and about 6 inches in length. The flowers (which are now in their greatest beauty) are borne on a pendent raceme about a foot long; each one of them measures some 2½ inches in diameter and is of the purest white. Like some others of the dwarfed *Angræ-*

cums, the sepals, petals and lip are so nearly alike in size and outline as to make the flower almost regular. The spur is very slender and nearly 7 inches long. The raceme bears from a dozen to sixteen or more flowers and is markedly zigzag. The species was imported in quantity by Messrs. Low, of Clapton, two or three years ago, and, judging by its behaviour since then, it appears likely to deserve a better character in regard to cultivation than some of its near allies possess. It should be given moist stove treatment throughout the year, only reducing the moisture at the root during winter in proportion to the amount of heat and sunshine which then obtains.—B.

#### GARDEN FLORA.

##### PLATE 874.

GESNERA CARDINALIS.

(WITH A COLOURED PLATE. \*)

GESNERACEOUS plants are, as a rule, very accommodating in their season of blooming, that is to say, given the requisite treatment, they may be had in flower at almost any time of the year, and the species under notice forms no exception to the general rule, though the spring is the usual flowering season. While many of the *Gesneras*, or at all events the plants usually known under that name, have curious scaly rhizomes, this produces a firm, solid tuber, which will grow as large as one's fist, but it by no means invariably follows that the largest tubers produce the best display of blossoms. This *Gesnera* forms a stout stem from 6 inches to 1 foot in height, clothed with bright green leaves, and terminated by clusters of flowers, as shown on the accompanying plate. The leaves, stems, and blossoms are, as may be seen, all thickly covered with hairs, which in the case of the blossoms give to them quite a velvety appearance. The cultural requirements of this *Gesnera* are very simple, for after flowering it soon commences to go to rest, when the soil should be kept somewhat drier, and finally, when the flower-stems and leaves have died away, scarcely any water should be given. If the plants have flowered in the spring, they will, of course, be resting during the summer, and in the autumn may be repotted, when, with additional heat and moisture, they will soon start into growth. By varying the season of potting, a good deal may be done to lengthen the blooming period. In repotting, the whole of the old and exhausted soil should be shaken from the tubers, for which a suitable compost is equal parts of loam and leaf mould, with a liberal admixture of sand and some decayed manure. This *Gesnera* is at times met with under the name of *G. macrantha*. Different individuals vary somewhat in hue, but seedlings which can be freely raised often show that peculiarity, even if the product of a single pod. Another, known as *G. Duvali*, is much in the same way, but the stems are more slender, while both the leaves and flowers are smaller. A very beautiful white-flowered species (*Gesnera longiflora*) was illustrated by means of a coloured plate in THE GARDEN for April 14, 1888, when the different species were there described.

A good deal of confusion exists with regard to gesneraceous plants in general, as the various authorities seem to differ considerably concerning the genus under which they are to be included, for besides the commoner generic names, such as *Gesnera*, *Gloxinia*, *Tydea*, and *Achi-*

\* Drawn for THE GARDEN by Gertrude Hamilton in the Royal Gardens, Kew, March 19, 1892. Lithographed and printed by Guillaume Severelyns.











menes, we have also Eucodonia, Nagelias, Plectopomas, and others. Generally speaking, however, the blossoms of the whole of them may be said to be showy, while in several the foliage is very handsome, notably in the case of *Gesnera cinnabarina*, *G. exoniensis*, and *G. zebrina*. The first of the three (*cinnabarina*) has large ovate leaves, covered with bright red-coloured hairs, which render the foliage quite like velvet. The blossoms, too, are of a bright cinnabar-red colour, while in the case of the other two the flowers are orange-scarlet and yellow. From a flowering point of view, the first place among gesneraceous plants must be assigned to the numerous garden varieties of *Gloxinia*, which are, however, now in most cases past their best, but, on the other hand, there are several members of the same order that bloom during the autumn months. Especially worthy of mention are the *Tydeas*, one variety of which (Mme. Heine) was figured in THE GARDEN for November 10, 1888. The flowers of the whole of them are borne in great profusion, while in many cases they are very quaintly marked, the broadly expanded limb being of a yellow or buff colour, striped and spotted with red. These *Tydeas* bloom for months together, and are among the most useful classes of plants we possess for the intermediate house or the cool end of the stove, and they give but very little trouble. In some the flowers are red or crimson, and in that case the spots or stripes are nearly black. When needed for blooming in the autumn and winter these *Tydeas* may be grown in a cool frame during the summer, towards the end of which they will have formed neat little specimens bristling with flower-buds, and if the plants are then introduced into a gentle heat, they will flower freely for a long time. Another *Gesnerad* whose season of blooming is during the autumn months is *Gloxinia maculata*. It was introduced into this country from South America a century and a half ago. This is a bold-growing plant that pushes up from a large tuber a stout herbaceous stem, that reaches a height of a yard or even more. The leaves which clothe the curiously spotted stem are large and heart-shaped, while the flowers, which are borne for some distance along the upper part of the stem, are of a mauve-purple colour, and about the size of those of a *Gloxinia*. This was figured in THE GARDEN for April 18 of last year. H. P.

## THE WEEK'S WORK.

### FRUIT HOUSES.

**EARLY VINES.**—The weather lately has been more in favour of strong late growth than the more to be desired early rest. By all means preserve the primary leaves in a healthy state as long as possible, especially when it is useful that the root-action should be considerably improved, but the Vines ought to be prevented from forming much superfluous growth, as this may keep them in an active state too long. Set the ventilators wide open, only nearly closing the running sashes when rainfall is heavy, with a view to keeping the atmosphere as dry as possible. The wood, as a rule, is ripening remarkably well this season, but where it is not, fire-heat should be turned on freely with a view to keeping up a good circulation of warm, dry air. The most compact bunches are produced by the best ripened wood, and there is also less likelihood of bunches on hard forced Vines running to tendrils when the wood is ripened thoroughly well during the preceding season. Early Vines that have been some time since cleared of their crops may well have their laterals shortened back to about two-thirds of their length, or, say, to the

fourth or fifth joint at the present time. This will favour early ripening of the wood, the back buds also plumping up more satisfactorily.

**YOUNG CANES OLD VINE RODS.**—Very strong young canes, more especially those coarse and not well ripened, are apt to produce loose ugly bunches, and that is one reason why so few adopt what is termed the long-rod system of pruning. All the same, the latter is perhaps the best system to be pursued in the case of Gros Guillaume, Buckland Sweetwater, Gros Maroc, Golden Champion, and other shy-bearing varieties, and a change of rod is also very desirable occasionally with the most productive forms. Shanking more often than not takes place principally in the case of old rods, especially when the latter have been badly skinned and dressed occasionally with some strong insecticides, and it often happens that old rods produce smaller bunches than are desirable. While yet the Vines are in full leaf is the best time to cut out old rods, there being no injurious bleeding to be reckoned with neither then nor in the spring, when the upward movement of sap recommences. Where, therefore, young canes have been laid in with a view to their taking the place of the old rods, now is the time to either cut out the latter or else to clear them of spurs as far up as the young canes reach. In not a few vineries the rods are trained more thickly than is good for them, it being no uncommon thing to see Vines intended as super-numeraries only retained for several years, owing, it may be, to their having done so well. As it happens, there is seldom anything gained by leaving rods so thickly, and more often than not much better results would have attended thinner training. Supposing the rafters are 4 feet apart, one rod to each is ample, and Muscats may with advantage be allowed another foot. When they are grown more thickly they unduly shade each other, the consequence being weakly, imperfectly-set bunches and very frequently faulty colouring of the berries. It should be decided now which to cut out or root up and which to retain, either of the former processes being performed directly the crops are cleared off. Rooting out superfluous Vines is bound to disturb those on either side of them; but merely cutting them down to the ground will not do, decaying stems and large roots breeding fungus and souring the soil. Not much real harm will be done if the rooting out is performed while yet the foliage of the reserved Vines is green, the damaged roots healing and forming fresh fibres before the sap movement wholly ceases. Some of the exhausted old soil should be removed with the stems and principal roots to a depth of from 18 inches to 2 feet, and this be replaced by a good loamy compost. Then if the roots come across are pruned inside of where they are broken and then relaid in the fresh compost as this is placed in the hole, they will quickly strike out into this and the Vines be benefited accordingly.

**PRUNING PEACH TREES.**—As the trees are cleared of fruit, the pruning should be commenced. An early removal of the old bearing wood, as far as possible without sacrificing well-placed young shoots, ought to take place, with a view to admitting all the light, sunshine and air going to the reserved wood. Thinning out and foreshortening only should be practised now, shortening young wood that is to give fruit next season not being advisable till it is seen whether or not it is furnished with wood buds as well as flower-buds. Nothing is gained by crowding the bearing wood, that more thinly trained usually producing abundance of fine fruit. Therefore, thin out freely, and also foreshorten large old trees in particular with more freedom than is often thought necessary. When the old outside or more straggling branches are cut or sawn back to well-placed inner branches, the balance is maintained, and, what is of even greater importance, the centre of the tree is strengthened, young bearing wood being formed all over the trees instead of being principally found at the extremities. Well-ripened wood is rightly supposed to be the least liable to cast its flower-buds prematurely in the spring, and early pruning, as before hinted, favours a more thorough ripening of the young growths. With

the amount of sunshine registered this season, there ought to be fewer complaints of the non-ripening of the wood; but strong young trees are growing more freely and later than desirable. Superfluous shoots may well be cut out of the latter, but there must be no shortening back as yet, and fire-heat turned on will, with abundance of air, assist in the ripening. PRACTICAL.

## THE KITCHEN GARDEN.

**EARTHING UP CELERY.** In all cases where Celery is well advanced in growth the earthing up should now commence. Not that earthing up need be general, as in many instances, no doubt, it would be much better to defer the operation a little longer, not only for the better keeping of the Celery, but also for its free progress. Although the recent rains have been beneficial to the free growth of Celery, yet they might not have been sufficient to soak the soil about the roots, so this should be examined previous to earthing up and a thorough soaking of water be given. Each plant should be handled singly, and all small outer leaves and suckers promptly removed. Each plant should also be tied up with a piece of matting, but only for the time being, as after the soil is added the matting must be cut. About 3 inches of soil will be sufficient for the first earthing up, taking care that the hearts are kept open or in advance of the soil. Previous to the soil being well broken up, it should receive a slight sprinkling of salt, as this, besides acting as a fertiliser, has a deterrent effect upon slugs. In the course of a fortnight or three weeks an extra earthing up should be given, finishing up at about three times.

**HARVESTING ONIONS.**—The spring-sown Onions should now be sufficiently advanced for harvesting, and as it will depend principally upon how this part of the routine is carried out whether they will keep well or not, this important operation must receive prompt attention. Even if only a part is ready, it is useless at this late date to leave the remainder, especially if at all thick-necked, as although these are not suitable for keeping, they may be reserved for early use if so desired. It is not wise to leave them on the ground beyond two or three days, unless the weather should be fine and bright, when a longer sojourn in the open air may be allowed. For finishing up the ripening, the bulbs are best placed under cover, but fully exposed to the sun and air. An airy vinery or Peach house is a capital position to finish up the ripening; but when elevated off the surface by a temporary stage, a thorough drying, which is needed if they are to keep sound for a lengthened period, is ensured.

**SPRING CABBAGE.**—A good plot of spring Cabbage must be considered one of the most important crops grown in the kitchen garden, and as their value depends greatly upon their earliness, more than ordinary attention should be bestowed upon them. With a plentiful supply of plants of the varieties Ellam's Early Dwarf, Mein's No. 1, or any other kinds noted for their earliness without the attendant evil of what is termed bolting, a gardener need have little fear of the result the following spring. In the majority of instances the plot reserved for the spring Cabbage is that from which the Onions have been cleared. Sooner than allow the seedlings to spoil from overcrowding, it will be much the best plan to prick out the plants for the time being, the check so received being beneficial in every way. Spring Cabbages pay well for good culture, and as their quality will depend upon the treatment received, the plot for their reception should receive a thorough manuring previous to being well forked or dug over. The plot having been dug over, in a few days will be ready for the plants. In the first place, a dressing of soot will be found an advantage in clearing the ground of slugs, which are so apt to congregate in the autumn months and often sadly disfigure the plants. If club has attacked the roots, look over each plant carefully and pick off all excrescences, also taking the precaution to dip in a puddle formed of soil, soot, and lime. In planting fix the roots firmly



with the dibber, also taking the precaution to fix the plants well up to the lower leaves. The dwarf kinds, as Ellam's Early Dwarf, should be put out 18 inches apart both in the rows and between the rows, but where room is scarce an inch or two less may be allowed. The larger growing sorts are best at 2 feet apart, but with these where room is scarce a distance of 18 inches in the rows is the least that can be allowed. On light land it is best to plant in drills, but on heavy land plant on the level. After the plants are out keep an eye on them in case of predations from slugs, dusting with lime and soot being the best antidote. Nor must timely hoeing be neglected, for directly the plants have taken to the soil, a surface stirring will be highly beneficial in setting the soil about the roots and around the stems. The smaller succession plants should be pricked out closely in a bed, and will be found useful for filling up gaps in the early spring or for forming a succession plantation if so desired. When allowed to remain in the seed bed, they either become overgrown or drawn.

**FRENCH BEANS IN POTS.**—To follow up those French Beans which have been prepared for late cropping, to be either covered with frames or otherwise suitably protected, the time has now arrived for sowing a batch in pots where they are so desired. Of course, any attempt at forcing is not yet needed, all that is necessary being to give the pots a position in a slightly heated pit, so as to give the plants a fair start before being housed when colder weather arrives. When these Beans are kept too cool in their earlier stages, they are apt to lose their leaves upon the sudden change to a brisker and moister temperature. New seed should be preferred, the plants from newly saved seed growing more freely. Seven-inch pots are quite large enough, these being quite filled with soil at the first. The plants must receive all the light possible, and be freely, yet judiciously ventilated. As the pots become filled with roots a little liquid manure may be given about twice a week, as any attempt at over-gorging them with liquid in the autumn months quickly sours the soil. Ne Plus Ultra and Syon House are two capital varieties for sowing now.

A. YOUNG.

### ORCHIDS.

THE *Lælias* and *Cattleyas* are now so numerous and withal so beautiful as decorative plants, that too much attention cannot be paid to them at any season, but more so at the present time when the more important sections of them are making up their growths for next season. We may now allow the sun to shine upon them, except for an hour or two during the hottest part of the day. Exposure to the light and plenty of air are essential to the thorough maturing of the bulbs. Some species, I need not say, are more difficult to maintain in good condition than others. Some are better close to the glass roof, the tips of the leaves almost touching it. Others would be injured by such close contact. As a rule, the short-bulbed *Cattleyas* and *Lælias* may be placed with the tips of the leaves near the glass, and the long-bulbed section at some distance from it. *Lælia elegans* and the varieties of it now in cultivation may well rank as the very finest of the long-bulbed section. The delicate white variety and the handsome dark-coloured *Turneri* forms are equally admired. Some of them may be yet in flower, others will have passed out of bloom. The flowers are produced at the top of the long bulbs as the growth is completed. This species soon gets out of order; an attack of thrips may so debilitate a plant as to render it worthless. The plants are rather tender in other respects. The growths rot off in the course of development if they are over-charged with moisture through the plants having too much water at the roots, too much moisture in the atmosphere, or both, or water lodging in the heart of the growth might do so; all these evils should be guarded against. I have observed that immensely large plants of this species are planted in teak baskets and grown suspended from the roof

glass in the nurseries of Messrs. Sander at St. Albans. Imported plants of this and allied species should be made firm either in the pots or baskets by means of sticks firmly inserted in the compost. It is a good time to repot them now, that is as they pass out of bloom. Roots will be freely produced which will take firm hold of the new potting or basketing material, which should be the best fibrous peat with a little clean live Sphagnum Moss and clean potsherds broken up, as free drainage is absolutely necessary. Sufficient water should be applied to cause the fresh Sphagnum to grow amongst the lumps of peat, but it ought not to cover the peat with its growth, as is desirable with *Odontoglossums* and some other Orchids. *Lælia purpurata* is even more noble as a plant than the more graceful *L. elegans*. I usually repot it at this season, and it does very well when this is done carefully. The plant is one of the most vigorous in growth of the entire genus, and needs plenty of pot-room to do it well. Some gardeners say that this species and its varieties need not be repotted very often, and I have seen large specimens which had been grown so long in the pots that they had exhausted every particle of the potting material, which had become reduced to a fine black powder containing nothing that a plant of this description could lay hold of, and the roots had nothing on which to fasten but the outer and inner sides of the flower-pots. The plants are now starting into growth; most of ours have grown an inch or two, and in repotting them some care must be taken not to injure them. A vigorous specimen will probably start another growth or two should the first be broken off, but it is not likely that the second will be so strong, and might not produce any flowers. Leaving any decayed material about the roots of the plants is a mistake. Sometimes a choice variety has to be divided into one or more pieces; in that case much care is necessary in order that it may be a success. When this operation of dividing a plant is contemplated, the rhizomes should be cut clean through with a sharp knife some time before doing it, so that each portion may have an independent existence previous to being disturbed. In dividing the portions from each other, do not use a cutting instrument amongst the roots. I part them with the fingers, or if this is not sufficient, use a pointed stick thrust down amongst the roots to disentangle them. The plants may be of great value, and it is always worth while to use the best material and also to carefully prepare the plants and see that the roots are evenly distributed amongst the potting material. See that the plants are quite clean before repotting them. I never repot or even surface-dress an Orchid of any kind without first sponging it over with soft soapy water, and if there is the least fear of thrips lurking about the leaves, they are first dipped in sufficiently diluted tobacco water. The plants are laid on their sides for an hour, when they are sponged over again with soft soapy water to remove the dust. *Lælia cinnabarina* is a distinct and very pretty plant that may also now be repotted if it requires it. The plants seem to decline in vigour after a few years. I have been fairly successful with them grown in pans or baskets; they grow vigorously for a few years treated in this way. I have also managed them well in flower-pots filled about two-thirds full of drainage, and the pots placed in teak baskets suspended near the glass roof. The more slender-growing *L. barphylla* thrives with very similar treatment. The hybridisers have also been successful in producing very handsome garden varieties by crossing these orange-scarlet species with the more free-growing and free-flowering *Cattleya Mossiae*, &c. Every Orchid cultivator should be a raiser of hybrids. We are this week repotting small hybrid *Cattleyas* and *Lælias*, in order that they may become well established before the cold weather sets in and the short days are upon us. I have recently written about the general treatment of the Orchid houses, such as the distribution of water to the plants in the atmosphere. Ventilation and shading have also been well discussed. The same treatment may be continued, but we must gradually get into slightly lower temperatures, except in the case of

*Dendrobiums* which have not yet made up their growths. Give them all the light possible and a high temperature at shutting-up time.

J. DOUGLAS.

### PLANT HOUSES.

**STOVES.—PLANTS IN FLOWER.**—There will now be a profusion of flower in this house where the selection has been good and there is sufficient room to cultivate a good variety. This will be the case not only in the culture of bush plants, but the roof also be supplying its quota from the climbers which have frequently been recommended for its adornment. For this latter purpose the *Allamandas* are amongst the most generally useful at this season. Where the treatment of these has been good, there will now be a profusion of bloom. Hints have been previously given on this point; it only remains now to add once more that all shading must be dispensed with to succeed in the best manner. *Allamandas* now in flower should be treated liberally, whether they be in pots, in tubs, or planted out; those, of course, will require the most generous treatment which are fully pot-bound or confined at the roots. Liquid manure will greatly assist all such plants. The points of the shoots if touching the glass should be tied down to prevent them being broken by coming into contact therewith. These shoots will usually set for bloom quickly, and thus form a good succession to others now in flower. If any blooms are wanted for use in a cut state, those should be chosen which are just expanded and which have been developed in the most exposed spot; these will not reflex so soon as the others. The *Dipladenias* are all worthy companions to the *Allamandas* for the roof, but their treatment as regards watering is quite the reverse. Whilst the *Allamandas* will take water *ad lib.*, the *Dipladenias* require very cautious treatment in this respect; they need but little compared with the majority of flowering plants in the stove, being more comparable to the average run of succulent plants. Nothing is more fatal to *Dipladenias* than over-watering, more particularly from now onwards, as but little growth will for the rest of the season be made, the chief energies of the plants being concentrated upon the perfecting of the flowers. *D. boliviensis* is somewhat of an exception, being a more continuous grower. Where the mistaken notion still exists that these handsome plants cannot be grown without the mealy bug attacking them, every effort should be made to get rid of it; this can be accomplished only by perseverance with a determination not to be beaten in the contest.

**STEPHANOTIS FLORIBUNDA.**—Where this climber is grown for a summer and autumn supply of flower, it will be as well to stop the points of the shoots, so as to direct the energies of the plant towards the flower trusses rather than any future leaf growth; only just the points should be taken out, however. Where an early supply of flower next March and April is the main object, then every encouragement must be given to complete the growth of the shoots instead. These shoots should not be allowed to intertwine with each other, nor ought they to be permitted to become crippled against the glass. In order to secure an early bloom it is necessary to have the flower trusses partly advanced in the autumn; then the matter of obtaining an early crop next spring is more reliable. In any case the *Stephanotis* should have the syringe plied into its foliage in a free way; it will not do any harm to the flowers, but rather improve them, cleanliness being, however, the main object. Where *Bougainvillea glabra* has been for a considerable time flowering freely and it can be spared now, as in the case of the terminals being nearly run out of bloom, it will be well to cut away all such to give encouragement to later shoots, which in most instances will be advancing. These latter will then come in useful towards the end of the month or in October. The *Passion Flowers* may now be disposed to make more growth than is desirable. Where this is the case weakly shoots or any that do not show for flower can be re-



moved, but in doing this the supply of water ought to be somewhat diminished, for another break is not desirable. In most cases this will be possible without taking away from the effect as regards the flowers.

**SHRUBBY PLANTS.**—Of these, besides any of the foregoing which may be grown as bushes or trained upon trellises, the *Lorax* occupy a prominent place. These with care will supply a good crop of flower up to the end of October. To accomplish this, however, the warm stove must be the place for them. What is now needed most is cleanliness, so that the flower-trusses are neither infested with scale nor mealy bug. Where the growth is still active, a liberal supply of water will be needed. *Rondeletia speciosa* major, where blooming freely, is now a grand plant where it has been grown as recommended in previous calendars and in separate notes thereon. For cutting it is excellent, lasting well and being so unlike anything else. Plants that are now coming into bloom should be treated liberally if all right at the root. Care should also be taken not to damage the flowers in any way, for they quickly show signs of injury. *Clerodendron fallax* will still be gay; this may be grown in a comparatively cool house; a conservatory that is kept close at night will suit it for a few weeks longer. This and *Vinca alba rosea* are two fine old-fashioned autumnal plants. Both require a rather dry temperature to prevent the flowers from damping off before their time. In both instances the fading flowers should be removed daily. The plants themselves should, however, be watered freely whilst still in flower. The *Vinca* of the two requires the most warmth to flower it continuously and well.

JAMES HUDSON.

## ORCHARD AND FRUIT GARDEN.

### JUDGING FRUIT AT EXHIBITIONS.

THERE is far too much unripe fruit to be seen at the various shows held during July and August, and now that the judges are disposed to favour appearance before everything else, the probability is there will be a further increase in the quantity of uneatable fruit shown. Grapes have been more extensively exhibited this season than ever before probably, and in all fairness, it must be added, the quality has not often been excelled. It is with these that the greatest difference of opinion exists, but in most cases size of berry, colour, and bloom have the greatest weight with the judges, the known fitness for the table evidently not counting for much. For instance, well finished *Alicante* and *Gros Maroc* have been placed before excellent, if scarcely so well coloured, *Madresfield Court*, yet the two former would if tasted have been found uneatable; whereas the latter is surpassed in quality by good *Muscat Hamburg* and *Muscat of Alexandria* only. There is very little skill needed in producing good *Alicante* and *Gros Maroc*, but how many growers succeed in growing *Madresfield Court* to perfection? The last ought not really to be ever in competition with the others named, and should have a class to itself, or at any rate be shown in a class for black *Muscats*. The favouring by judges of the showier and more easily grown varieties has led, and is still leading, to the extension of their culture, more especially in early or comparatively early houses, to the exclusion of the superior *Black Hamburg* and *Madresfield Court*, and this is to be regretted. If separate classes cannot be provided at the majority of shows for the best varieties of Grapes in season, something should yet be done to encourage the cultivation of the latter. I strongly object to the wholesale slaughter observable in fruit tents, where tasting everything by the judges

and some of the committee is the order of the day, but am of opinion that something of the sort will again be necessary in the case of Grapes. Well-ripened *Hamburgs* and *Madresfield Court* ought to gain at least a point over any late Grapes shown in August, and if the judges cannot decide whether they are ripe or not, let them taste and see. Black Grapes, and none more so than *Alicante* and *Gros Maroc*, are most deceptive. They may be blue-black in colour and as sour as vinegar to the taste, for the reason that they frequently colour perfectly long before they are ripe. In the case of white Grapes, fine well-grown bunches fully as ripe as those of some black varieties that have gained a prize the same day are frequently passed over because they are green, yet they are quite as much entitled to premier awards as the unripe coloured sorts.

Where quality ought to be most taken into consideration is when collections of fruit are being judged. Every dish is supposed to be quite fit for the table, and with competent and strictly impartial judges quality does have the greatest weight. This being so, it is all the more distressing to see a complete reversal of this commendable line of action at one of the most important shows in the country. When a very slight gain is allowed to drag *Buckland Sweetwater* with small and miserably green berries, *Muscat of Alexandria* equally as bad, *Alicante* not wholly coloured and probably sourer than the *Buckland Sweetwater* to the front, I hold that a great error of judgment was committed by men of whom better things were expected. It is true two grand bunches of *Gros Guillaume* were also included, but who would think of sending the latter to the table at the middle of August? The second prize collection included *Muscat of Alexandria*, *Buckland Sweetwater*, *Madresfield Court* and *Black Hamburg*, all perfectly ripened, and it cannot be denied that these were the four best varieties then in season. Such verdicts have a very demoralising effect upon exhibitors and cannot be too strongly condemned.

Peaches, Nectarines, Apricots, Melons, and such like ought to be examined closely by the judges. Not a few staged are highly coloured, yet perfectly hard and unripe, while occasionally half-rotten fruits are either overlooked or given more points than they should receive. One of the finest dishes of Apricots I ever saw, the variety being the *Roman*, was included in the collection already alluded to, and these were more than dead ripe, being squashed at the base, and neither such nor much-thumbed badly-packed Peaches and Nectarines, to be seen only too frequently at other shows, should receive the same number of points they would have been entitled to had they been shown at their best. It is not what fruit will be, or has been, that should decide the matter, but rather what they are when judged. The exceptions to this rule ought to be in favour of Apples and Pears shown in September and later on, as these in most cases would ripen in due season and be valuable accordingly. Let unripe or over-ripe fruit during the summer be treated as such, and there would then be far less of it shown. It is not the market grower's test that ought to prevail in the former case, but ripeness. Soundness and good quality are most desirable, and would be more often forthcoming if judges gave proper encouragement.

W. I.

**Grape Muscat Hamburg.**—I think the non-cultivation of this Grape is due to the greater favour which *Madresfield Court* now meets with

as much as to its capacious character. Undoubtedly the *Madresfield Court* is more easily grown, and as it partakes of the *Muscat* flavour, the loss of *Muscat Hamburg* is not nearly so much noticed. The finest examples of *Muscat Hamburg* that have come under my notice were in the *Waverley Market* in Edinburgh, but for such a sample as that or even one well-grown bunch of this Grape one can see fifty examples of *Madresfield Court*, which grows and sets freely. My experience of *Muscat Hamburg* is that it will succeed as well in a mixed house as by itself. Varieties as *Alicante*, *Lady Downe's* and *Mrs. Pince* appear to be good companions to the *Muscat Hamburg*, as they enjoy a few more degrees of heat when in bloom than do some other sorts, and this treatment is just what the *Muscat Hamburg* enjoys. If this Grape does not get just the right kind of treatment while in bloom—a warm and buoyant atmosphere—it refuses to set freely. It has also another fault, that of often being indifferently coloured. This, I think, is more attributable to heavy cropping than anything else.—S.

**Apple Lady Sudeley.**—Of all the early or even second early dessert Apples, none comes near to this either in point of colour or flavour. I had some doubts as to its cropping qualities, but another season's experience has settled this point. One matter that needs attention in the pruning of this sort is the fact that it is one of those kinds which bear at the tips of the branches; therefore it should not be spurred like many other kinds. Any shoots which are growing too thickly together should be removed entirely, to allow room for those left to develop and mature thoroughly.—E. M.

### PACKING FRUIT.

THERE cannot be any doubt that vast quantities of fruit are annually spoiled through bad packing alone. In the matter of Grapes there is more difficulty in sending small parcels so that they may arrive safely at their destination than larger quantities, at least as regards the preservation of the bloom. Where Grapes have to be sent to market to be sold by salesmen, the bloom must be displaced as little as possible, for on this depends their ready sale and a good price. The same mode of packing would have to be adopted even for private use if the Grapes are expected to arrive in good condition. As I have previously noted, small parcels, or such as have to go through the post office, are the worst to deal with in this respect. For sending through the parcels post, flimsy boxes are of no use whatever, these quickly becoming smashed in transit. It matters little what precautions are written upon the box, as these will be taken little, if any, notice of by the postal authorities. The fruit must be packed firmly, so that there is not the slightest oscillation within the box, for if this simple precaution is not taken, nothing can prevent the Grapes from being severely bruised, even where the boxes are of the best possible description for sending through the post. Light wooden boxes, and such as will withstand pressure without being crushed, are the best. These may be purchased at a cheap rate and are often procurable from grocers, the size, of course, depending upon the size and number of the branches. It is rarely I send more than two bunches through the post at one time, but then the bunches may average from 2 lbs. to 3 lbs. weight each. The size of box I use is about a foot or 13 inches in length and half the length in width, also the same in depth. A box of this kind will take two ordinary-sized bunches, and allow of sufficient packing material all around the Grapes to keep them steady. The material for packing the Grapes will, of course, depend upon circumstances, as various materials may be used, but



clean and well-prepared dry Moss and also very soft paper shavings are as good as anything. Wadding for Grapes is going out of favour, or at least if it is used it should only be in small quantities, or here and there to fill up any interstices as the packing is being finished. Where Moss is to be used, it must be very clean, perfectly dry, and quite free from any earthy particles. Short Grass from the mowing machine is not at all suitable for packing fruit with. It is sometimes recommended, but personally I would not use it, as having had many boxes through my hands after the fruit has been packed, I was not at all impressed with it. Soft paper shavings, besides being an excellent packing medium, are very clean. There is not the least danger of the shavings becoming overheated, and as they lie very close there is no danger of shrinkage. Whatever packing material is used, the bottom and sides of the box must be first lined before placing in the paper which is to envelop the Grapes. A bunch should be placed at each end, the points being towards the centre. The paper should be then gathered together and all interstices filled up with the packing, so that after the lid is placed down there will not be the slightest space left. Take particular care to pack well around the sides, not merely placing the packing upon the top. One, or at the most two small nails will keep the lid secure, afterwards packing the box in brown paper and tying it neatly. The same method for sending small quantities by railway may also be adopted; in fact it is the best and only way, except when the Grapes are to be sent to market, or in those cases where they are expected to arrive with the least possible blemish.

For market the Grapes must be packed and sent off by rail in cross-handled baskets. To the inexperienced this may appear a very insecure method, but such is certainly not the case, for only in this manner can the Grapes be expected to arrive intact, or at least with the minimum amount of disfigurement of bloom. From the railway officials, again, they receive the most careful treatment, there rarely being any complaints. The baskets are made of light wicker, but are both strong and durable, and are to be had from the salesmen to whom the Grapes are to be consigned. They are made to contain from 9 lbs. to 12 lbs. of Grapes, or for carrying four fair-sized bunches. The boxes are first lined with the packing, a little being placed at the bottom and around the sides, afterwards being lined with paper, this forming an effective protection from injury, which the bunches would be apt to receive if laid in immediate contact with the basket. A bunch is placed at each end, also one on either side, each also being firmly tied to the basket by the stem. By fixing the bunches in this manner the bloom on the top side of the bunch remains intact. Across the top the basket is laced with string, so as to prevent the tops of the berries from coming in contact with the paper which is fixed above. If any of the berries should show above the rim of the basket, which is possible if the bunches be large, it will be necessary to fix some Willow twigs or split cane before placing on the brown paper. A printed paper marked "Grapes with Care" is pasted on the top, so that it will be plainly seen.

Peaches also require extreme care in packing, although if carefully selected so that they are not over-ripe, and also carefully handled, they invariably carry well. As in the case of Grapes, it is necessary to have suitable boxes, and also packing material. Of the latter I favour soft paper shavings. Well-prepared Moss is also

sometimes used, but unless it is very soft and clean it is poor stuff. The Moss must be perfectly dry and all the finer particles must be sifted out. In the majority of instances, however, such material is difficult to procure, and also disliked by many people on account of its imparting a supposed mossy flavour. Short Grass even when well dried has the same objection. Wadding even is objectionable, and I would not use it, except perhaps as a layer at the bottom of the box and on the top when to be sent by parcels post. The kind of boxes I use for sending by rail is the same as sent out by the Covent Garden salesmen. These are of light wood, and measure 18 inches by 12 inches, depth  $3\frac{1}{2}$  inches inside measurement. A box of this description will take one layer of fruit, the number of course being according to their size. To save carriage, I generally tie three or four together. The packing used is soft paper shavings, and never yet have I had a complaint of the fruit not carrying well, and this a distance of 150 miles with an extra twelve miles over a country road. Each fruit is placed in a square of tissue paper sufficiently large enough to screw up in the hand without opening out. When ready for packing, sufficient paper shavings are first laid in the box so as to form a soft bed, and as the fruits are being packed in, sufficient packing is also placed between so as to prevent injury by contact with each other. As the fruits are being laid in, the last should be held in position till the next one is placed, and so on until the box is filled. It should then be looked over, and have all interstices filled up, sufficient packing being also placed on the top to completely fill the box when the lid is fixed. When to be sent by parcels post the same method of packing must be adopted, excepting perhaps a layer of wadding at the top and bottom, as the boxes are often thrown very roughly about in transit. The boxes of course will have to be smaller, but not less in depth, an extra inch even to that given above being an advantage. The fruits are in condition for packing when they will part from the tree after being firmly grasped and given a slight outward pressure. Over-ripe fruits are useless for packing, nor should the mistake be made in only sending hard fruit. These latter of course carry well, but as regards flavour where this is a consideration, the least said the better. I should have mentioned that in any case never place more than a single layer in a box.—Y. A. H.

— On page 175 there is a query respecting the best way to send Grapes and Peaches by rail and parcel post. Possibly the querist is a new subscriber, otherwise he would have come across some very useful articles on the above subject in the pages of THE GARDEN treating on the packing alike of large and small quantities. The following may be of use to "T. Y.," and I may mention that Grapes, Peaches, Nectarines, and Figs get to the end of their journey, some 600 miles, none the worse. Get some boxes made, say 16 inches by 14 inches or thereabouts, the lids and sides of quarter, the ends and bottoms of half-inch deal, 6 inches deep for Grapes, 4 inches for Peaches, and 3 inches for Nectarines. The length and breadth are for those for railway travelling; smaller boxes will be required for parcel post. Procure good packing Moss, let it be thoroughly dry, well beaten to clear of dust, and picked to free it of such objectionable matter as Pine needles, small stones, sticks, &c. Tissue paper and some coarse bran will be the other necessities. Line the bottom of the box with Moss to the depth of 1 inch, and for Grapes take a sheet of tissue paper that will just hold the bunch, pass the stalk through the centre of the paper and draw the latter loosely together, giving it a twist at the bottom. Lay gently in the box, first working a little Moss at the side to prevent

the berries pressing against the wood. The remainder of the packing simply consists in getting as many bunches in as possible. About 9 lbs. of Grapes will be an average for the sized boxes above mentioned. They should be placed in tightly and firmly with sufficient Moss between each bunch to avoid any crushing or undue pressure of individual berries, a thin layer of Moss at top and the operation is complete. If care is taken in the removal of Moss and tissue paper at the unpacking, not only will the bunches come out sound, but there will not be any serious loss of bloom. For Peaches, Nectarines, Figs, and indeed all soft fruit, the Moss and tissue paper are all the materials really necessary, but I like the addition of a little coarse bran. Proceed as for Grapes. Wrap each fruit in a little tissue paper, place on a layer of Moss with a little bran shaken in to fill interstices. The fruit should be as close together as possible without actually touching, allowing say an eighth of an inch between. Shake in bran to fill up level with the top of the fruit and again a layer of Moss over all. In a note on packing that appeared some time ago a correspondent recommended short (dried) Grass from the lawn as a substitute for Moss, and it might answer well for short journeys, but I do not like it so well when the fruit has to remain some thirty hours in the boxes. I may mention that the strength of deal recommended for railway boxes is when they are afterwards packed in hampers; if to travel independently, half-inch deal is not too thick.—E. BURRELL, *Claremont*.

**Apricots at Syon House.**—Having very recently had the opportunity of seeing the trees Mr. Wythes refers to in last week's GARDEN (p. 204), I have special pleasure in confirming all he says of their superb condition and extraordinary fertility. Taking these trees all in all, I have not seen their like for years, if indeed I ever have seen their equal. The wall is, I think, 14 feet high, and encloses one side of the kitchen garden at Syon House. From one end to the other at the time of my visit (the first week in August) there was not a jaundiced leaf, to say nothing of a perished branch, nor a barren patch on the entire surface of the wall. It need not be added that my visit was entirely unexpected, and that I had not been to these gardens before for years. I had never met with such a case of complete cure of branch-perishing and semi-barrenness through lifting old Apricot trees. I wish also to verify all that Mr. Wythes so well says about gable-end Apricots, once so common and so profitable in Oxfordshire and other counties. A good many of these have no doubt been crippled into decrepitude through over-cropping and starvation. Shallow, well-drained borders, with persistent mulching and copious supplies of moisture are Mr. Wythes's means of renewing the youth and establishing the fertility of those Apricot trees on a sound and lasting basis.—D. T. F.

**Grape Muscat of Alexandria cracking.**—What appears to have been a similar case to that of "J. D." once came under my observation. In that case the fire was let out early in June and the summer was wet and cold. The berries swelled to a good size, and all appeared to be going well until about this time, when many berries cracked in the manner described. The skins were thin and the Grapes watery, and I had no hesitation in attributing the cracking to a damp, stagnant atmosphere. The roots were all inside, the Vines healthy, and, I believe, well managed.—H. CRANE.

— I have seen several instances of the cracking of this Grape in a similar manner to that described by "W. I." (p. 182), and, like him, have come to the conclusion that it is caused by unsuitable atmospheric conditions, more often the result of too low a night temperature combined with too much moisture in the air. I find that where the Vines are growing in soil inclined to be heavy the cracking is more prevalent, especially if the foliage is defective, brought about by sluggish root-action. I give the surface of the border a good dressing of



coarse sand or road-grit, preferably the latter, at the time when the border is being top-dressed in the autumn, and the frequent supplies of water applied during the following season of growth gradually wash the sand or grit down amongst the surface roots. It is surprising how the roots of Muscat Vines will take hold of any gritty matter. By an improved root-action in heavy soil the foliage follows suit, and the cracking of the berries is reduced to a minimum if the atmosphere of the inside of the vinery is kept in a warm, buoyant condition day and night by the aid of artificial warmth and the admission of air at all times.

**Plum Mitchelson's.**—This is a first-rate variety for growing as a standard. It is one of the surest cropping sorts we have, while the fruit is of really good quality for a cooking Plum. The form of the fruit is somewhat after the style of Dymond, but not nearly so large, while the colour is the same. By some this is termed a Damson, but in my opinion the fruit is much too large for that.—E. M.

**Lifting Strawberries for forcing.**—I have several hundreds of Strawberry plants in the ground, runners planted last March. I have not let them fruit this season, and have kept the run-

good open position, and keep well supplied with water. There should be no further delay in lifting. There ought to be no stopping of Peach trees in pots at this date. Any old bearing wood that can safely be cut away so as to benefit the young shoots may well be removed, but defer shortening these till the winter pruning. In all probability these growths are not strong, and will be furnished with fruit-buds only, in which case no shortening back must be practised, or otherwise there would be no leafy growth beyond the fruit. Rest the trees in the open, that is, if they have not been allowed to root out into a border for some considerable time, but do not withhold water from the roots, liquid manure also being needed by heavily cropped trees after they have been cleared of fruit.—W. I.

#### GRAPE FOSTER'S SEEDLING.

FOSTER'S SEEDLING was raised somewhere about the year 1835 by Mr. Foster, gardener to Lady Downe, Beningborough Hall, York, and was said to be of the same parentage as the popular and altogether distinct Lady Downe's Seedling, both resulting from a batch of seedlings obtained by crossing Black Morocco with the common Sweetwater. It is of free, yet not rank growth, the foliage being somewhat plain, of good substance, and rich green colour. No more productive Grape could be named, the bunches being of medium size and of compact form, the berries being moderately large and oval-shaped, and no difficulty is experienced in effecting a perfect set. At first the colour of the berries when ripe is of a greenish white, but this changes, if the bunches are kept long enough, to a darker yellow, the exposed sides being tinged with a dull red. It forces readily, is particularly good as a successional or mid-season variety, and under much the same treatment as Black Alicante can be ripened later and kept good till December. The quality is usually good. In common with the Black Hamburgh, it will bear a considerable amount of bad treatment before breaking down, but if badly over-cropped the character is much changed for the worse, the bunches being long, thin, and loose, the berries being nearer round than oval in shape, and of a sickly green colour, this making the variety almost unrecognisable. Crowding the laterals and rods has much the same effect, and the main rods ought to be fully 4 feet apart. Given plenty of room, the growth is sturdier, the wood both of young rods and laterals becoming almost as hard as that of well-grown Muscat of Alexandria, and capable of producing fine compact bunches at every break. Moderately hard pruned laterals, as a rule, give the best bunches, those from strong young canes not unfrequently being somewhat loose and also ugly unless the longest of the shoulders are pinched off. At the same time it is advisable to occasionally renew the rods, more especially if bunches for exhibition are required, young canes laid in near the ground gradually taking the place of the old rods. As before stated, the berries set thickly and well, and that, too, without being artificially impregnated. The stems and footstalks being stout and unyielding, it is advisable to thin out rather freely, the berries keeping badly if jamming tightly against each other. Shouldering up or suspending the longest shoulders with strips of raffia is also advisable, this considerably improving the size and appearance of the bunch. During the ripening period a good circulation of warm air ought to be maintained, this improving the colour and quality of the berries and also preventing cracking—a failing to which this variety is somewhat addicted. Plenty of light should reach the bunches to ensure perfect colouring.



Grape Foster's Seedling.

Where a vinery is shut up quite close at night and the temperature allowed to rise to 75° the next day before any air is admitted, the inside atmosphere of the vinery is loaded with moisture, which condenses on the berries. Under such conditions, it is not to be wondered at if the berries crack near the stalk in the manner described. It is a good plan after watering the inside border of the Muscat house after the middle of August to cover the border with straw, this checking to a considerable extent the rising of moisture from the soil, and of course preventing the border becoming so soon dry. By the time named the berries have swollen to their full size, and the Vines do not require so much liquid support.—S.

ners cut off. If they were taken up and potted now, would they do for forcing in the spring, or are this year's runners better for forcing? Should the growth of Peach trees be stopped? The trees are in pots and have made good growth. They are about ten years old.—AMATEUR.

\*\*\* If the varieties are well adapted for pot culture, by all means lift and pot. Runners placed in nursery beds last March should lift well, this really being one of the simplest methods of obtaining extra strong early Strawberry plants for forcing. Give them a good watering over-night and lift with a moderate-sized ball of soil and roots only, too much garden soil in pots being liable to sour badly. Pot firmly, place on a bed of ashes in a



## FRUIT-PACKING COMPETITIONS.

It seems to be exceedingly difficult to define satisfactory fruit-packing competitions, or at least such as all can understand. At the recent Earl's Court show the conditions related to Grapes only, and were that "a basket containing 12 lbs. of fruit should be packed for transit by rail and delivered at a distance of not less than 10 miles"; also "that a box containing not less than 10 lbs. of fruit should be sent by rail or parcels post" over a not less distance of miles than the basket. Now of the several competitors, a minority seems to have literally interpreted the schedule to mean that these parcels should be absolutely entrusted to the railway companies to carry and deliver at Earl's Court. Others seem to have read, or rather misread, the conditions to mean that they should be brought by the exhibitor the required distance and delivered by him. If so understood, it should have been very obvious that such was never intended, as that was making a pure farce out of the classes. The real object of the competition was to enable competitors to display their abilities to pack Grapes in such an excellent way, that they could be entrusted to the tender mercies of railway companies or the post office as ordinary parcels for delivery at their destinations, and if such ability was not evoked, then the competition had no force or use. Gardeners have to be perpetually sending fruit by rail or post to their employers and very frequently to market. In both cases, therefore, it is of the first importance it should arrive in the very best possible condition. There was seen in the market collections at Earl's Court ample evidence of the way choice fruit is packed to reach our markets safely, even from such remote distances as California, and what is possible elsewhere in the matter of good packing should be possible at home and over short distances. It was very strange that gardeners who are perpetually sending fruit by rail should have so interpreted the schedule as to think that if they took their packages with them and staged them just as ordinary passengers' luggage, such a plan would meet the requirements of the schedule. No one sent by parcels post, the risk being doubtless regarded as too great, whilst 10 lbs. of Grapes with box and packing would have been in excess of parcels post weight, which is limited to 12 lbs. Naturally, sending by parcels post submits fruit to far greater trials and dangers than does ordinary rail transit, especially in the case of cross-handled baskets or of flats, as these are almost invariably kept upright. Black Grapes were sent in every case but one, and yet the test of transit is more immediately evidenced in the case of black Grapes carrying bloom than it is with white Grapes, where rubbing is less evident. Some of the Guernsey growers pack each bunch separately in tissue paper, but it is doubtful whether rubbing is not more evidenced in such case than it is when berries only come into actual contact.

A. D.

## SHORT NOTES.—FRUIT.

**Plum Washington.**—This Plum is generally regarded as a shy-bearing sort. One large tree growing against a south wall here has not borne a dozen fruits for the last half-dozen years, although the tree is a picture of health in every respect. Another tree growing against an east wall has not missed a crop for the last ten years, the fruit swelling to a large size and ripening gradually. With the exception of Green Gage, no Plum can equal the Washington in point of flavour.—E. M., *Sussexmore Park*.

**Apple Beauty of Bath.**—This is a valuable early Apple and likely to be much grown in the future. It ripens a few days before Irish Peach and a day or two after Mr. Gladstone. I saw a very fine dish of it at the Salisbury show on August 10. It is of taking appearance, being clearly striped with red on a yellow ground. The tree is an excellent grower and appears to do well on the Paradise stock.—E.

**Plum Victoria.**—Without a doubt this is the most useful Plum in existence. The trees growing

against an east wall here have not missed a crop for several years until this season, but others growing in bush form have given us abundant produce, thus showing the advantage of growing Plums in a variety of ways. The only fault attached to this latter method is that when the trees are heavily laden there is a danger of the branches breaking down with the weight of fruit. By cottagers and amateurs who have space for only one kind the Victoria ought to be planted.—S.

## THE FRUIT CROPS.

## WESTERN.

**Iwerne Minster, Dorset.**—The fruit crops here and in this neighbourhood are, with few exceptions, nearly a failure. Trees looked well in the autumn with plenty of fruit buds, fairly well matured, and in April produced a fine show of blossom of good substance, but nearly all perished, for on the 16th, 17th, and 18th we had a succession of frosts, varying in intensity from 5° to 16°, which, in defiance of our usual temporary coverings of Spruce branches and tiffany, destroyed our hopes. Apricots, Pears and Plums all in full bloom suffered alike, and only a few escaped. Apples being eight or ten days later fared better, although they were also terribly cut by the bitter spring weather, and are only carrying barely half a crop. Among cooking Apples, Ecklinville Seedling, Lord Suffield, Stirling Castle, Tower of Glamis, Hawthornden, Nelson's Glory, Keswick Codlin are good. Dessert kinds: Margil, Cox's Orange, King of Pippins and Fearn's Pippin. Damsons are a fair crop, but leaves much eaten by insects. Gooseberries and Currants have been an abundant crop, but stripped of their leaves by caterpillars. Raspberries medium crop, but fruit small from want of moisture. Cherries we do not grow here. Strawberries have been a poor crop and small in consequence of the very dry summer and chalk subsoil. The few that set did not swell from want of moisture. In some of the neighbouring gardens where the soil is deeper and more drought-resisting the crops have been better, but the frosts and withering winds in February and March left the plants stunted and weak for blooming.

All vegetables have suffered more or less from the dry season. Peas especially have been small and wanting in flavour, and in this shallow soil have only been kept alive by mulching and watering. Potatoes are an abundant crop, good in flavour, and as yet free from disease.—P. DAVIDSON.

**Badminton, Wilts.**—The fruit crops in these gardens are, with the exception of Pears, good, and in some instances above the average. Apricots are abundant and of good size, also Peaches and Nectarines. The Pear crop, in this neighbourhood is a failure generally, the severe frosts in April ruining the chances of a crop as they caught the majority of the trees in full bloom. Bush fruits have been abundant and fine everywhere. Strawberries generally have not been so abundant as in some seasons.—W. NASH.

**Stoke Edith Park, Hereford.**—The fruit crops in this neighbourhood are not nearly so good as they at first promised to be on account of the disastrous frost which occurred during the month of April. In some orchards Apples are fairly plentiful and in others almost a failure. Pears, perry kinds excepted, are but little grown hereabouts outside of private gardens, and the few that are cultivated are bearing but sparsely; but in a good many orchards the perry Pears are bearing well. Cherry trees in orchards and cottage gardens have borne magnificent crops, and the quality has been all that could be desired. Plums and Damsons are scarce in exposed and low-lying orchards and gardens, but higher up on the hills, where the trees are above the fog-line and well sheltered, they are heavily laden with fruit. Apricots grown against cottages are only half a crop, great numbers of the blossoms and buds having been killed

by frost. Bush fruits, with the exception of Gooseberries, have been fairly good, but the latter were but a thin crop. Strawberries where grown have borne well and the flavour and quality good, Sir J. Paxton being the variety generally grown. Nuts of all kinds are abundant. In these gardens, owing to our sheltered position, the fruit crop is on the whole a most satisfactory one. Damsons are thin, but now that Plums show themselves more, the crop is a very fair one for the season. On walls, July Green Gage, Green Gage, Golden Drop, Jefferson's, Kirke's, Pond's Seedling and Rivers' Early Prolific are the best. The following, which are grown as bushes, are carrying very good crops, viz., Golden Gage, Imperial Black, Red Magnum Bonum, Late Orleans, Jefferson's, Bryanston Green Gage and Kirke's. Pear trees blossomed well and had set on south and west walls when the frosts already spoken of thinned them out sadly. The best are Doyenné du Comice, Passe Colmar, Mme. Treve, Duchesse d'Orléans, Marie Louise, Beurré d'Aremberg, Passe Crassane, Pitmaston Duchess. In the open garden bush and pyramid trees flowered later and consequently set better crops, the following being some of the best: Alexandre Lambre, Althorpe Crassane, Doyenné du Comice, Marie Louise, Beurré d'Aremberg, Pitmaston Duchess, Seckle, Dana's Hovey, Beurré Hardy, Beurré Rance, Beurré d'Espérance, Souvenir du Congrès. Taking the garden right through, Apples are a splendid crop, and it would take up too much space to enumerate all that are bearing, and I will merely mention a few of the best: Lord Suffield, Manks Codlin, Keswick Codlin, Cellini, Stirling Castle, Small's Admirable, Warner's King, Hanwell Souring, Maltster, Lord Glyde, Old and New Northern Greening, Blenheim Orange, Lady Henniker, Ecklinville, Alfriston. Of dessert kinds, Cox's Orange, Ribston, Worcester Pearmain, Seek-nofurther, Lamb Abbey Pearmain, Fearn's Pippin, Cox's Pomona, Golden Pippin, Reinette du Canada, Duchess of Oldenburg, Melon Apple, and Red and White Juneating are a few of the best. Apricots which had the protection of copings and frigid domes when in flower have set a good average crop, the fruits being large and clean, and they are now swelling rapidly towards maturity. Peaches and Nectarines which had the same amount of protection also set well, but trees unprotected on another wall are only carrying a partial crop. Alexander Peaches on a west wall were gathered by the middle of July. This is an excellent variety for outdoor culture. Sweet Cherries were abundant and good both on wall trees and bushes, Early Rivers' being ready for gathering the second week in June. Kentish has borne exceedingly well, and at the time of writing we still have a few standard-trained trees on a north wall heavily laden with fruit. This is an excellent Cherry for bottling and cooking. Morellos on south-east and northern aspects, also bush trees, are carrying exceptionally good crops, the individual fruits being very large in size. These and the Kentish are annually mulched with manure, and they seldom fail to yield heavy crops. Red, White and Black Currants have been abundant; in fact, some bushes of Raby Castle and Cherry (for late use) are covered with fruit. Gooseberries were only half a crop, and the flavour of those allowed to ripen up was not up to the mark. Raspberries have been abundant and good. The autumn varieties promise well, and are now coming into flower. Strawberries have been most abundant and of excellent quality, quite up to the standard of other years.—A. WARD.

**Clarendon Park.**—The fruit crop in this part of Wilts taken as a whole cannot be regarded as a heavy one, but it is certainly much better than was anticipated after the destructive frost, more especially on the morning of April 15, when most of the Pear, Plum, and early Cherry trees were in full bloom. Strawberries also suffered from this frost. Apples may be regarded as a fair average crop, for as they came into bloom later than Pears and some other kinds of fruit trees they escaped the frost. Though it is common to meet with orchards almost bare of fruit, it is satisfactory to know that others are equally as conspicuous by their abund-



ance of fruit. We are fortunate in having orchards in three different parts of the estate situate more than a mile apart, and it is very seldom that all produce a full crop every year, but they do so in turns, and when one is almost a total failure the others generally give us a good crop. Although not a great distance apart, it is surprising the value of the arrangement, and I can say that we have not been really short of Apples but once since 1881, and that was in 1888, after the plague of caterpillars. Among the kinds that are bearing good crops this year may be mentioned Blenheim Pippin and King of the Pippins, extra good; the branches of Duchess of Oldenburg are bent to the ground by the weight of fruit, and among others also bearing good crops are Lord Suffield, Ecklinville Seedling, Warner's King, The Queen, Dumelow's Seedling, Waltham Abbey Seedling, Northern Greening, Irish Peach, Cox's Orange Pippin, Worcester Pearmain, Devonshire Quarrenden, and Yellow Ingestre, as well as many of the local kinds. Pears here may be regarded as the greatest failure that we have had for years, there not being a crop on any of the trees, and on many kinds none. Among the kinds on which a sprinkling of fruit may be found are Williams' Bon Chrétien, Marie Louise, Beurre Clairgeon, Louise Bonne of Jersey, Glou Morceau, Knight's Monarch, Flemish Beauty, Ne Plus Meuris, and Pitmaston Duchess. Plums are far better than was anticipated some weeks ago, and on many kinds there is a full and on others a fair average crop. The seldom-failing Victoria certainly carries the palm for weight of crop, while Early and Late Gage and Guthrie's Gage, The Czar, Rivers' Early, Pershore, Kirke's, together with the Mussel Plum and Farleigh Damson, are bearing average crops. Cherries have been a good crop. May Duke, Frogmore Bigarreau, Black Tartarian, and Morello are alike satisfactory. Peaches and Apricots are a fair crop, but not full. Raspberries have been very satisfactory, the valuable variety Superlative still being the best both for its heavy cropping as well as its continuous bearing and large fruit. Strawberries were a light crop; the long-continued dry weather during their ripening caused the fruit to be small and undersized. Filbert and Cob Nuts are a fair crop, but Walnuts are scarce.—C. WARDEN.

**Compton Bassett, Wilts.**—Taken as a whole this season, the fruit crops may be put down as average. Currants, Red, Black, and White, are most plentiful, but have been injured by the caterpillar. Gooseberries also have been a good crop. Strawberries a good crop, and where plants were liberally watered fruit has been extra good. Raspberries have been an excellent crop and fruit good. Apples are a medium crop upon standards, late varieties the best; espaliers are heavy, especially of early varieties. Pears are a medium crop, frost in the middle of June destroying good prospects; Jargonelle good, Beurré Giffard bad, Williams' on west wall good, south wall bad, Louise Bonne average, Marie Louise average, Doyenné du Comice under average, Pitmaston Duchess, Catillac and sundry other midseason and late varieties average. Plums, all varieties, a good crop. Damsons under average. Quinces a fair crop. Nuts a better crop than for four years. Medlars a shy crop. Apricots bad. Peaches and Nectarines average crop.

Potatoes are grand, and if the disease can be kept away we shall have a very heavy crop.—W. A. COOK.

**Trelissick, Truro.**—Apples pretty good crops in most places, but the fruit very inferior and small; trees badly blighted. I never saw so much dead wood, thousands of branches for a length of 2 feet or 3 feet being quite dead. The cause I attribute to severe and late spring frosts. Pears very thin, not nearly half the usual crop. Peaches and Nectarines are splendid crops, trees clean and healthy; never had them in a more satisfactory condition. Plums, both on walls and standards, very light, many of the large Plum orchards in this neighbourhood being quite a failure. Bush fruits very good, but much injured by caterpillars. Our Gooseberries and Currants, which are permanently covered with wire netting, have escaped, while in

many places where the birds have free access to the bushes they have been completely stripped. Our trees were attacked, but dusting with hellebore powder soon stopped them. Caterpillars have been unusually troublesome this season. Figs (outdoors) a fine crop. No Apricots. Cherries do not succeed well in this district, but some trees on the walls had a few. Strawberries have been a fair general crop, especially where the plants have been well supplied with water.—W. SANGWIN.

**Tortworth, Falfield.**—The Apple crop in this district is much under average and very partial. Pears almost a failure. Peaches and Nectarines very good. Plums are very scarce. Raspberries have been abundant and good. Strawberries very good. Vicomtesse Héricart de Thury is a great favourite here, and gives general satisfaction. Oxonian is our best late variety. Auguste Nicaise, James Veitch, Keens' Seedling, Pauline, President, and Sir Joseph Paxton do very well here. Gooseberries and Currants very good. Quinces, also Medlars, under average. Cob Nuts and Filberts good and abundant. Walnuts are a failure.—T. SHINGLES.

**Mount Edgcumbe, Devon.**—The fruit crop in this district is a poor one. The almost sunless summer of 1891 left the wood in a very unripened state, the very severe frost of last spring cut off all the blossom except in very sheltered places, and the exceptionally dry summer we are just going through has left us in a sorry plight. The soil in this garden is not suitable for good fruit culture, being a very poor slaty kind of stuff, which drains very quickly, and unless we get rain often we suffer very severely. Apples are under average. Pears very bad. Plums under. Peaches and Nectarines very heavy crop (these were protected with several thicknesses of fibing net). Cherries under. Small fruits fair.—S. J. RICHARDS.

**Allensmore Court, near Hereford.**—Apples and Pears average crop and good. Plums scarce. Cherries abundant and good. Peaches fine crop. Apricots average. Small fruits fine crop. Strawberries plentiful. Nuts plentiful.—KENNETH MCKENZIE.

**Glewston Court, Ross.**—The Apple crop is very partial; some varieties have a heavy crop, notably Worcester Pearmain, Ecklinville Seedling, Stirling Castle, Golden Spire, King of the Pippins, Margil, Magnum Bonum and Lord Suffield. Some few other kinds have a fair crop and others none. Taken altogether, the crop will be an average one here. The Pear crop is rather light, but better than last year—Louise Bonne of Jersey, Clapp's Favourite, Glou Morceau, Beurré Hardy, Thompson's, Marie Louise and Marie Louise d'Uccle being the best. Plums are the heaviest crop we have ever had; every tree is heavily laden, and the trees look healthy and well. Peaches and Nectarines are also a good crop. Early Alexander and Hale's Early Peaches have afforded us a fine lot of large fruit. Apricots are a good crop, the best for years, and the same remarks apply to Cherries, both sweet and Morellos. Raspberries have been below the average. Currants of all sorts an average crop, also Gooseberries. Medlars, Walnuts and Filberts a good crop. Strawberries were a good crop, the fruit fine, but not so good in flavour as usual.—S. T. WRIGHT.

**Longford Castle, Salisbury.**—Excepting Pears and Plums, the fruit crop for 1892 will compare favourably with any of its predecessors during the last three or four years. Peaches, Nectarines, and Apricots are heavy crops. The trees having been protected while in flower set their fruit so thickly, that severe thinning was necessary. Surface dressings of short manure were laid on over the roots in spring, and removed during the summer, to the great advantage of the trees and their crops, the repeated waterings at the roots washing the substance of the manure down to the numerous rootlets, thereby imparting fresh vigour to the trees and size to the individual fruits. Sweet Cherries May Duke, Governor Wood, and Black Tartarian were a good average crop. The Morellos are also plentiful and good. The Apple trees in the middle

of our orchard are heavily cropped, whilst those outside are generally but scantily cropped. Young Plum trees of the Sultan, Dymond, The Czar, and Jefferson are carrying nice crops of fruit. Gooseberries and Currants had immense crops, some of the Gooseberry bushes being borne to the ground by the weight of their crops. Raspberries, owing to the unusually dry summer, were a light crop, and Strawberries an average one and of short duration.—H. W. WARD.

**Yate House Gardens, Gloucester.**—The fruit crops here and around the neighbourhood are this year far from satisfactory. Pears are almost a failure. Apples scarcely half a crop. The same may be said of outdoor Peaches and Plums. This is owing to the sunless autumn of 1891; there is no doubt the wood did not get sufficiently ripened. Our orchard trees suffered much in consequence, and we have had to prune away an unusual quantity of shoots which were killed outright by the severe winter which followed. Of small fruits I can report favourably. Cherries, Gooseberries, Currants and Strawberries good average crops, also a splendid crop of Filbert and Cob nuts.—P. M. MOESBY.

**Bowden Hall, near Gloucester.**—The fruit crop here is below the average. Apples and Pears are very scarce excepting common cider and perry sorts. Plums are very scarce in most places near here, but in a few sheltered orchards there is a fair crop. Currants very heavy crop. Gooseberries about half a crop. Strawberries were below the average, as they suffered from want of rain for some time before they were in bloom and were cut down to the ground by the severe March winds.—W. KEEN.

**Membland, Plymouth.**—The fruit crop in this district is not up to the average. Apples are not a general crop, a few trees being heavily laden with fruit, but many are without fruit altogether. Lane's Prince Albert, Gloria Mundi, Lord Suffield, Wellington, Grenadier, Stirling Castle, and a few others have heavy crops. We had a wet and cold autumn last year, and it would have been no surprise to me if we had had a barren year in Apples, as the wood was not well ripened. The trees flowered well, although we had drying winds and some frost at the time of blooming. Pears are a very light crop, caused no doubt by the inclement weather at the time of flowering; very few Plums and plenty of Cherries. Peaches are very little grown out of doors in this district, and Nuts are scarce. Gooseberries and Currants are enormous crops. Our Gooseberries were just set when we had the 12° of frost on Good Friday morning, and, curiously enough, the fruit escaped unhurt; the foliage being plentiful no doubt protected them. Strawberries on the whole have been very satisfactory. A few sorts have not borne so well this year, notably Sir J. Paxton and Dr. Hogg.—G. BAKER.

**Killerton, Exeter.**—Peaches and Nectarines are a very good crop. Among the best are Early Beatrice, which we began to gather on July 14; this was followed by Early Rivers, Early Louise, and Hales' Early. We are gathering (August 23) Royal George, Dymond, and Dr. Hogg, all of which have good crops, and had to be thinned. Later sorts are also good. Apricots have been a very fair crop. Plums are generally a failure, only a few sorts bearing moderately. Among the best are Early Prolific, Pershore, and Prince Englebert. Pears of all sorts are scarcer than they have been for very many years. Apples, some sorts are very good crops. Among the best are King of the Pippins (very heavy), Stubbard, Pomme Vite, Manks Codlin, Frogmore Prolific, Hawthornden, Schoolmaster, Cox's Pomona, Stirling Castle, Golden Spire, Worcester Pearmain, Lady Henniker, Golden Noble, Late's Prince Albert, Wyken Pippin, Dumelow's Seedling and Blenheim Orange. Other sorts much below average. Figs are a failure; some of the trees were much injured by the frost. Cherries, early sorts, were a fair crop; Morellos are very good. Gooseberries have been a very heavy crop, also each sort of Currant and Raspberries. Of Strawberries the early sorts were



very good, viz, Black Prince, Laxton's Noble, and Keens' Seedling, and Sir Joseph Paxton grown on south borders and well mulched; but the later sorts were more affected by the hot, dry weather.

Potatoes of all sorts are very good crops and of exceptionally good quality, with no trace of disease. The early sorts in the garden are Sharp's Victor, Ashleafs, Early Puritan and Beauty of Hebron. Under field culture we have Beauty of Hebron, Schoolmaster, Scotch Champion, Imperator, and Bruce.—JOHN GARLAND.

**Lypiatt Park, Gloucester.**—The Apple and Pear crops are very thin in this neighbourhood. Plums are fairly good. Damsons and also Currants of all kinds abundant. Morello Cherries dropped badly, otherwise there would have been a fine crop. Gooseberries are a fair crop. Strawberries are abundant and fine.—G. CYPHER.

**Pynes, Exeter.**—The continued dry season we have experienced in this district and the cold east winds and frosts in March and April, and again on the morning of June 15, have proved very disastrous. The hardy fruit crop is below the average. Peaches good where they had plenty of water. Nectarines medium. Apricots scarce. Apples good. Plums scarce. Pears medium. Cherries medium. Gooseberries good. Raspberries medium. Black and Red Currants good.—E. SPARKS.

**Wilton House, Salisbury.**—Apples fair crop. Apricots heavy crop under glass coping. Cherries good on walls under glass coping; none in open garden. Currants abundant. Figs fair crop. Gooseberries light crop. Peaches and Nectarines heavy crop under glass coping. Nuts and Filberts good crop. Pears very light crop. Plums good on walls; none in open garden. Raspberries heavy crop. Strawberries fair crop.—T. CHALLIS.

**Cirencester House, Gloucester.**—I never remember a brighter promise of fruit than was the case early in the past spring. The trees were a sheet of blossom; but on April 26, after a fortnight of delightfully warm weather, which brought the trees rapidly into flower, the thermometer quickly fell, and we experienced a violent storm of hail and cold rain, followed by 2° of frost. On the 27th, 7° were registered; 29th, 5°; 30th, 8°; May 1, 8°. The Pears, Cherries, Plums, and Peaches were in full flower, but the Apricots had set their fruit, which were as large as small Beans, these being shrivelled up as if scorched by fire. The Nectarines were also in flower, but being under a heavy glass coping and covered with canvas, we saved them and have a fairly good crop of fruit. Peaches on the same wall are good, but the Pears are a scanty crop. Plums variable; some trees have a full crop, while others have not a single fruit on them. Dessert Cherries were a light crop; Morellos are a full crop. Apples are under average. All kinds of small or bush fruits are good, except Raspberries, the canes of which were killed by frost, owing to the unripened condition they were in. With regard to the Strawberry crop, I was never more agreeably surprised. To all appearance they were quite dead in March—not a single leaf could be found on them and the crowns were very dormant. However in April, with the genial weather we had in the early part of that month, they soon sprang into growth and we had a first-rate crop of fruit, good in size and flavour.—T. ARNOLD.

**Abberley Hall, Stourport.**—The Apple crop is better than was thought at one time, although it is very partial. Some kinds are bearing well, and amongst them may be mentioned Ecklinville Pippin, Stirling Castle, Duchess of Oldenburg, Frogmore Prolific, Worcester Pearmain, King of the Pippins, Domino, and a few others. Still the crop is much below the average, but the quality is good. Pears are bad; in fact, there are very few hereabouts, excepting a few on some trees of the perry kinds. Plums on walls are a failure, but in the open in our own garden I never saw trees more heavily laden. This, however, is not the rule in this district, they being very variable. Our trees are grown on the extension system, straggling shoots being shortened to balance the growth, thinning out being all the pruning

they receive. Apricots are a failure. Some trees are bearing fair crops, but they do not ripen well. Peaches and Nectarines without exception are bearing fine crops, and, with the exception of Royal George and Noblesse, the trees are healthy. These two latter are not hardy enough for our exposed elevation, but the quality of the fruit is good when fully ripe. Cherries were an immense crop. Morellos are splendid both against north walls and in the open. This should prove a profitable market kind, as even in poor Cherry years the Morello invariably crops well. Raspberries have been good, and the same may be said of Red and Black Currants; but the Gooseberry crop has been poor.—A. YOUNG.

**Canford Manor, Wimborne.**—Apples are a good average crop. Pears blossomed freely, but were much injured by frosts, as were also Plums, Apricots and Cherries. Peaches and Nectarines suffered severely in some gardens, whilst in others more sheltered they are plentiful and of good quality. Gooseberries, Raspberries and Red Currants are a very partial crop, whilst Black Currants are abundant and good. Strawberries are plentiful and of excellent quality both in size and flavour. Noble and Vicomtesse Héricart de Thury are very useful for an early supply. President and Margaret do well here, and Aromatic is a good late variety.—T. H. CRASP.

**Arle Court, Cheltenham.**—The fruit crop in this district is very poor, with the exception of Apples, which are a fairly average crop; in fact, better than I have known for the past four years. Pears are almost an entire failure. In our garden Plums are quite *nil*, although in some of the market gardens in this locality there are a few Victoria and Pershore Plums. Peaches, Apricots and Morello Cherries have all failed. Gooseberries very poor. Black and Red Currants good. Strawberries below the average, but of very good quality.—G. W. MARSH.

**Batsford Park, Moreton-in-Marsh.**—In this garden and neighbourhood the Apple crop is generally below the average, a large proportion of orchard and also garden trees having scarcely any fruit upon them. Blenheim Orange, which is largely cultivated in this and the adjoining counties, seems to be bearing but a very thin crop. Keswick Codlin is, however, again proving itself a reliable bearer as a standard, and amongst pyramid and bush trees the following are giving the best returns: Ecklinville, Tower of Glamis, Golden Winter Pearmain, Stormer Pippin, Warner's King, Court Pendu Plat, and Cox's Orange Pippin. The last named is not so free as in the past two seasons, and several other varieties not mentioned are but sparingly represented by their fruit this year. Somewhat similar remarks apply to Pears. Those on walls have very little fruit, some young trees on the Quince stock being the best. As pyramids, Thompson's, Gratioli of Jersey, Huyshe's Victoria, Vicar of Winkfield, and Soldat Laboureur are bearing fairly well, most of the superior varieties having no fruit. Apricots had to be thinned, as they set well and escaped injury from frost. The crop is a very good one, but the fruits are small—probably a result of insufficient thinning in the young state. Peaches and Nectarines have made an unusually healthy growth, and several trees especially of early kinds are producing good returns. Alexander and Hale's Early Peaches have coloured and ripened well. Successional varieties are Dymond, Royal George, Bellegarde, Alexandra Noblesse and Princess of Wales. The best Nectarines are Lord Napier and Elruge; these on the whole are not bearing so well as the Peaches. The trees have suffered but little from blister on the leaves this year, while this sadly crippled the first growths during past seasons. Plums on east and on north-west walls are very heavily laden, too heavy in fact for the well-being of the trees, were it not that they had been growing too strongly—Early Rivers', Orleans, Kirke's, Bryanston, Purple, Webster's and Braby's Green, Gages, and Victoria amongst others. By way of contrast, some old trees of Green Gage on a south wall are nearly a failure, although they flowered well. When fully out they were injured by frost,

though covered up by fish netting. The others above referred to were not covered, but being later in flowering they escaped. Dessert Cherries do not succeed very well. Morellos are fairly good. Small fruits have been plentiful. Red and White Currants not quite so fine, but Black better than in the last year or two. Raspberries plentiful, but rather small. Gooseberries an average crop; some were injured by frost when in flower, but those out of the rays of the sun escaped, although blackened once or twice in early morning. The Strawberry crop was poor compared with that of the past two years. Nearly all of the plants were injured by spring frosts after they had begun to grow, so much so, that many appeared dead and never fully recovered. This was especially noticeable in the oldest plantations, those which it was intended in the ordinary course to root out. The old sorts, Keens' Seedling, Vicomtesse Héricart de Thury, Sir Joseph Paxton and President succeed the best and are chiefly relied upon. Keens' Seedling and President are perhaps the best with us as early and late varieties and for flavour. Elton Pine and Frogmore Late Pine succeed as late varieties fairly well, but the flavour is not equal to that of those just mentioned. King of the Earlies, Noble, Auguste Nicaise, Pauline, and several others have been tried in small quantities, but the plants have never grown really well, and the results have not, therefore, so far been such as to warrant their extensive cultivation—at any rate so long as the four standard old varieties first-named succeed so much better. The mode of treatment usually adopted is to layer the requisite number of runners for outside in 3-inch pots from the same plants as supply those for forcing. These latter are layered first and the others as soon as they can be got afterwards. When rooted through the soil they are planted (during August if possible) 2 feet apart, preferably in an open quarter, as they invariably succeed better with us in such a position than in the borders. These young plantations are not allowed to fruit the following season, but supply runners for forcing and planting, as already stated. This is considered advantageous in two ways: the young runners are better than if procured from an older stock, and the plants themselves get strong and usually bear well the next year. After fruiting two years, that is, when three years old they are destroyed, if to be spared, and if the annual plantation which is made succeeds this course is generally pursued. In some cases a period of two years is made the limit should the plants become weakened by severe weather or otherwise fail.—J. GARRETT.

#### MIDLAND.

**Kimbolton Castle, Hunts.**—Apples, Pears, and Plums in our neighbourhood are very scarce, though there was a fine show of bloom. Cherries were very poor except Morellos, which were fairly good. Currants a good crop, also very fine. Gooseberries and Raspberries very scarce. Strawberries were almost a failure on old plants; young plants were very good. The best kinds for flavour I find are Amateur, Keens' Seedling, and Prince Teck. The best early ones are Amateur, Noble, and Keens' Seedling; the best late ones Eleanor and Laxton's Latest of All.—J. HEWITT.

**Belvoir Castle, Grantham.**—Fortunately, it is not often that the record of a season is so unfavourable, or fruit growing as a profitable industry would have to be relinquished. The Apple crop, with very few exceptions, is a failure. These are represented by Stirling Castle, Lord Suffield, Worcester Pearmain, Maltster, Frogmore Prolific, Bramley's Seedling, King of Pippins, and Tower of Glamis. There is an entire absence of fruit on pyramidal Pear trees, and trained trees on lofty walls have only a thin sprinkling of fruit. Apricots exhibit failure equally on south, east, and west walls within the precincts of the kitchen garden, but a large tree trained against a lofty and sheltered building has a fair crop. Peaches seem better able to bear cold than either Plums or Apri-



cots, for the crop is an average one. Plums, both trained and orchard, are singularly deficient in produce. Cherries, both early and late kinds, afford a gratifying exception to the general deficiency; the crops are excellent and the fruit good. Gooseberries were thin, but Currants a good average. Strawberries were fairly abundant; our dependence is still on old well-proved kinds such as La Grosse Sucrée, Keens' Seedling, Alice Maud, Paxton, President, British Queen. We have tried several novelties and have reserved Captain and Commander for further trial. Our soil is moderately dry, and we manure the beds liberally.—W. INGRAM.

**Madresfield Court.**—The Apple crop in this part of the country is very variable, singularly so, as some kinds—Blenheim and others—are well laden, whilst neighbouring trees of some kinds are quite barren. This occurs frequently, and is not easily explained. All trees bloomed splendidly, but easterly winds accompanied by 15° of frost and snow during the blooming period greatly reduced fruit prospects. Taken collectively, about half a crop of clean good fruit, the best bearers being Keswick, King of Pippins, Cox's Orange, Maltster, Lord Suffield, Lord Grosvenor, Stirling Castle, Pott's Seedling, and Worcester Pearmain. Dessert Pears are a very slight crop, but inferior kinds of perry Pears are better cropped. Plums are a fair crop of good quality; Victorias and local kinds fetch good prices, Orleans £1 per 90 lbs. Apricots a failure. Peaches and Nectarines a full crop of good quality. Bush fruits variable, scarce in low damp districts, but fair crops on higher and drier elevations. Amongst Gooseberries, Whinham's Industry appears one of the hardiest and best, but Crown Bob, Whitesmith, Champagne, and Warrington are worthy of cultivation, having respective merits of their own. Carter's Champion is the best Black Currant and Raby Castle the largest and finest Red. Raspberries have done well on good cultivated land without disturbance of surface roots, Fastolf, Superlative, and Northumberland Fillbasket being the largest kinds; Raspberries swell out best during showery weather.—W. CRUMP.

## SOCIETIES AND EXHIBITIONS.

### ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 6.

For the season of the year this was a very full meeting, although the company present was at no time over-numerous. The most prominent exhibits were the fruits and Orchids. The former consisted chiefly of hardy kinds, amongst which Apples and Plums were much the best represented. Peaches and Nectarines from orchard houses and the open wall were also shown in fine form, particularly those from the former source. The Orchids were chiefly noteworthy for the few kinds, which were exhibited in quantities of each respectively, and for a few acquisitions in hybrids. Of the former mention should be made of *Vanda Sanderiana* in fine condition, *Dendrobium Phalaenopsis Schroderianum*, *D. formosum giganteum*, *Oncidium incurvum*, and a round basket filled with small plants of *Habenaria militaris*, a beautiful terrestrial Orchid. *Cactus Dahlias*, *Gladioli*, and hardy herbaceous flowers helped also to make the hall attractive. Mr. Bunyard's practical lecture on root-pruning was listened to with much interest.

#### Orchid Committee.

First-class certificates were on this occasion awarded to the following new or rare kinds, viz.:—

**CATTLEYA OWENIANA.**—A distinct new variety, coming nearest to *C. aurea* as to the lip, but with sepals and petals of a straw-white shade with tints and veinings of blush at the extremities, the lip being of a deeper purplish crimson than in *C. aurea*, with the golden veins conspicuous in the throat, presumably a hybrid. From Messrs. Sander and Co.

**CATTLEYA SPECIOSISSIMA SANDERIANA.**—A lovely and delicately beautiful form, the sepals and petals of the purest white; also the finely fringed lip, which in the inner part has a pale golden blotch nearly encircling it; the flowers not so large as in the type. Evidently an imported plant. From Mr. W. R. Lee, Ardenshaw, Manchester.

**SOPHRO-CATTLEYA VEITCHI.**—Another Veitchian hybrid (*Lælia elegans* × *Sophranitis grandiflora*), with flowers of the size of *Sophranitis grandiflora* and paler in colour—a rosy crimson, suffused with purple; the lip small, but of a deeper shade with yellow markings in the throat, the growth that of *Lælia elegans*. From Messrs. Veitch and Sons.

Awards of merit were given to—

**LÆLIA TURNERI VAR. SUPERBISSIMA** (cut specimen a fine spike).—The sepals and petals are of a slightly deeper shade than in the type; the colour of the lip is much deeper, a rich vinous crimson. A fine form of a good Orchid. From Mr. Statter, Stand Hall, Manchester.

**AERIDES AUGUSTIANUM.**—A distinct species with growth much resembling that of *A. virens*, the spikes more after the Fox-brush *Aerides*, but of a pale fleshy-pink shade and of a medium size. From Mons. Linden, Brussels.

Sir Trevor Lawrence sent some twenty-seven plants of *Habenaria militaris* in a round basket. The plants varied in height from about 6 inches to 1 foot, each bearing one spike the size of and somewhat similar to *Calanthe veratrifolia*, the colour a rich orange-scarlet, the plants extremely healthy (cultural commendation). The Rev. E. Handley, Bath, sent two plants of *Dendrobium Phalaenopsis Schroderianum*; one, a remarkably fine example, bore one long arching spike of twenty-four flowers and buds upon the terminal of the young growth, the variety a fine one with richly-coloured flowers (cultural commendation). Mr. Handley also sent *D. Phalaenopsis Statterianum*, with flower-spikes upon both young and old growths, showing the freedom of blooming, the plant bearing seven spikes, the colours rich, but the flowers not so large as in the first-named variety (cultural commendation). Messrs. Sander and Co. had a very choice collection, containing many finely grown plants, prominent amongst which were *Vanda Sanderiana*, of which eight plants were shown bearing in all about twenty-four spikes, the largest plant having seven spikes on four growths, the finest spike nine flowers, the colours varied from paler to richly tinted forms, and the individual flowers were large. *Vanda cœrulea* (four spikes) and *V. Hookeriana* were also shown in good condition; also *Odontoglossum Harryanum* and *Lycaste Skinneri alba* (rather out of season). *Cattleyas* were represented by *C. Gaskelliana* in considerable variety, the lips of the best forms being extra fine and of a rich purple, and *C. Schofieldiana* profusely spotted; *Dendrobium bigibbum*, several spikes; *Cycnoches chlorochilum*, with its curious waxy looking greenish yellow flowers, and several hybrids and species of *Cypripedium*, the best of the former being *C. hybridum* Mrs. G. D. Owen, with broad sepals, the flowers of fine form, paler than in *C. Harrisonianum*; *C. hyb. Youngianum* with some of the characteristics of *C. Morganiae*. *C. Chamberlainianum* was very noteworthy. *Cattleya speciosissima*, of which one or two fine forms were shown, and *Catasetum purum* with pale greenish-yellow flowers, completed a fine exhibit (silver-gilt Flora medal). Mr. W. E. B. Farnham, Loughborough, sent a grand lot of *Dendrobium formosum giganteum*, of which a dozen plants were shown each bearing several spikes of large flowers, the markings of the throat varying in colour from a deep orange to a pale lemon shade; also *Dendrobium Phalaenopsis Schroderianum*, of which about twenty plants were shown, both light and dark kinds being represented (silver-gilt Flora medal).

Messrs. Pitcher and Manda exhibited a good group containing several plants of *Oncidium incurvum* in beautiful condition, with as many as ten spikes on one plant, all being profusely flowered. This group also contained several *Cypripediums*,

the best being *C. Arthurianum*, shown well, also *C. Ainsworthi*, which comes near to *C. Sedeni*, *C. tonsum*, and others (silver Banksian medal).

Smaller exhibits consisted of three distinct forms of *Cattleya Aclandiae* from M. Linden. *C. A. magnifica* has larger flowers with a finely developed lip; *C. A. superbiens* has the sepals and petals much broader, but not so long; and *C. A. zebrina* is much paler in colour, barred with a darker shade. This fine old *Cattleya* is not often seen in such good variety. From the same source were sent *Vanda Kimballiana*, a very useful autumn flowering variety with long showy spikes of flowers, and *Cypripedium Parishii*. A plant with one good spike of *Peristeria elata* (the Dove Orchid) was sent by Mr. Stanley Lutwyche, whilst Sir Trevor Lawrence had a good specimen of *Miltonia Morelana* with about eighteen flowers upon it. A small group was staged by Mr. P. McArthur, Maida Vale, consisting chiefly of *Cypripediums* with a few *Cattleyas* and *Oncidium*s. *Cattleya Schofieldiana* (Stand Hall var.), from Mr. Statter, is almost destitute of spots, but the flowers are remarkably fine. From Baron Schröder came a fine spike of *Phaius maculato-grandifolius* (hybrid), with flowers of a rich golden yellow colour, the lip of the same shade with markings of a chestnut-brown; the spike bore ten flowers, and it is a fine variety. Messrs. Veitch and Sons had *Cattleya Proserpine* (*C. velutina* × *Lælia pumila Dayana*). This has the habit of the latter parent to a great extent, but with flowers that are considerably paler, being more of a rosy purple, occasionally spotted with darker spots, the lip large in proportion.

#### Floral Committee.

Awards of merit were given to the following:—

**CANNA STAR** OF 1891, one of the dwarf-growing varieties, with orange-scarlet flowers. From Mr. C. Allen, Floral Nursery, New York.

**GLADIOLI NUMA** and **POETIS**, the former having flowers with a light centre, laced and edged with deep rosy crimson, spike extra; the latter a light flower with a trace of yellow, resembling some of the *Lemoinei* race. Both from Messrs. Kelway and Son.

**CACTUS DAHLIAS KAISERIN**, a sulphur-yellow, beautiful shade of colour; Countess of Radnor, charming harmonies of pink, tending to pale salmon; Bertha Mawley, cochineal colour, with a paler shading, and Mrs. Basham, a salmon-pink suffused with magenta. The foregoing are all decided acquisitions to the useful Cactus type. From Messrs. Keynes, Williams and Co., Salisbury.

Messrs. Kelway and Son had another of their excellent exhibits of *Gladioli*, the spikes remarkably fine and very fresh, some ten dozen in all being shown; the best were those certificated and Duchess of Edinburgh, Millais, Prince Henry, and Frith, the last a pale blush-pink, each being in fine form (silver Flora medal). Messrs. Pitcher and Manda had cut specimens of hardy plants, which included the best things in season, with forms of *Lilium auratum*, both of the *rubro-vittatum* and the pale kind quite destitute of spots. Of the herbaceous plants there were good examples of *Poterium canadense*, *Boltonia asteroides* and *Asclepias incarnata pulchra* (silver Banksian). Messrs. Hugh Low and Co. sent a superb group of *Lilium Wallichianum superbum* (*L. sulphureum*) the plants bearing in some instances five and six immense trumpet-shaped flowers of a pale sulphur colour with lighter edges. This Himalayan Lily is a most decided acquisition for the conservatory at this season of the year. Compared with the large flowers, the foliage is particularly small, whilst the stem is hard and wiry looking, small bulbils being formed upon the stems at the axils of the leaves (silver Banksian). Messrs. W. Cutbush and Son had cut herbaceous flowers, *Michaelmas Daisies* in variety being prominent, also *Erigeron speciosus superbus*, which has a long season of blooming (bronze medal). Mr. Richard Dean, seed grower, Ealing and Bedford, sent choice strains of hardy border flowers, including fine blooms of the orange and lemon African Marigolds, also of the French Marigold, the yellow, the brown and other kinds being well represented. Excellent quilled Asters



and giant Zinnias with *Malva moschata alba* were also exhibited (bronze medal).

Messrs. Cannell and Sons had a beautiful boxful of cut blooms of two of their finest tuberous Begonias, Rosebud and Octavie, both of which are gems in their colours; the former is most perfect in form with no semblance of coarseness; the latter as a white has similar good properties. From the Royal Horticultural Society's Gardens, Chiswick, was sent an excellent assortment of species and varieties of *Helianthus*; *multiflorus*, *maximus*, *rigidus* (Melhuish's var), and *Maximilianus* (pale yellow) were some of the best of these fine herbaceous varieties. Messrs. Pearson and Sons, Chilwell, showed flowers of a deep orange-coloured form of *Calendula*, called Prince of Orange. Mr. Salter, Woodhatch Lodge Gardens, Reigate, showed a seedling *Passiflora* (*racemosa* × *quadrangularis*) which had more of the appearance of *cœrulea* in it than *racemosa* as one source of its parentage. It is a distinct hybrid and will probably be shown again.

Messrs. Veitch and Sons showed their hardy species of *Clerodendron*, *C. trichotomum*, in fine condition; this, one of their introductions from Japan, bids fair to be a decided acquisition as a flowering shrub for this season when all such are much too scarce. The example shown bore evidence of its free-flowering character. With it was shown a basketful of *Bignonia grandiflora*, the trusses of which bore a profusion of flowers of a deep orange shade with a lighter throat; the quantity of buds indicates a continuous blooming character. *Retinospira squarrosa sulphurea* is a pale sulphur-coloured form of the type, with a close habit as compared with *R. squarrosa* shown for contrast; this came from the same source as the foregoing.

#### Fruit Committee.

There was on this occasion a fine display of fruit, the exhibits taking up much space. Some splendid Peaches and Nectarines were shown, also excellent Apples, Pears, and Plums, together with a fine collection of runner Beans from the society's gardens, Chiswick. A first-class certificate was awarded to

**PEA SUCCESS**, a splendid new wrinkled marrow with dark green pods slightly curved and tightly packed with Peas of a dark green colour and splendid flavour, an excellent late Pea, doing well in dry seasons on light soil. It is a heavy and continuous cropper. It was tried at Chiswick this year and received the highest award. From Mr. Wythes, Syon House.

A seedling Melon of no merit was sent by Mr. W. Palmer, Junction Road, Andover. Lady Sudeley Apples were sent by Mr. G. Bunyard, The Old Nurseries, Maidstone. Seedling Apples were sent by Mr. J. Bowerman, Hackwood Park, and Mrs. Cooper, Brighton. Mr. K. Dean, Ealing, sent Apple Lord Grosvenor and a fine bunch of Conference Tomato. A new Tomato named Ponderosa from Mr. Owen, the Floral Nurseries, Castle Hill, Maidenhead, was very similar to a large one shown earlier by Mr. Gilbert. A seedling Tomato from Mr. E. Burnand, Woodcote Road, Wallington, named Sabin's Choice, very much resembled the Peach Tomato. Apples were sent by Mr. Harrison Weir to show the effects of double grafting on some kinds. In this case the results were not good. A very fine lot of Pond's Seedling Plums grown on standards came from Mr. G. Wythes, Syon House. Some large, well-finished fruit of Sea Eagle Peach was sent by Mr. Wright, Langley Court, Beckenham. A new Grape under the name of Cape Muscat was shown by Mr. W. Weir, The Gardens, Acton Park, Wrexham. The fruit was not sufficiently ripe to test its qualities, and the committee asked it to be sent later when fully ripened. A nice collection of ornamental Crabs came from Messrs. Cheal, Crawley. Mr. J. Miller, Ruxley Lodge, Esher, contributed twenty dishes of fruit, comprising Melons, Figs, Grapes, Nectarines and Apples; the *Violette Hâtive*, *Rivers' Orange* and *Pitmaston Orange* Nectarines were specially good, also the *Royal George* and *Grosse Mignonne* Peaches (silver Knightian medal). Mr. W. H.

Divers, Ketton Hall, Stamford, had eight large boxes of Peaches and Nectarines; amongst them there were fine *Rivers' Orange*, *Spenser*, *Pine-apple*, *Large Elruge*, *Lord Napier* and *Dryden* Nectarines, and *A Bec*, *Dymond*, *Barrington*, *Princess of Wales*, *Bellegarde*, *Violette Hâtive* and *Sea Eagle* Peaches (silver medal). Messrs. Veitch, Chelsea, staged a very fine collection of Apples, Plums, Crabs and other fruits. *Warner's King*, *Lord Grosvenor*, *Seaton House* (a grand dish), *Cellini*, *Pott's Seedling*, *The Queen*, *Worcester Pearmain*, *Kerry*, *Pippin*, *Early Strawberry*, *Yellow Ingestre*, *Duchess Favourite*, *Paradise* and *Quarrenden* were remarkably fine. In the collection, *Warrington Gooseberry*, *Transparent Gage*, *Bryanston Gage* and *Coe's Golden Drop* Plums, with *Farleigh* and *Frogmore* Damsons were also good (silver-gilt medal). Mr. G. Bunyard sent over 100 lots—seventy-five dishes of Apples and Pears, some of immense size, twelve large flat baskets of Apples, with some dishes of Pears, Peaches, Crabs and Damsons, the whole occupying a large space. Among the Apples, *Lady Sudeley*, *Emperor Alexander* and *Peasgood's Non-such* were very large and beautifully coloured. There were also very fine *Mme. Treyve*, *Doyenné Boussoch*, *Dr. Jules Guyot*, *Beurré Capiaumont* and *Pitmaston Duchess* Pears, with fine dishes of *Nectarine Peach* (silver-gilt medal). From the Society's gardens came a most interesting collection of runner and dwarf Beans (forty dishes), among them being the blue-podded *Wonder*, lately exhibited.

Mr. Bunyard, in the course of his lecture on root-pruning, said that much depended upon the age of the trees, the soil and the stock. For young Apple trees in a restricted condition the *Paradise* stock was the most suitable; for Pears, the *Quince*. With young trees there was less danger than with older ones, as the removal of a young tree was just the pruning necessary to check strong growth. In the case of wall trees, root-pruning of large old trees should be done piecemeal, say one half one season, and the other half the next. It was also necessary to keep some distance (not less than 3 feet to 4 feet) from the stem, and then to excavate under till the tap-root was reached. This was often difficult to get at, but it must be done and a clean sharp cut made. He advised a very sharp strong parrot-bill shears with a short handle. This gave the operator far more power than using a knife. The work should be done as early in October as possible, and in all cases before the leaves fall. If the roots are few, the cutting must not be severe. After the root-pruning, the trench should be filled in with light soil or loam, road-scrappings, mortar rubble and such like to encourage the formation of new fibrous roots, giving the roots a thorough watering if at all dry and cutting the top of the tree, that is, pruning all loose growths to prevent excessive evaporation. Some recommended the surface after root-pruning to be covered with a good thickness of litter or manure. He preferred fresh loam, as this was soon warmed by the sun's rays and new roots encouraged. A heavy mulch kept out the sun and the roots in a cold state. Cropping a border close up to the trees with vegetables was very objectionable, as thus the trees were robbed of their sustenance and the roots forced deeper into the subsoil. *Espalier* trees were often much neglected also. *Pyramids* required to be root-pruned in much the same way. First he would lighten the top by the removal of useless wood. In replacing the roots, care must be taken to keep them well up to the surface. In some cases in very poor soil, or with too deeply-planted trees, entire lifting must take place to be of any benefit. Of course, this means loss of fruit for one year. Such extreme measures may not often be necessary, but must be undertaken at times, and in that case root-pruning must precede lifting if success is to be attained, doing the root-pruning the preceding season. He also advised resting the old tap root on bricks, tiles, or such like, to prevent it going down and to encourage new fibrous roots. He advised lifting young trees or root-pruning every three or four years; this made a lot of work

for the gardener often now overtaxed, but it was work that gave good results, and if some portion is done yearly, it was not so long on hand. The root-pruning of indoor trees was often very necessary; this could be done in wet weather. Figs were much benefited by root-pruning. Apricots and Plums often grew too much in a young state if not checked, and were at the top of the wall when they should not be. Cherries required more care than many trees. He advised abundant supplies of moisture; indeed more than they often get in the growing season, and to give a heavy mulch in May. All orchard or indoor trees should be pruned before the leaves fell, no matter when started, and good soil with little manure given to get fertility without grossness.

#### THE NATIONAL DAHLIA SOCIETY.

THIS society still holds an annual exhibition and maintains a fairly prosperous career despite the fact that its supporters are now mainly confined to southern growers. Time was when collections of flowers came from the north, but for some reason the northern growers have fallen away from it. Still, it holds a good representative exhibition, and in doing so keeps alive the interest in the Dahlia and its various types. The Dahlia cultivators rally to it sufficiently to enable it to pay its way, and we should be sorry to see the annual Dahlia show discontinued. Its annual occurrence has done much to popularise the Dahlia as a decorative flower, and it has given a great impetus to the production of types other than the show varieties which now form such important features at the annual exhibition. As usual, the exhibition took place at the Crystal Palace, and covered a considerable space of tables. These were flanked at the sides by contributions of cut Dahlias and other flowers from some of the leading nurserymen.

The practice of showing together what are known as the self, edged, and fancy varieties in the nurserymen's classes is still continued. The striped and tipped fancy flowers impart a very pleasing character to the stands, lighting up the sombreness which largely prevails when there is a preponderance of the dark-coloured self varieties. The general public cannot understand why a flower with a lighter ground and a heavier edging of colour should be an edged flower, as, for instance, in the case of *Miss Cannell*, which has a creamy-white ground edged with purplish-crimson; but when these colours are reversed, when, as in the case of *Peacock*, the ground colour is deep purple, the tips of the petals being white, then it is a fancy flower; and all tri-coloured flowers, and particularly so those which are striped, are fancy flowers also. These are points of difference understood only by experts, and they are not particularly clear to some of these. Objectionable as the practice is to many, and despite much that is said to the contrary, our Dahlia growers will go on exhibiting their Dahlias on boards. It is not easy to suggest another method that would show off the high qualities of the flowers to the best advantage. A good deal of variation is now brought into Dahlia exhibitions by the improved methods of showing the *Cactus*, *decorative*, *pompon*, and *single* varieties, and the monotony of the old method is broken up to a considerable extent. In this respect our traditional Dahlia exhibitions show substantial improvement.

The leading class at the recent exhibition was for sixty blooms of Dahlias, show and fancy mixed. The first prize was awarded to Messrs. Keynes, Williams and Co., Salisbury, who had of self-coloured flowers *Harrison Weir*, *Imperial*, *J. C. Vaughan*, a fine yellow; *Alice Emily*, delicate buff-yellow; and *Mrs. Gladstone*, a lovely flower, delicate soft blush, and so constant as to find a place on every stand; of edged flowers, *J. T. West*, *Mrs. Langtry*, cream edged with crimson, *Mrs. Stancomb*, &c.; of striped fancies, *Matthew Campbell*, *Dandy*, *Comedian*, orange ground, tipped with white, *Chorister*, and *Frank Pearce*, rose striped with crimson. Mr. Charles Turner, Royal Nursery, Slough,



was awarded second prize. With forty-eight varieties, Messrs. Keynes and Co. were again first, having, of self flowers, Mr. Glasscock, Colonel, Richard Dean, the nearest approach to a purple, &c.; of edged flowers, Hon. Mrs. P. Wyndham, Miss Barber, Mrs. Langtry, J. T. West and Miss Fox; of fancy flowers, Duchess of Albany, Rev. J. B. M. Camm, Matthew Campbell, Frank Pearce and Comedian. Second, Mr. Charles Turner, who had fine blooms also. Mr. A. Rawlings was a good third. The best twenty-four blooms came from Messrs. Saltmarsh and Son, nurserymen, Chelmsford, who had fine blooms of the following selfs: Perfection, William Rawlings, Harrison Weir, James Cocker, &c.; edged, Mrs. Langtry, Henry Walton, Mrs. D. Saunders, J. T. West, Mrs. Langtry and Lady G. Herbert; fancies, Frank Pearce and Matthew Campbell. Second, Mr. G. Humphries, nurseryman, Chippenham. With twenty-four varieties, Mr. G. Humphries took the first prize, showing flowers already named. With twelve blooms, Messrs. J. Cheal and Sons, nurserymen, Crawley, were first.

In the amateurs' division for twenty-four blooms, show and fancy, a silver cup was offered by the Turner Memorial Trustees in addition to the first prize; this was won by Mr. J. T. West, Brentwood. In the class for twelve blooms of show Dahlias only, Mr. S. Cooper, Hamlet, Chippenham, was first. With six blooms, Mr. Couzens, Langley Burrell, Chippenham, was first.

With twelve fancy Dahlias, Mr. S. Cooper was first, having Rebecca, Mrs. J. Downie, Prince Henry, Salamander, Lottie Eckford, Mrs. Saunders, Duchess of Albany, John Cooper, Mandarin, Comedian, Dorothy, and Peacock. With six blooms, Mr. G. Boothroyde was first with Matthew Campbell, Rev. J. B. M. Camm, Dorothy, Mrs. Saunders, Frank Pearce, and Comedian.

Cactus and decorative Dahlias were a very fine feature indeed, and most effective. In the nurserymen's division the best eighteen varieties, six blooms forming a bunch, came from Messrs. J. Cheal and Sons, who had perhaps the finest stand ever before staged. The varieties were Lancelot, reddish salmon; Robert Maher, Josephine, new, maroon-crimson; St. Catherine, Black Prince, Amphion, Lady Marsham, Charming Bride, Beauty of Arundel, Harry Freeman, Juarez, Mrs. J. Douglas, Marchioness of Bute, Edith Cheal, new, maroon-crimson, very bright and fine; Mrs. Hawkins, Duke of Clarence, Rayon d'Or, bright orange, each petal banded with white, and Honoria; second, Mr. C. Turner. With twelve varieties, Messrs. Keynes and Co. were first with a stand containing some very fine novelties. The sorts were Juarez, Amphion, Beauty of Brentwood, Miss Violet Morgan, white, flushed with delicate lilac-pink; Countess of Pembroke, delicate lilac; Lancelot, Countess of Radnor, yellow base, and deep reddish salmon; Apollo, deep scarlet; Countess of Gosford, yellow, cinnamon and gold; Bertha Mawley, orange-crimson, very fine and bright; Mrs. Basham, deep mauve and salmon, and Duke of Clarence. The next class was for true Cactus Dahlias only. Messrs. Keynes and Co. were again first with Duke of Clarence, Kaiserin, pale yellow; Baron Schröder, St. Catherine, Apollo, Delicata, Kynerith, Daphne, orange-salmon suffused with mauve, very distinct; Wiltshire Lass, deep salmon; Countess of Gosford, Bertha Mawley, and Countess of Radnor.

In the amateurs' division Mr. J. T. West was first with twelve varieties, having, distinct from the foregoing, Joseph Chamberlain, bright scarlet; Stebbing Wheeler, yellow, flaked with pale red; Nellie Scupham, Mrs. Keith and some seedlings. With six varieties Mr. W. Hopkins, Bristol, was first. Messrs. Cannell and Sons offered prizes for six varieties sent out by themselves, the first prize going to Mr. C. Osman, Sutton, Surrey, the varieties Lord Lyndhurst, Constance, Mrs. J. Douglas, Juarez, Germania nova, and Lady Marsham.

Equally striking were the pompon Dahlias. With twenty-four varieties, ten blooms of each, Mr. C. Turner was first with a fine lot of great merit, the varieties Marion, Lady Blanche, Isabel, Mabel, Fairy Tales, Darkess, H. E. Searle, Little Lady, Phoebe, Favourite, Golden Gem, Admira-

tion, Mars, White Aster, Boule d'Or, Ringdove, Whisper, Cupid, E. F. Jungker, Ariel, Gipsy Queen, Amber and seedlings. With twelve varieties, Mr. M. V. Seale was first and Mr. G. Humphries second, mainly with varieties already named. In the amateurs' division Mr. J. T. West had the best twelve bunches, staging Tommy Keith, white and ceise-crimson; Sunshine, Mary Kirk, Eva, Little Sweetheart, Gipsy and some already named. With six varieties Mr. S. Cooper was first.

Single Dahlias made another remarkable feature, and here Messrs. J. Cheal and Sons were first with superb bunches of flowers, noticeable being Annie Hughes, Miss Roberts, Lady Whitehead, rich rosy purple; Duchess of Fife; Cleopatra, deep velvety crimson; Duke of York, bright orange-scarlet, very distinct; Northern Star, bright red, margined with deep golden-yellow; Duchess of Anhalt, creamy white, with broad margin of deep rose; and Little Snow-white, pure white, very fine form. With twelve varieties Mr. G. Humphries was first, having, among others, Maude, white, with side edgings of crimson-purple; Mrs. Barker, Northern Star, Duchess of Fife, Miss Roberts, Amos Perry, and Victoria.

In the amateurs' division the best six bunches, twelve blooms of each, came from Mr. T. Girdlestone, Sunningdale, who had Annie Hughes, Jack, Yellow Satin, Kitty, Little Snow-white and Florence. Mr. E. Mawley, Berkhamstead, had the best six bunches, six blooms of each. Messrs. J. Cheal and Sons offered special prizes for twelve varieties, six blooms of each, the first prize being taken by Mr. T. W. Girdlestone, who had Marion Terry, Evelyn, Sunningdale White, Mikado, Bessie Hatton, Yellow Satin, Sunningdale Scarlet, Audrey, Fred Leslie, Dearest, Marion Hood and Leila, most of them of his own raising.

The best six blooms of any dark Dahlia were the Rev. J. Godday, shown by Mr. A. Ocock. Of any light, not yellow, John Walker, from Mr. John Walker. Of any yellow, R. T. Rawlings, from Mr. Seale. The best tipped, Mrs. Saunders, from Messrs. Saltmarsh and Son. The best striped, Mrs. J. Downie, from Mr. G. Humphries. The best edged, Henry Walton, from Mr. S. Mortimer. Several certificates of merit were awarded. The flowers will be noticed later on.

Contributions of plants and cut flowers came from Messrs. Paul and Son, J. Cheal and Son, Reid and Bornemann, B. Peed and Co., T. S. Ware, H. Cannell and Sons, E. F. Such and Pitcher and Manda, and they made fine side groups of a very attractive character.

A complete list of awards will be found in our advertising columns.

#### NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the general committee of this society was held at Anderton's Hotel on the 2nd inst., Mr. R. Ballantine presiding. After the minutes of the former meeting had been confirmed, the chairman announced that he had twice seen the frozen Chrysanthemums from New Zealand, and that they were keeping in good condition and would be exhibited at the forthcoming show. The secretary reported on the annual outing of the society to Redleaf and Penshurst Place, which took place on July 22 last, and described it as one of the most enjoyable that the society had had. The cricket match played with the local society had resulted in an excellent win for the National Chrysanthemum Society, and it was hoped that the match would become an annual institution wherever the outing took place. It was gratifying to record that, besides the many members and friends present, they were honoured on that occasion by the presence of a very old member of the society, Mr. Arthur Wortley, who many years ago occupied the position of secretary when the society was known by its original name of the Stoke Newington Chrysanthemum Society. Application from several societies was received for assistance towards their prize funds, but as they were non-affiliated societies it was felt that the funds at the disposal of the

National Chrysanthemum Society were not in such a state as to allow of any grant being made to them. Some discussion thereupon ensued as to the right of members to purchase the National medal for the purpose of offering them for competition at such societies, but after hearing several representatives of affiliated societies on the subject, the question was allowed to drop. New members were then elected, and the secretary informed the meeting that Lord de Lisle and Dudley had very kindly consented to become a patron of the society. The following societies applied for affiliation and were admitted: the Stockport, South Shields, Borough of Longton, and the Lizard Chrysanthemum Societies. The cash statement was submitted showing a balance in hand of over £100, which was considered satisfactory at so early a period in the season.

**Steam or hot water for greenhouse heating.**—In order to determine whether steam or hot water were the best for heating greenhouses, a series of experiments have been made at the Agricultural Experiment Station in connection with the Cornell University (New York, U.S.A.), in which the following conclusions were arrived at: 1. The temperatures of steam pipes averaged higher than those of hot-water pipes throughout the entire circuit for the entire period of test. 2. The higher the inside temperature in steam pipes the less is the proportionate warming power of the pipes at a given point. The heat is distributed over a greater length of pipe, and as steam is ordinarily carried at a higher temperature than hot water, it has a distinct advantage for heating long runs. 3. When no pressure is indicated by the steam gauge, the difference between the temperatures of the riser and the return is greater with steam than with hot water. 4. Under pressure the difference is less with steam than with hot water. 5. There is less loss of heat in the steam risers than in the hot-water risers, and this means that more heat in the steam system is carried to the farther end of the house and more is spent in the returns as bottom heat. 6. This relation is more uniform in the steam risers than in the hot-water risers, giving much more even results with steam than with hot water. 7. When the fires are operative, the fluctuation in the temperature of the risers at any given point is much greater with hot water than with steam. 8. An increase in steam pressure raises the temperature in the entire circuit, but the temperature does not rise uniformly with the pressure. 9. The first application of the pressure increases the temperature of the returns much more than that of the risers. 10. Steam is better than hot water for long and crooked circuits. 11. Pressure is of greater utility in increasing the rapidity of circulation of steam and in forcing it through long circuits and over obstacles. 12. Unfavourable conditions can be more readily overcome with steam than with hot water. 13. Hot water consumed more coal than steam and was at the same time less efficient. This result would probably be modified in a shorter and straighter circuit with greater fall. 14. Under the conditions here present steam is more economical than hot water and more satisfactory in every way, and this result is not modified to any extent by the style of heaters used.

**Clary wine.**—Can any reader tell me if wine made from the Clary is injurious to drink? It is much drunk, I believe, in Northumberland, and is made from the wild Clary. I made some from Clary seed obtained from a seedsman. It is very pleasant. How can I find out what effect it has on the system, and if wholesome or otherwise?—S. P. L.

**Names of plants.**—A. Hall.—We should think it is *Crinum amabile*.—G. Tomlinson.—1. *Dendrobium Phalenopsis Schroederianum*; 2. *Phalenopsis tetraspis*; 3. *Cattleya Aclandiae*.—H. B. W.—1. *Osmunda cinnamomea*; 2. *Anemia collina*; 3. *Lenchitis pubescens*; 4. *Leptogramma totta*; 5. *Diplazium conchæatum*.—J. Bain.—1. *Colutea arborescens*; 2. all forms of the common Mallow-wort (*Hibiscus syriacus*); 3. *Atriplex hortensis*.—T. J.—*Villarsia capitata*.—J. Howard.—1. *Paragmaria longifolia*; 2. *Pleopeltis excavata*; 3. *Gymnopteris nicotianifolia*.



## WOODS AND FORESTS.

### WORK IN THE WOODLAND.

WITH the unusually heavy rainfall and thunderstorms of the past month much damage to trees has been done by the breaking and twisting of branches, and in a few instances whole stems have been rent asunder, the trees presenting a very shattered and unsightly appearance. Such trees should receive immediate attention, the branches being neatly pruned off and the splintered and riven stems cleaned and made as smooth as possible, after which an application of tar or paint will assist in keeping out the damp. Before doing so, however, it is well to dress neatly, with a sharp pruning knife, the edges of the wounds where the branches were broken off, as this greatly assists the process of healing and covering of the wound with bark. Dead branches, which are now most readily seen, should, for neatness and appearance sake, be pruned from at least the park trees and such as are visible from rides and drives, they being either carted away or collected in heaps and burned. Thinning of Fir plantations will now be going on, but those composed mainly of hard-wooded trees had best be left until the fall of the leaf. Woodland drains should be frequently examined, as, with the very wet and unsettled weather, they are apt to get choked up with twigs, leaves, and *débris*. Ditches should now be scoured out by dressing down the edges with a hook, removing this and all bottom accumulations with a spade. The present warm weather is best for the work, as the drainers feel less discomfort and can do more work than in winter. All ditch scourings should be thrown well back and spread out, so as to prevent the possibility, when dry, of their being blown or otherwise conveyed to their former place.

Where the nature of the ground and mossy appearance of the trees indicate that there is excessive moisture present, a few drains should be cut in the worst places and headed into any of the main ditches of lower altitude than themselves. Shooting and bridle paths in the woodlands will require attention in the way of pruning back the branches of encroaching trees, the cutting of weeds and grass, and the making safe of all bridges, this work being performed at once before shooting commences. See that no young trees recently planted in the woods are getting suffocated by rank-growing weeds, and that their stays and ties are firm to prevent wind-swaying and rocking.

### NURSERY WORK.

The propagation of trees and shrubs by cuttings will be the principal work of the nurseryman for the next fortnight. It is well to remember that the best time to insert cuttings out of doors is when the earth and air temperatures are about equal, and this is generally the case during the latter half of August and first week of September. Increasing trees and shrubs from cuttings and by layering are to be recommended, as the methods are simple and cheap, and the results unusually good. The first matter, and one of the greatest importance, is the choice of ground in which the cuttings are to be inserted, and which should be light, dry, and not too exposed. A wide border sheltered from the midday sun, and with good drainage, should be set aside, and some time during the previous winter if the ground can at all be spared, it is well to have it trenched or dug deeply over and left exposed to the atmosphere for some time before

being wanted for use. Should the soil be thought too stiff and heavy, the addition of a few loads of sand or road drift will bring about that lightness and freedom which are essential in soil that is intended for the reception of cuttings. The cuttings will next require attention, and two or three important points if duly attended to will bring about the best results. In the first place, the cuttings should in all cases be taken from the sunny side of the tree or shrub, and never from specimens that are growing entirely in the shade. Fill a basket or hamper with the most promising shoots of the present season, with a small portion of last year's growth at the base, and convey them to some suitable place for being finally finished off before planting, as it is a waste of time to make the cuttings at each tree as they are removed. Cut with a sharp knife at every eye or bud if possible clean through the twig, and at a point 2 inches beyond the termination of last year's growth, shorten or remove some of the leaves, and place in sand until a sufficient number for planting out has been got.

A great point in the making of cuttings is to use a sharp knife, and so permit of no haggling or sawing of the bark, as the less injury in this way the sooner will the cutting callus over and emit roots. When a sufficient number of cuttings has been got ready, stretch a line along the ground intended to receive them, cut out with a spade a narrow notch along the line, and sprinkle a small quantity of sand or grit into the notch. The cuttings may then be placed rather thickly together and about 4 inches deep in the notch, and, being regulated with the hand, a small quantity of soil will hold them in position until the trench has been filled up and the soil firmly tramped. Firm tramping should be insisted upon, and a sprinkling of sand along the surface will finish the operation of planting the cuttings.

Privet, Laurel, Box, Euonymus, Bay, Ivy, and such like plants may readily and cheaply be propagated by the method just described. Conifers, the Cypresses, Wellingtonias, Junipers, &c., may also be propagated in the same way, but if the protection of a frame can be afforded for these it will be all the better. In the raising of many of the rarer trees and shrubs either from cuttings or seed, a great advantage will be found in having a large unheated frame in the nursery ground. Boxes of sizes suitable for the frames should be used, and the cuttings inserted in these and placed side by side under the lights and well shaded from direct sunshine. The boxes I find most suitable are 24 in. long, 14 in. wide, and 7 inches deep, with six holes bored in the bottom of each to allow of drainage. Propagation by layering the outer shoots of trees and shrubs is occasionally resorted to, but as the plants so procured are rarely well shaped, it is always preferable to adopt the perhaps less speedy, but infinitely more desirable means of raising from cuttings.

There are several shrubs and trees that are very difficult to raise from cuttings, and yet these are grown without much trouble from layers. Instances of this kind will be found in the Rhododendron, Azalea, and many of the North American so-called peat plants.

A. D. W.

**Quality of timber.**—The quality of all timber is better, and its value per foot is therefore higher when grown on soil suited to it than when raised on unsuitable soil. Thus Oak grown on clay is more valuable than that grown on sand or any other soil. The wood is tougher, harder and more durable, and the bark is thicker and has more tannin

in it. On sand the wood of the Oak is brittle and soft, probably owing to its containing a portion of silica. The value of timber will depend also on a variety of local circumstances. It will vary according to its distance from the market and also with the nature of the demand. If near a manufactory or a seaport town the demand will raise its price. In valuing trees for sale, we must take into account the proportion which the head of the tree bears to the trunk, for not only are the limbs of less value than the trunk, but they injure that part which is valuable by forming knots at their junction with the trunk. Generally speaking, the timber of the trunk of the tree, however large the limbs may be, is double the value per foot of the wood of the branches.

**The poisonous principle of the Yew.**—So far as cattle are concerned, Yew is popularly supposed to be a dangerous tree to have within their reach, but it is certain that deer, and probably also cows and horses, eat it with impunity when in the fresh and growing state, while the latter, at all events, are fatally injured by devouring the half-dried cuttings. An exactly similar action is attributed to the common Laurel, cattle browsing upon the living leaves apparently without any injurious results, but being poisoned when they consume the half-dry and partially decomposed trimmings. The fact that the cuttings of Yew trees exercise more powerful toxic effects than the fresh leaves is well known, but no explanation of the extraordinary difference when consumed by cattle has been forthcoming. There is, of course, the obvious explanation that in the fresh leaves the toxic principle is more largely diluted with water, while in the half-dry state of Yew trimmings the poison is of sufficient strength to produce disastrous results. That explanation is not altogether satisfactory, and it would be of service if someone would determine whether cattle may be allowed to eat Yew leaves fresh from the tree, and explain why the half-dry cuttings exercise so fatal an influence upon them.

**Grouping of trees.**—The natural grouping of trees is almost entirely neglected, although this does not arise from lack of material, but simply from want of taste and knowledge. We have ample materials for forming groups in infinite variety and of the most charming character. With the wealth of ornamental deciduous trees alone now at our command we can produce most beautiful effects, and these may be heightened by a discreet choice of the hosts of evergreen trees, including the numerous exotic conifers.—X.

**The Austrian Pine (P. austriaca).**—Perhaps few of the Pine tribe possess the many good qualities which can be attributed to this species, as for effect, shelter, adaptation to different soils and situations, or seaside planting it is invaluable. The timber is also of fair quality, tough, and resinous, and well fitted for withstanding the evil effects attending the change from moisture to dryness. With this end in view it has been used in some quantity for river embanking. As an ornamental tree the Austrian Pine is valuable, the dark, glossy green foliage presenting a striking effect when viewed from a distance. For shelter and planting in maritime situations it is exceedingly useful, as it not only withstands the rough sea breezes with impunity, but by its thick and strong foliage renders a great amount of shelter to other less hardy kinds. The poorest soil seems to suit it best.

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No. 1087. SATURDAY, September 17, 1892. Vol. XLII

"This is an Art  
Which does mend Nature: change it rather; but  
The Art itself is Nature."—*Shakespeare.*

## ROSE GARDEN.

THE ROSE SEASON AND EXHIBITIONS  
OF 1892.

THE year 1892 will be accounted by rosarians as above the average. The season, for a wonder, not having been a wet one, enabled many varieties usually affected by a damp atmosphere to develop their beauty under fairly favourable circumstances, which is more than our climate usually allows. The year has not been without its vexations and trials, and those who grow Roses for exhibition must have had many difficulties in the earlier part of the summer by the extraordinary vicissitudes experienced in the changes from exceptional warmth to unseasonable chills, frost coming unexpectedly at night-time and followed frequently, even the day after, by a burning sun. By the end of June many thought the zenith of the Rose season was past as far as exhibiting was concerned, and in some few cases these fears were realised. Especially was this so in light soils and exceptionally warm localities, as many whose exhibits in 1891 were of the highest class were unable to exhibit in their best form even in the first week of July. For instance, Mr. R. L. Knight, of Sittingbourne, who last year showed Roses of a class that our champion amateur, Mr. Lindsell, could not excel, or, as at the Crystal Palace in 1891, could even equal, this year only took a lower position as an exhibitor, his best blooms having developed in the month of June. Notwithstanding, however, that the flowers of many growers in warm localities, as in the instance named, were past their best by the end of June, the changes of temperature apparently had not favourably influenced the growth on heavy land, and those so situated consider that they have some cause for complaint in the date of our National Rose Society's metropolitan exhibition. But taking into account the fact of the wonderful number of individual blooms set up for exhibition at the Crystal Palace this year, in number over 7000 (constituting a record) and coming from forty-six districts in sixteen counties, the season and date of our N.R.S. show may be said to have generally suited the greater majority of growers who also exhibit Roses. From the time in May this year that Rose plants had fairly begun their growth, the wood and foliage seemed to develop with unusual rapidity and strength, and the plants in consequence suffered less from pests like green-fly than in most years. The caterpillar also when taken in time did not give as much trouble as in 1891, and the earwigs delayed their annual visitation till a later period, the result being that, with the exception of the before-mentioned unusual variations in temperature, rosarians were able to look forward without fear to a good harvest of blooms, and finally gathered many specimens of the highest class.

The Roses which gave the best promise in the early part of the season were those which ultimately were the most useful for the exhibition tent, and in most cases also; it is satisfactory to note, were old and well-tried favourites, the best in the H.P. division being A. K. Williams,

Charles Lefebvre, Victor Hugo, Marie Baumann, Mrs. John Laing, Gustave Piganeau, Horace Vernet and Her Majesty, the last three varieties being exceptionally fine early in the season. In the Tea class, those which promised well and fulfilled expectation were Edith Gifford early and late in the season, but not during the exhibition period; Mme. Cusin, very prolific and highly coloured this year; Innocente Pirola, the best and most frequently exhibited Rose in boxes of Teas of one variety; Souvenir d'Elise, which was most frequently awarded the N. R. S. medal; Comtesse de Nadaillac, hardly as fine as in some years; Francisca Kruger, Maréchal Niel, Mme. Hoste, exceptionally fine in size and depth of colour; Climbing Niphetos, very well shown by Messrs. Keynes, Williams & Co. on several occasions; Souvenir de S. A. Prince, Mme. de Watteville, Ernest Metz, The Bride, Marie van Houtte, and Cleopatra.

Although it is usually expected that in a fairly dry season the light-coloured Roses will show to advantage, my personal experience as a grower and my observations as a judge at many Rose shows rather make me think that this theory is not always to be relied on unless there be other concurrent circumstances. This year we have hardly seen good examples of our most noted light H.P. Roses, unless we except Her Majesty, which has been exceptionally good throughout this season, and I would also mention specially two exhibits, viz., one of twelve Mrs. John Laing, the prize box shown by Mr. Waterlow's gardener at the Crystal Palace, and another of twelve La France, which took the premier prize at Chester for Messrs. Dickson, of Newtownards, Ireland. Although Mme. Gabriel Luizet has at times been well staged, we have seen nothing like the beautiful blooms of this Rose which were so frequent in 1891, and in the same way Baroness Rothschild, Duchesse de Vallombrosa and Captain Christy have been fairly conspicuous by their absence; also Henry Bennett's most exquisite flower Viscountess Folkestone has hardly been staged anywhere; this flower, however, still takes precedence in many ways for its exquisite colouring, delightful scent, and wonderful habit of perpetual blooming. Since early in June my garden has never been without flowers from a bed of some eighteen plants. Viscountess Folkestone is undoubtedly one of the most beautiful and sweetest of garden Roses and a universal favourite, well bearing out Mr. Bennett's opinion that it was the best Rose he had ever raised.

The dark red Roses have been beautiful throughout the summer, more especially Charles Lefebvre, Victor Hugo, and Comte Raimbaud; also that best Rose of all for perfect form, A. K. Williams, has been unsurpassed. I have neither seen nor cut a good Xavier Olibo or Prince Camille de Rohan. The Rose which is the fashion for the moment and possibly for all time is Gustave Piganeau, and it may bear out all its admirers think of it, but bearing in mind how Ulrich Brunner was also idolised and is now comparatively seldom staged, I am not ready to swear by the latest fashion in Rose culture.

The Rose which should have been more to the front this year, but unaccountably failed to make its appearance frequently, was Margaret Dickson. There can be no question as to the beauty of this Rose when it is at its best. On June 29 in my garden were some half-dozen blooms which were visions of beauty, but neither before nor since have I had any fit for exhibition. A report is in circulation that we cannot grow this Rose properly in England. I assume that the meaning of this assertion is that the Rose requires a damp atmosphere,

such as in its native climate. It would be a great pity and a disappointment if this be correct, as Margaret Dickson is far superior in form to Merveille de Lyon, with which it principally competes.

No new Rose of surpassing excellence has been shown, but several candidates for honours have been staged, and in one case the National Rose Society's gold medal was awarded, viz., to Mrs. W. J. Grant, a Rose raised by Messrs. Dickson, of Newtownards. Messrs. Dickson seem to be taking the position which the late Mr. Henry Bennett, of Shepperton, long held as a raiser of good Roses, and one can only hope they may succeed to the utmost in equaling his Roses. We cannot have too many of such a class as Mrs. John Laing and Viscountess Folkestone, which possess almost every desirable quality. The exhibitions of 1892 were not remarkable for producing any prominent new candidates for the highest honours in Rose culture. The amateurs were in the best form at the Crystal Palace, and the professionals at the Horticultural Exhibition at Earl's Court, and amongst these competitors Mr. Lindsell still stands at the head of the amateurs, being closely pressed by the Rev. J. H. Pemberton and Dr. Budd, of Bath, these three competitors being slightly ahead of Mr. Tate, of Leatherhead. In the Tea classes, Rev. F. R. Burnside, Rev. H. A. Berners, and Mr. Hill Gray, of Bath, are still at the top of the tree, the most likely prominent amateurs who are coming forward in this division being Mr. Fowler, of Taunton, Mr. Colin Romaine, of Windsor, and Mr. Orpen, of Colchester, whom one hopes in future years to see competing in the highest classes, to which they should now aspire. The professionals must still acknowledge Mr. Benjamin Cant and Mr. Frank Cant to be the leaders and champions in their divisions, but this year two other trade growers showed a marked advance in their exhibits, viz., Mr. Merryweather, of Southwell, Notts, and Messrs. Prior, of Colchester, the former taking honours at Chester, and the latter defeating his great Colchester opponents in several classes at Croydon with superb exhibits—one of twelve Horace Vernet being probably the best box of red Roses shown in 1892.

Single garden Roses now form an interesting department of Rose growing in large gardens, and the National Rose Society is encouraging the taste for them, special prizes being awarded at the meetings of the society. The two best amateur growers hitherto have been Mr. T. W. Girdlestone and Mr. Cuthill. This year Mr. Tate, of Leatherhead, has also competed, and no doubt this division will be reinforced by others who have seen these gentlemen's taste and success in staging these fascinating flowers. Without a garden of some considerable size rosarians can hardly grow both single and double exhibition Roses. I am unable to grow both classes, and therefore hope some practical grower will supplement these remarks by a detailed description of those most desirable to grow. There must be difficulties in growing some kinds which only practical knowledge can surmount or guard against, and I have little faith in theoretical advice in gardening. C. J. GRAHAME.

*Croydon.*

**Climbing Roses under glass.**—It is impossible to give these too much air or light at the present time. If the plants have been looked after and treated as frequently recommended in these pages, there should be a fine lot of long and vigorous shoots by now. I do not care for a quantity of what I will style half-length shoots, my prefer-



ence being for a few of good length and stout substance. Seeing that the future bloom is practically stored up in these shoots, it stands to reason that you will get a heavier and better quality flower from a well-grown shoot than from one of only half-strength, so to speak. There is another gain in having a few strong shoots, and that is the little shade they give to any plants growing beneath. They are also much less crowded, this all conducing to better bloom in the spring. If the growths have been somewhat neglected, lose no time in separating them while still only partially ripe, as not only will they bear shifting much better now, but they will also ripen better when isolated. The whole secret of a good crop of flowers from these extra vigorous and climbing Roses is in getting plenty of well-matured wood each autumn. You will then be rewarded with a grand show of bloom throughout the entire length of each growth. In order to assist to this desirable end, it is well to cut away all growth that has flowered. The sooner this is done after blooming is past, the more strength and vigour will the young growth that is to form flowering shoots for next season have. I would advise that all Roses under glass be kept rather dry at present, so as to check and mature these growths. Any shading which was put upon the glass during summer and which has not been washed off by the rains should be at once removed.—R.

### STOCKS FOR ROSES.

STOCKS and soils have a great deal in common; in fact, I do not think one ought to be spoken of without due stress being laid upon the other. I have seen it stated and repeatedly heard the opinion expressed that the Manetti stock throws far more suckers than any other stock that Roses are worked upon. I do not believe this, for if these stocks are well and carefully prepared and the Rose bud is put into them close upon the roots, I have not found the Manetti produce any more suckers than do the seedling or cutting Briers, the De la Grefferaie, and the Polyantha stocks. It is simply a question of careful and close working when budding. There is a distance of several inches upon struck stocks of either of these kinds where the bud can be inserted, and if it is worked any height from the crown of the root suckers are certain to follow. In the case of seedlings, there is but a space of 2 inches or thereabouts in which you can possibly work a bud without getting away from the base of the roots; consequently plants upon these stocks are more often worked well down.

The relative values of different stocks are somewhat local, much more so than a novice would gather from perusing some articles upon this subject. In one district and on a certain class of soil, a different stock should be used to that thriving well in other localities. Generally speaking, however, we may take it that both the cutting and seedling Brier are suitable for all Roses and almost all soils. Still, there are some few places where the Manetti or the De la Grefferaie stocks are by far the best. Then, again, we find that a certain stock will produce better results one season than at another. For example, I heard a noted amateur grower remark a few days ago that this year was a grand Manetti year with him. This grower affects the Brier stock very much, but he was obliged to admit that the past season had suited his plants on the Manetti much better than those on the Brier or De la Grefferaie stocks.

It is said by some that the life of a Rose bush is much shorter when grown upon the Manetti than when upon either of the other Rose stocks. I am not prepared to admit this, because I have, and many more growers whom I could mention, also have a lot of plants on this stock that have grown well for the past ten or fifteen years. It may be that much of such data is derived from the behaviour of some varieties that are naturally by no means long-lived. There are a few Roses that seem to deteriorate very rapidly after the first three or four seasons, no matter what stock or what kind of treatment you afford them. Such Roses must

not be taken as any guide to the long-lived qualities or otherwise of plants worked upon the Brier.

I am quite ready to admit that the Brier is the most useful of all stocks, suiting as it does both the Tea-scented and Hybrid Perpetual classes equally well. It is, in fact, the best of all stocks for the first-named section of Roses grown in two forms, either as cutting or seedling dwarfs and as standards or hedge Briers. But as long as we find such quantities of Roses worked upon the Manetti each year, and also know that many of our most successful growers cultivate this stock largely, I feel that practice and not theory is the finest recommendation this much-abused stock can have. I trust it will not be taken that I am an ardent upholder of the Manetti over other stocks. Such is not the case; I am simply desirous of seeing an old and very useful friend fairly treated. Had it not been for this stock, I am firmly convinced that the Rose would not be such a decided queen among flowers as it is at present.

Its introduction and the vigour it imparted to our older varieties, as well as the much quicker and cheaper method it opened of obtaining good-sized and healthy plants, had a great deal to do with the immense strides in the improvement of Roses. I also think that much of the strength and vitality possessed by some of the Roses introduced soon after its general use was due to the fresh life imparted to their parents by the introduction of the Manetti stock. If I were tied to the use of one stock only, I should certainly choose the Brier cutting, as this will thrive well upon any soil and will also suit all Roses. The fault of this stock is that it does not transplant quite so safely as the Manetti or De la Grefferaie. There are a few varieties of Roses in the three chief sections (Hybrid Perpetuals, Teas and Noisettes) that will thrive much better upon one stock than on another. For example, although no one can complain of the behaviour of such Hybrid Perpetuals as General Jacqueminot, Mrs. John Laing, Baroness Rothschild, and others when growing on the Manetti, there are a few of equally strong and vigorous constitution that will seldom do well upon this stock. I allude to Reynolds Hole, Her Majesty, Captain Christy, and others. There are several varieties of Roses that possess peculiarities in that they have a great objection to the same class of stock as others of apparently exactly the same constitution and characteristics. We have La France and others, for example, that will do excellently upon the Manetti, and yet they are as pure Teas in general appearance as many more which refuse to prosper on this stock.

My advice to Rose growers is to have a few of the more vigorous kinds upon both the Brier and Manetti, whether they be the majority of the Hybrid Perpetuals or the more vigorous of the Teas and Noisettes. No rule can be laid down without exceptions, because we have Rêve d'Or and one or two more that are extra strong growers and yet refuse to do well on the Manetti stock. Why I would have a few on each is because you thus prolong your season of flowering, as the Manetti is fully a fortnight earlier than the Brier, which is far the better for late autumn blooms. The Manetti is not so generally suitable for a stiff and heavy soil as the Brier.

RIDGEWOOD.

### CHINESE OR MONTHLY ROSES.

MOST old-fashioned rosarians will gladly agree with all that "R." says of these (p. 223), but if you want to have Monthly Roses from the open almost every day in the year, we have few or none more deserving of a warm niche or corner against a wall. Walls of from 3 feet to 4 feet are ample for China Roses. But on walls a sort of free and easy method is the best for cutting sackfuls of buds, and that is the best condition in which to enjoy China Roses. The common pink and crimson are the best. The first yields more blossom or buds with less culture than any other Rose. There is also a white variety (Ducher) described as a

fair bloomer, but seldom coming up to the level of the pink or common China. The crimson is somewhat different and more tender than the pink, its almost crimson foliage, however, being much in demand for decoration. Mrs. Bosanquet is perhaps the most chaste, beautiful, and, on the whole, the best outside the pink and crimson China Roses of any of its class. The flowers are of a most delicate fawn or flesh colour, small in size, and freely produced. In bud it is simply exquisite either by itself or in contrast with the buds of the crimson China. Cramoisi Supérieur is, however, as good as the crimson China, and is a match in continuity of blossoming and brilliancy for Gloire des Rosomanes. The latter, however, is more of a semi-double than the former, and perhaps more of a Bourbon than a China. These two mixed, flanked with the white, or without the latter, planted in good soil and liberally fed throughout the growing season form one of the most brilliant Rose hedges throughout the season. This also deserves a wall, and is most useful in contrast with Gloire de Dijon. Like Lamarque, these Chinese Roses are tender and easily injured in the open air. But on walls with or without a slight protection or under the warm eaves or roof-overhanging walls of cottages and outbuildings I have seen them covered with half-expanded buds at Christmas, and again in bloom before Maréchal Niel in the same cosy quarters in May. Therefore the more China Roses that can be grown on walls, in beds, borders, or sheltered shrubberies, the better. The Teas, while so much more sweet and beautiful than the Chinas, need not supersede them, for there is room enough and to spare for all. Do not forget to plant a green Rose with the other varieties of Chinas. In leaf, habit, and growth it is the counterpart of the pink China, only its flowers are green like the leaves instead of pink, and it proves a constant source of interest to all visitors.—D. T. F.

—In the note (p. 223) on these Roses no mention is made of their adaptability for covering walls. On the south gable end of a cottage in this village there is a splendid specimen of the old crimson fully 12 feet high and which flowers freely every year. In another garden close by is a large specimen of the same variety. The head is quite 6 feet across and about the same in height. It is apparently growing on its own roots, as several stems come up from the soil. No pruning of any sort is ever done to it. This treatment it apparently enjoys, judging by the wealth of bloom it annually produces.—E. M., *Hants.*

**Olearia Haasti.**—During the last few weeks no hardy shrub has contributed more to the general outdoor effect than this, that is to say, in those gardens which are fortunate enough to possess plants of any size, for although there are probably only few gardens now, in the south at any rate, where it is not planted, it has only been comparatively recently that its merits have become widely known. No better illustration of its value as a hardy shrub could be found than in the famous Duchess's garden at Belvoir Castle, where several specimens have lately been profusely in flower. They are shapely rounded bushes, perhaps 5 feet high and as much through, standing singly. The flowers are white and produced in dense corymbs; so thickly, indeed, do these occur, that on a well-flowered plant they almost entirely hide the foliage. This species belongs to the composite family and is a native of New Zealand, where it is found growing naturally at altitudes of from 4000 feet to 5000 feet. It is described by Sir Joseph Hooker in his "Flora of New Zealand" as forming a small shrubby tree with stout branches. Its dark green leaves are each from 1 inch to 1½ inches in length, and quite leathery in texture. Its bardness in the south of England has long been proved, but in the north, except in specially favoured localities, it will perhaps need slight protection in severe weather. At Belvoir it enjoys a fine position, the Duchess's garden being in the form of a huge amphitheatre opening to the south.



# ORCHARD AND FRUIT GARDEN.

## APPLE COX'S ORANGE PIPPIN.

ON the great merits of this Apple there is little need to enlarge, for the simple reason that it is one of the most popular varieties in cultivation—in fact it may be said to be the best praised dessert variety that exists. What also is most satisfactory, it fully deserves all that has ever been written in its favour, and if all we hear and read of it is true, the time is not far distant when this excellent Apple will be plentiful in the markets throughout the late autumn and winter months. Partial failures will happen with this as well as any other variety of Apple, but a complete failure I have never known—at any rate where one or two trees are not solely depended upon. I have five good-sized trees

weigh them down to the ground. The illustration accompanying these notes was from a photograph of part of a branch of a freely grown tree framed out in the manner just described, and the fruit on such branches being well exposed colours beautifully. This plan of training suits my purpose better than any other, but it does not follow that it is the best under all conditions. On the contrary, the variety succeeds admirably on dwarfing stocks, and either grown as a bush, cordon, or horizontally trained, and on a variety of soils. Very good fruit is sometimes obtained from orchard trees, but much the best samples are gathered from those more highly cultivated, and which also are less liable to be disfigured by gales of wind. Not only is Cox's Orange Pippin of excellent quality, or second to none in this respect, its appearance also being greatly in its favour, but it possesses the great merit of re-

lift the trees and replace the natural soil with artificial largely composed of road grit and decayed vegetable manure, at the same time planting the trees on slightly raised mounds, covering the roots with fresh soil as they appear, and mulching heavily during dry weather. By taking this trouble I hope to have this really fine kitchen Apple in its true character.—E. M.

**Renovating an old orchard.**—At Ruxley Lodge, Esher, there is an extensive and very old orchard. The trees now in it are perhaps 200 years old. Some are still very vigorous and cropping well; others are past recovery. When Mr. Miller, the present gardener, went there he found this orchard in a very bad condition and the ground hard and poor. He resolved to try and renovate it, and removing all trees then impossible of recovery, planted young ones and heavily surface-dressed the soil with old Mushroom bed, leaf soil, or any possible form of manure. That dressing has been added to every year so far as could be furnished, so that now, although the surface is rough Grass, it is spongy and full of vegetable food. The result is that the young trees are now in free bearing and making strong clean growth. They could not possibly be looking better if planted in absolutely fresh soil. The result shows how possible it is to make a very old orchard literally into a new one by proper treatment.—A.



Fruiting branch of Apple Cox's Orange Pippin.

growing in different parts of the garden, thin crops being produced by the majority. All flowered well in spite, too, of bearing freely during the two preceding seasons, but the buds are not sufficiently self-protecting, and the fructifying parts of the flowers suffered from frost accordingly. That is the one weakness of Cox's Orange Pippin, but, luckily, it is not often that the trees are subjected to such severe tests as they were this season. According to my experience, particularly good pyramids are not easily grown, the habit of the tree being somewhat straggling, and I hold that the most profitable trees are those on the Crab stock and grown either as large bushes or half-standards. Very good trees can quickly be had by simply cutting out the leader of a pyramid as received from a nursery, the side branches being shortened back at each winter pruning till enough shoots are obtained to make a well-furnished tree, after which thinning out and foreshortening are all the pruning necessary or advisable. In some cases it is needful to stake up some of the principal branches, or otherwise the heavy crops they produce will

main in season from November to March inclusive. It is the favourite exhibition variety, especially for showing in single classes, none but the very best samples of Ribston Pippin standing any chance against it. The variety was raised by Mr. Cox at Colnbrook Lawn, Slough, Bucks, somewhere about the year 1830, and is said to owe its parentage to Ribston Pippin, though it bears little or no resemblance to that good old Apple.

W. IGGULDEN.

**Apple Pott's Seedling.**—Generally this Apple is looked upon as a free-bearing kind and suitable for all soils. The spotted appearance of the fruit borne on trees here the last two seasons, however, proves that the kind of soil in which it is grown has a decided effect upon the fruit. It cannot be said that the defect is this year caused by too much moisture, because this has perhaps been the driest year we have experienced for the last dozen seasons. To my mind it is a proof that the soil contains some constituent which does not agree with the skin of Pott's Seedling Apple. The soil here is heavy, though not actually clay. To grow this good Apple really well it will be necessary to

## APRICOTS FAILING.

TAKEN altogether, the Apricot is probably the most disappointing of wall fruits grown in this country. That the trees will grow satisfactorily and produce healthy foliage is no criterion that the fruits will ripen up as they should do, and this is where the failure with many lies, especially in the more northern parts and on cold soils. Given a warm sandy or loamy soil and taking care that the requisite amount of moisture is applied during the summer months, also growing the trees on a suitable aspect for the district—as even in some parts they succeed better on a west than a south wall—then Apricots may be ripened up well with the ordinary attention generally bestowed upon them. This, however, is very different to that which obtains on cold clay soils situated at high elevations, even when given a southern aspect, as, unless for cooking, it is almost useless to attempt to grow them. The Apricot, taking the fruits individually, grows in this garden to as large a size as I have ever seen any, and this on a western aspect; but the soil being cold and the garden at a comparatively high altitude, the fruits ripen up very indifferently. Thinking to overcome the difficulty, the trees were all lifted four years since and replanted on slightly raised mounds, the border being also well drained and the greater part given up to the roots. Anyone would think that the Apricot would thrive almost anywhere, seeing that reference is often made to the trees that used to be seen against cottage walls and outbuildings. Certain it is that the branches and the roots of such trees had but little attention, but yet we are led to suppose they thrived amazingly. In those cases where they did succeed, and the aspect they were planted on was right, it was entirely owing to the soil being suitable for them. Given a suitable soil and a good aspect, then Apricots may succeed well when given the requisite attention. Certain it is that on light soils the trees undoubtedly collapse from the want of sufficient moisture. The roots of Apricots being naturally of a fibrous description, it is not in their nature to ramble far to seek nutriment, and with the borders, as they often are, cropped up to within 2 feet of the wall, and this space trodden as hard as a road, little moisture naturally can be expected to reach them. Not only is water needed up to the gathering of the fruit, but also during the month of September. The dying off suddenly of the branches is difficult to account for, for even under the best treatment a branch will suddenly collapse. In some cases it is attributed to want of moisture, the action of the frost rupturing the sapvessels. Hard pruning of gross shoots which predisposes them to gumming is also given as a rea-



son. I am also of the opinion that in the case of young trees the evil is laid in their earliest existence, as it is generally at the parts where the strong shoots are cut back to form additional branches that the first symptoms of decay are seen. Y. A. H.

*Abberley Hall, Stourport.*

### TRANSPLANTING PEACH TREES.

THE present is the best time in the year to transplant Peach and Nectarine trees. Every autumn I order a few young fruit trees of the leading kinds and most approved varieties, and plant them wherever wall space permits between the established trees, to grow on for a year or two preparatory to taking the place of other trees which indicate decline of vigour and fruitfulness. In this way good trees are always at hand to take the place of exhausted ones. As soon as the crops have been taken, root out the condemned trees and open good-sized holes representing a semi-circle of 5 feet or 6 feet in diameter and about 3 feet deep; place in the bottom of each hole about 9 inches of clinkers, brick-bats, or stones, broken fine on the top, for drainage, following this with a layer of turf, grass side down, to ensure good drainage; then deposit therein a few barrowfuls of the best loam at command, adding where obtainable one-fourth of old mortar or lime rubble, the whole being mixed before being placed in the holes, which will then be ready for the trees. The day previous to lifting the young trees give them a good watering at the roots, to ensure their being taken up with good balls of soil adhering thereto. In lifting the trees, open a trench at from 18 inches to 3 feet from the stems of the individual trees, according to their size, and then carefully work the soil away from underneath and around the roots with a four or five-tined fork until two or more men can lift the tree bodily (the branches having been previously loosened) to enable a good strong mat to be drawn underneath the ball of earth and roots and the tree to be carried to the hole already prepared for its reception with as much soil as possible attached to the roots, thereby preventing the trees experiencing any material check in the process of being transplanted. The trees should be planted the same depth in the soil as they were before, assuming that they were then set the proper depth, allowing at the same time for the soil subsiding a couple of inches in the course of as many months. All straggling and damaged roots should be cut clean away in planting, working the new soil in well among and around the roots, so that every cavity may be filled up. Then tread the new soil (assuming it to be fairly dry) to make it moderately firm, afterwards laying on a surface-dressing of short manure over the roots to the thickness of about 3 inches, and giving the whole a good watering—the branches of the trees being in the meantime secured loosely to the wall, so as to admit of soil and tree settling down together. If bright weather prevails at the time, it will be advisable to hang a mat or two over the individual trees, and to syringe the latter overhead every afternoon for about a week, the object being to retain the leaves on the trees as long as possible, thereby enabling the trees to push their roots into the new soil before they shed their leaves. This is the advantage—and a very important and decided one it is, too—claimed for early autumn planting over winter or early spring planting—that is, transplanting while the trees are in full leaf in preference to transplanting them after the fall of the leaf. Now that the time for ordering fruit trees is at hand, a brief list of varieties that are found to give general satisfaction in districts favourable to Peach culture out of doors may prove useful to those who may be in doubt as to the most suitable varieties to order. They are as follows: Waterloo, Early Alexander, Amsden June, Hale's Early. These four varieties give a succession of highly coloured and good quality fruits during ordinary summers, and in early districts from the middle of July to the end of the first or second week in

August. Dr. Hogg, Early Grosse Mignonne, Stirling Castle, Dymond, Crimson Galande, and Violette Hâtive continue the supply to the end of August or the first week in September, all under good cultivation producing well-coloured, handsome fruits of fine quality. Then Bellegarde, Chancellor, Princess of Wales, Barrington, and Sea Eagle continue the supply throughout the month of September. The Salway is the latest of all Peaches that I am acquainted with, and a fine handsome Peach it is, too, when grown under glass with sufficient artificial heat at command to ripen the crop early in October. Fruits thus grown and thinned out to 1 foot apart on the trees attain to a fine size, take on a beautiful golden colour, and are of rich flavour. Thus it will be seen that by forcing the early and mid-season varieties, and giving only sufficient fire-heat to ripen the crop of Salway, the Peach season might be extended over a period of nearly seven months, the crop obtained from the trees on walls outside filling up the blank that would or might otherwise occur in the supply secured from trees under glass.

As the above cultural remarks apply equally to Nectarine trees, a short list of varieties will be opportune. First on the list comes Lord Napier, followed by Elruge, Pitmaston Orange, Pine-apple, Dryden, Spenser, Humboldt, and Victoria. The varieties Dryden and Spenser are not so well known as they deserve to be. The fruits when not left too closely together on the trees attain to a fine size, are richly coloured, juicy, and full of flavour. H. W. WARD.

*Longford Castle, Salisbury.*

**Raspberries.**—If these fruits have repugnance for chalk, they have none for clay. Both at Swanmore Park and Oakley Hall, in Hants, where chalk abounds, it is very difficult to induce Raspberries to grow at all. At the latter place only common local varieties will thrive, whilst good known sorts will not grow at all. When in the garden at Maiden Erleigh, Reading, recently, I noticed that on the stiff soil the Raspberries were growing luxuriantly. Everything about the stools, with the exception of from four to five canes, and not more, had been cleared away, and ample light and air were being let in upon the plantation. The rows were 6 feet apart—rather, as it seemed, undue liberality of space, but still apparently none too much—and the stools in the rows 4 feet from each other. No wonder the canes towered up to a great height, or that they were cut back only to from 5 feet to 6 feet in the winter and broke freely, fruiting profusely. Thus it is seen that, given ample space, Raspberries repay the liberality shown.—D.

**Filberts.**—Whatever may be the special merit of the cup-shaped form of pruning to which Filberts and Cobs are subjected in Kent, I cannot conceive that such pruning can be productive of finer crops of superior nuts than may just now be seen on the free-growing bushes at Maiden Erleigh. The crop is really a splendid one. The bushes are about eight years planted, and are of Webb's Prize, Cosford, Red Filbert, Kentish Cob, &c. They are planted on a broad border on the west side of a belt of tall trees, and it is assumed that the shelter from the east winds thus afforded is helpful to the setting of the bloom in the early spring. For the first two or three years the plants were shortened back to secure proper breaking. Since then they have been allowed free play, the branches being kept fairly thinned, and no suckers are allowed. The soil is of a stiff clayey nature, somewhat cold, but it seems to suit the nuts wonderfully well. The bushes bear a good crop every year, but the present crop is an exceptionally fine one.—A. D.

**Pruning Apple trees.**—I was not at all surprised to read in the note by "A. D." (p. 204) that certain sorts of Apple trees which received but little, if any, pruning either summer or winter fruited freely. Far too much time is spent on this part of fruit culture in some gardens. Of course, it must be understood that I am alluding to or-

chard-grown trees, or trees which can have ample space for development. We have instances here of standard trees—for instance, Warner's King, Ecklinville, and Worcester Pearmain—which have not been touched with a knife in the way of pruning since the year following planting—thirteen years ago. For the last ten years these trees have not missed a crop once, while I can point to instances where trees closely pruned both summer and winter only bear during alternate years. These closely cut trees often make abundance of wood if the roots are not seen to. Non-pruned trees are not nearly so troublesome in this respect. If strong shoots are allowed to develop into branches, the same trees do not require root-pruning, and instead of a crop of fruit once in two years, an annual one may be looked for with tolerable certainty. Pyramid trees may serve the purpose of showing what can be done in the way of training, but for full and regular crops of fruit I prefer bushes and standards. In the case of bushes planted between the regular standards to economise space, the main branches of these may with advantage be allowed free growth. More freedom in the matter of extension would result in fuller crops of fruit than is sometimes the case.—P.

### OLD STRAWBERRY BEDS.

ALTHOUGH occasionally one hears of Strawberry plants remaining in bearing condition for several years, it is very seldom that they are worth retaining longer than three or four years at the most. By many people Strawberries are expected to keep on bearing for the time stated, and whatever may be said to the contrary as to the plants failing to prove remunerative after the second crop has been taken these old plants are relied on still. To a certain extent of course it depends greatly upon the condition of the soil whether the plants will do well or not, and the soil must be good indeed which will enable it to be done. Wherever I have seen these old plants succeeding fairly well is where they have been grown on what I may term the lazy-bed system; that is, runners from the parent plant are allowed to remain—at least, a selection of the strongest, and which on becoming established may fruit fairly well. But this style of Strawberry growing does not suit present-day gardeners. As a rule, on most soils good fruit may be had for two years with little, if any other manual assistance beyond the preparation the ground received at the outset. After this time, however, support must be afforded if the plants are expected to produce good fruit, and this in plenty. It will have been observed in the case of these old plants that they become very much crowded up with crowns, each struggling for supremacy with the others, with the result that they are partially ousted from the soil. Fresh roots start from these crowns but very sparsely, unless, however, manual assistance is within their reach, when of course they strike ahead and ripen up good crowns with strong trusses of bloom in embryo. This is in marked contrast to where no such support is afforded, for lacking as they do fresh root force, they not only very quickly collapse upon a dry time occurring, but mildew also attacks them, and very few fruit arrive at maturity, and what there is is of poor quality. Taking the above observations into consideration, the advisability of affording the plants such support as will enable them to form strong crowns during the season preceding fruiting is obvious. It depends entirely upon the satisfactory condition of the plants during the autumn whether they will fruit well or not, and it behoves those who may have such plants in hand to treat them so that the most may be secured from them.

The runners, of course, will have been removed ere this, but if not, there should be no further delay, for runners not only act as robbers to the parent plant, but deprive it of that free exposure to light and circulation of air which are so essential for their well-doing. The Strawberry being a surface rooter, of course any attempt at digging between the rows would end disastrously. Besides, a loose root-run is very inimical to its well-



doing. Although this may be the case, a light pointing over will be found very advantageous, especially as the surface is trodden often very firmly during the picking season. If the soil be allowed to remain undisturbed the plants are apt to suffer from the want of moisture, the soil being also apt to crack badly if of a clayey nature. For the above reason I therefore recommend that the surface be lightly pointed over, to be followed by a good dusting of soot, or, failing this, lime; but I prefer the soot. This not only acts as a stimulant, but assists in clearing the soil of slugs. If these are not destroyed now, they hibernate amongst the crowns during winter and come out the next season to recommence their depredations. Not only soot, but a dressing of burned refuse will be found of marked advantage. A dressing of fresh soil is also beneficial, and where fresh soil is lacking, the old surfacing which is often removed from Vine borders would be very suitable. A dressing of this to the depth of an inch, taking care to pack it well around the base of the crowns, would prove of the utmost benefit and well repay for the trouble. There need not be any fear of the plants growing too strongly, and on those soils where Strawberries do not grow very freely and appear as if lacking support, a dressing of some good artificial manure is of advantage, this producing a strong and healthy, yet fruitful growth. Y. A. H.

#### GRAPE MUSCAT OF ALEXANDRIA SHRIVELLING.

CAN you tell me the cause of my Muscat of Alexandria Grape shrivelling? The fruit is nearly ripe. On some of the bunches nearly all the berries have shrivelled, while on others they are quite plump. I have been very careful not to let the roots get dry. I have never used the water cold, but have always made it a degree or two warmer than the temperature of the house, and have also been very careful in giving air. A great many of the bunches shrank very badly when they commenced to get ripe. I cannot find any roots near the surface. I think they must have got down into the drainage. The border is part inside and part out. The Vines have been planted about six years.—C. W.

\* \* Defective root action, insufficiency of moisture at a critical period, and overcropping are all collectively or separately the cause of many partial failures, and there are other causes, as shanking is more prevalent than usual this season. What brings about premature shrivelling is not so easily determined; in fact, no two authorities agree in the matter. It is the later crops that are most addicted to this shrivelling, this pointing to the necessity for starting the Vines earlier in order that they may have the full benefit of strong sunshine and warm air in abundance throughout the ripening period. The Vines under the charge of "C. W." are evidently in a bad plight at the roots, this being another instance indicating that it is possible to be too liberal in the matter of providing borders. When there are both inside and outside borders, the former is usually deserted or almost unoccupied by roots, the bulk of the latter being outside and in most instances at the mercy of all weathers. Either the roots should be wholly confined inside or else be entirely outside, and not neglected or allowed to roam for a long distance into the surrounding garden. If confined to an inside border they must have abundance of moisture, or at any rate never be allowed to suffer for want of it, and that is the principal objection to the practice, careless cultivators not being sufficiently attentive to them. The Muscat of Alexandria really requires more liberal treatment at the roots than most other varieties, and if "C. W." failed to water the outside border several times during the early part of the comparatively dry summer just passed through, the Vines must have suffered from want of moisture at the roots. His inability to ward off heavy cold rains also tells heavily against him, as there were times during July and August when too much rain fell for the

good of the borders, that is, if they had been previously kept in a properly moistened state. No variety better repays for partial or even wholly lifting and replanting in fresh soil than the Muscat of Alexandria, and "C. W." will do well to take the Vines in hand as soon as the crop is cleared off and before the leaves turn yellow and drop. I would advise him to dig a deep trench through the centre of the border from one end of the house to the other, any roots come across being cut through. The next proceeding should be to gradually fork away the soil from the roots till nearly or quite up to the stems, taking good care of them in the way of syringing and covering with mats till they can be relaid in fresh soil. If only a few roots are found, a border from 3 feet to 4 feet across will be ample to start afresh with, more being added in later years according as required, but if abundant and strong, allow a greater width or not less than 6 feet. The border being comparatively new and fresh turfy loam scarce, use equal parts of each for the new border, adding half-inch bores, wood-ashes, and well charred garden rubbish and old mortar rubbish freely. Build this up firmly, distributing the roots (previously cleanly cut over where broken or bruised) nearer the surface than formerly. A few fresh roots ought to form in the new border this autumn, and very freely next summer and autumn, or sufficiently so to nearly or quite support the Vines should it be decided to do away with the outside border. If both borders must be retained, then I would advise that the outside one also be overhauled this autumn. Skilful gardeners have wholly lifted and replanted Vines of the Muscat of Alexandria without the loss of a crop, but "C. W." had better run no risks, the safer plan being to break up the outside border to within a third of its width from the front wall, the roots found being freely shouken and relaid nearer the surface in fresh soil or a mixture, as previously recommended. A width of about 3 feet would be sufficient, especially if the roots are bared near to the wall and given a top dressing of fresh compost. If only one of the two borders can be taken in hand this autumn it would be a good plan early next spring to heavily dress the outside border with partially decayed Oak leaves, these having the effect of attracting the roots to the surface more quickly and surely than any other material. Over-rich or sour borders are greatly improved by exposure to frosts, and a good coating of newly-slaked lime forked into the surface also acts most beneficially.—W. I.

**Plums.**—The wisdom of having good dessert Plums planted as bushes in sheltered positions as well as on walls is very apparent this year, for very few of our wall Plums escaped the frost, while the bush trees in the orchard and elsewhere have an enormous crop, the difference of a week or ten days in their flowering having saved the late ones and prevented a break down. For such precocious things as Plums the protection of a wall is likely to prove a snare, unless some means are taken to retard the flowers as long as possible, and even then it is not possible to keep them back long or to protect them in every case. The planting of Plums on north walls is often recommended, but in most cases the walls could be put to far better use by filling them with Morello, Gooseberry, and Currant trees, for most Plums so grown are comparatively flavourless, and not equal to the same kinds grown on low bushes, while the form of the bush trees makes them self-protecting in a great measure.—J. C. TALLACK.

**Apricot failures.**—Why does the Apricot so often lose branches and in many cases the trees die entirely? was a question asked by a member of the audience at the Plum conference. Want of chalk or lime in the soil was given as one reason. Another was that the soil about the roots was often cropped with vegetables, keeping it far too light and loose, when it should be hard. Third, it was said that whilst the Moorpark was tender and most susceptible to injury from frost, which by rupturing the sap vessels caused canker and

gumming, leading to the destruction of branches, it was also shown on good authority that the Blenheim and Shipley were much harder and less liable to canker and disease. Though not so stated, it is a fact that seedling Apricot trees if of good quality will endure for many years where others on Plum stocks will soon die.—D.

#### FRUIT TREE BORDERS.

UNDER this head may be classed borders within doors and borders out of doors, thus giving rather a wide range. These thoughts were suggested to me a week or two since when visiting a flower and fruit show, and the expressions were dropped while admiring two splendid bunches of Black Hamburgh Grapes. The words were, "I can do nothing with Grapes at my place unless I keep renewing the borders at somewhat short intervals, and laying their roots into new soil." I have long been of opinion that far too much reluctance is shown among gardeners generally to disturb the roots of Vines or other fruit trees. No doubt when Vines or fruit trees get into a bad state before they are taken in hand, a magic change cannot be wrought—at least, not for a season. It is not always necessary to procure new soil to carry out successfully this work of renovation. Some years ago I almost entirely lifted the roots of the early and mid-season house of Vines, the roots of which are all out of doors, and not a spadeful of new soil was given them. The greatest failing with these was, that under the piecemeal system of border making—that is, adding a strip of new border every few years, and using mainly turfy loam with little of anything else to keep it open; the loam being of a clayey nature, after the grass and root fibres had decomposed, the whole went together in a compact mass, and during very wet seasons was almost unmanageable. To reduce a border 20 feet in width and to go back to within 5 feet of the stems of the Vines was not a very small matter, and it was one that many would have shrunk from rather than carry it out. But I have never regretted that it was done, relaying the roots into half that width of border, using no new soil, but simply adding ingredients to the old that I thought would make it more favourable to the Vine roots. These consisted of burnt garden refuse and old mortar rubble. It should not be understood that I under-estimate the value of new soil, for in the case above referred to it was not a question of exhausted soil. When fruit trees of any kind have occupied the soil from fifteen to twenty years, even when they receive every attention as to feeding, it is only natural that it should become impoverished for that particular kind of tree, or rather that the trees should become sick of it, and in such cases it becomes necessary to replace the same. The question as to why certain kinds of fruit trees in certain soils should require renovating so much oftener than others is a question that I am not prepared to answer. To make my meaning the more clear, I may say that here the Vines will grow and thrive for a great number of years, as some of ours have done, without any root-disturbance; while Peaches and Nectarines require to be lifted and relaid in new soil at least every three years, or they become sickly, and would finally die were they not taken in hand. I may here state that I am now of opinion that the Peach border referred to is too shallow, it being in places not more than 12 inches deep, and it is my intention this autumn, as soon as the fruit is gathered, to make it more than double that depth; the roots and trees will be entirely lifted, and from past experience of lifting these I shall confidently look for a better crop the following year. With me nothing seems to add to the health of the Peach trees or the improvement of the croplike root-lifting; of course this is always done early in the autumn and before the leaves fall. To all growers who are troubled with sickly Vines or Peach trees under glass, my advice is to lift them, and no season is better than the month of September for that operation. Of course in the case of late Vines the work should always be deferred till the spring.



September is also the best month to deal with Peach, Plum, and Pear trees out of doors. Where the trees are carrying crops of fruit, of course the work of root-lifting must be delayed, but the sooner trees that are not in a satisfactory condition and are bearing no fruit are taken in hand now the better, for although they may look a little rough when taken in hand thus early, the demand for sap for their wants is the best healer of wounds, and it also fosters immediate root action, and a number of root fibres will be formed which will aid the tree immensely during the following year. Well-ripened and compact-bearing wood, free from those gross sappy growths which neither bear fruit nor assist in building up the tree, but more often lead the way to canker and decay, will be obtained. Apricots with me positively refuse to bear unless the trees are lifted in the same manner as Peaches and Nectarines. There is no doubt we know but far too little of the chemical constituents of the soils we have to deal with. Lime is generally present among clay, but from experience I am of opinion that the quantity here is insufficient. Two years ago I treated a tree of Barrington Peach to a good dressing of lime mixed up with water and poured over the surface of the border, and this tree is now the most satisfactory of any in the same house, although it was sickly and seldom set any fruit previous to that dressing. C. WARDEN.

Clarendon Park, Salisbury.

#### QUALITY IN GRAPES.

As each season comes round comments are generally made as to the judging of Grapes. In many instances no doubt it is very difficult how to decide. We may have a variety which is of known good quality, but yet in general outward appearance very inferior, or at least in comparison with others which are of poor quality, but yet in external appearance much handsomer. Happily, we have varieties which are both handsome in appearance as well as good in quality, and it is with such kinds as these that poor judgment would be shown if they had to succumb to others of known poor quality, if only slightly better in appearance. Madresfield Court, as is well known, is of very handsome appearance when well grown, but even this when only about half-coloured, as it is very often seen, should not be placed before good Black Hamburg. Certain it is that grown in the same structure Madresfield Court is the easier Grape to colour, and, taking this into consideration, prizes should not be awarded to it over good Hamburgs unless the berries are perfectly coloured and fully up to the mark in every respect. Rarely indeed is really good Black Hamburg seen now-a-days, but when up to its highest standard there is more credit due to the grower for its production than for that of any other black Grape. The three Grapes which can be most easily coloured are Alnwick Seedling, Black Alicante, and Gros Maroc, the last perhaps being the coarsest as well as having the worst flavour. As regards the quality of Alnwick Seedling and Black Alicante, there can be no denying the fact that from December to the latter end of January they are most refreshing, and as far as appearance is concerned second to no other black Grapes. The best black Grapes in season during the months of August and September are Black Hamburg, Muscat Hamburg, and Madresfield Court, and when well grown no other black Grapes can approach them for general quality. The first and last are very handsome when up to their highest standard. A Grape seldom seen on the exhibition table is Mrs. Pince's Black Muscat. When well grown it is of handsome appearance and also of excellent quality; in fact, it is a Grape which should be more generally grown, as it is excellent in every way. For either exhibition or making a show on the dinner table, the aim should be to procure Grapes which are of good quality as well as handsome in appearance, and we have these suitable for each particular season.

Coming to white Grapes, of course the Muscat of Alexandria is best of all, and requires to be well grown to bring out its highest standard of excellence. This being the case, badly-grown Muscat of Alexandria should not stand before well-grown Buckland Sweetwater and Foster's Seedling. When all happen to be poor samples of their kind, then the Muscats should stand first. The large white kinds of Grapes appear to drop more quickly out of cultivation than the purple or black, as rarely now are such kinds exhibited as Trebbiano, White Tokay, Waltham Cross, Syrian, and White Nice—Trebbiano, perhaps, being the exception. The quality of these was found so inferior, that gardeners generally received the edict from their employers to grow them no more, the Muscat of Alexandria having the preference, as indeed it should do, as when well grown and ripened it is undoubtedly the handsomest white Grape in cultivation, as well as the best in flavour. Y. A. H.

**Apricots.**—In your issue for August 13 (p. 136) "M. H." in his article on Apricots gives Cornwall among other counties where Apricots in many parts thrive admirably. Knowing Cornwall fairly well, and also knowing that the Apricot cannot possibly be grown outside throughout the greater part of the county, this came as a surprise to me, as also, doubtless, to many gardeners who know the county and its capabilities in that way, and who would be only too glad to find that such was the case. I feel sure that there are very few counties in England where Apricots are less grown or do so badly as in Cornwall, and this failure has, I am sure, not been from want of intelligent planting, but from some climatic influence which is a boon to many things, but quite the reverse to Apricots. I should be glad if "M. H." or anyone else will tell us in what parts of Cornwall Apricots do well or even passably. As far as my knowledge goes, no other hardy cultivated fruit is so little grown in the county.—CORNUBIAN.

## FERNS.

### ALSOPHILAS.

This genus contains a large number of species, the great majority of which are tropical and require stove temperature. There are, however, many kinds that will thrive in a temperature as low as 40° in the winter without receiving any injury. *Alsophilas* require to be frequently sprinkled with the syringe, and the atmosphere kept moist through the summer season, in order to ensure the full development of their heads of fronds. In the winter much less water must be given in every way. *Alsophilas* should be potted in about half and half loam and peat made sandy, and the pots or tubs should be well drained in order to carry away any surplus water that otherwise would accumulate. The following are some of the greenhouse kinds which I would recommend:—

**A. AUSTRALIS** makes a noble head of fronds, which spring from a stout stem. The fronds usually attain to some 5 feet or 6 feet in length under cultivation, but they reach quite double this size in a state of nature. The fronds are twice-divided and light green, the crown is clothed with dark brown chaffy scales, and the base of the rachis of the fronds is thickly covered with short prickles. Stems of this plant frequently come home with those of *Dicksonia antarctica* from Tasmania and from the mainland of Australia.

**A. EXCELSA.**—This is often found under the name of *A. australis*, but it is quite distinct. It grows very quickly, and this has caused it to become somewhat disliked. As, however, it comes from spores very freely, its place can soon be supplied with another specimen of smaller size. It is a somewhat erect growing plant with light green

fronds which have the main rachis densely clothed with large light brown chaffy scales. This plant appears to be peculiar to Norfolk Island.

**A. COOPERI.**—This as a young plant very much resembles *A. excelsa*, but as it grows older it assumes characters which render it very distinct, and it forms a beautiful ornament in the cool fernery. It has a more spreading head than *A. excelsa*, and the head and stems are clothed with dark brown chaffy scales. It comes from Queensland.

**A. CAPENSIS.**—This fine plant rises upon a stem from 10 feet to 15 feet in height and makes a spreading head 6 feet or more across. This species may be easily recognised by the numerous small abortive pinnae which are situated at the base of the fronds, and which form a mass like some species of Filmy Fern. It does well in the cool fernery during the summer season, but it requires a little more warmth through the winter.

**A. LEICARDTIANA.**—This is a very slender and beautiful species. Well do I remember the fine specimen of this Fern which I used to see every season when I paid a visit to Mr. Bewley's garden at Blackrock, near Dublin. Its stem is very slender and it forms a crown some 12 feet to 24 feet across. The stems are armed with short black spines at the base. This is called the Whip-stick Fern by the residents in that part of the world where it is found. It is a native of Queensland and New South Wales.

**A. REBECCÆ.**—This is a small growing plant introduced to cultivation by Mr. Wm. Bull, of Chelsea. It produces a slender stem and the spreading fronds are somewhat coriaceous in texture, the surface smooth and deep green, whilst the rachises are reddish brown, slightly covered with black chaffy scales. It comes from the north of Queensland.

**A. LUNULATA.**—About twelve years ago this plant was introduced to cultivation by the Messrs. Williams, of Holloway. It is a common plant in the Fiji Islands, where it is known as the "Bala-bula." It forms a fairly stout stem, bearing a good head of spreading fronds, deep green on both sides, smooth, the crown densely scaly. It forms a beautiful ornament to a cool house fernery.

WM. HUGH GOWER.

**Yucca filamentosa.**—A group of this plant is one of the most striking features in the flower garden. There are six strong flower-spikes, ranging from 5 feet to 6 feet in height and bearing hundreds of large, drooping, creamy-white blossoms. *Yuccas* generally are uncertain bloomers, but this kind and another named *flaccida* are welcome exceptions. If one has a group of plants, hardly a season passes without a few flower-spikes appearing, whilst occasionally they burst out into a special display. This kind is so named by reason of the peculiar thread-like attachments that adorn the sides of its deep green broad leaves. It is a plant of the highest merit, and if planted in association with such things as the Torch Lilies, Cape Hyacinths, Tiger Lilies and other late summer and autumn plants, some noble effects may be simply and easily produced.—A. H.

**The late rainfall.**—The heavy fall of rain on Sunday morning, August 28, has to us in this district been most beneficial. The effects are already apparent upon the turf, which was in a most parched state in places, looking miserable in fact. It is, however, in the kitchen garden and amongst the fruit trees, particularly the late kinds of Pears and Apples, where the most real advantage will accrue. These also appear to have greatly benefited already. The accumulations of dust upon the fruit trees up to that time were deplorable to look at; now they are quite clean. Sufficient rain has now fallen to aid the fruit trees to finish their crops to perfection, particularly those of the Apples, which are bearing very heavy loads of fruit. Vegetables also are greatly refreshed and will now go ahead apace, and that without much fear of an over-luxuriant growth, so as to suffer in the



event of a severe winter. Vines in outside borders will also have received timely assistance, particularly where the means for application in an artificial manner are limited. With a fine growing time through this month our gardens will soon revive. —WEST MIDDLESEX.

## CHRYSANTHEMUMS.

### EARLY-FLOWERING CHRYSANTHEMUMS.

THERE are naturally early kinds and the ordinary autumn varieties, which are, by choosing early flower-buds, brought into bloom in time for the September flower shows. This latter process may not be at all desirable for the larger number of cultivators, who, perhaps, like to see Chrysanthemums in the open border, for which purpose there are many pretty sorts particularly well adapted, and which come under the

yellow of the last, are produced by a special mode of culture—disbudded to from half-a-dozen to one bloom on a plant. A capital companion to these is M. Gustave Grunerwald, a light pink flower resembling Mme. Desgrange in habit of growth as well as shape of bloom. I hear, too, of a genuine sport with a pink shade from this popular type. Souvenir de M. Menier is a very beautiful early Japanese kind. I have it in bloom now under glass. The height, grown for large flowers and severely disbudded, is only 3 feet. Three or four blooms on a plant are each about 5 inches across and proportionately deep, the shape reflexed and the colour a rich crimson. I have not yet tried it as a bush or planted out, but I think it will prove excellent for these purposes and assume a dwarf habit. It gained a first-class certificate at the National Society a couple of years ago, but still seems to be but little known. Grace Attick is a gem in its way. The flower is pure white and composed of a large number of thread-like florets. It is very early and free-blooming, and the plant does not grow

remarkably free flowering. It makes an excellent plant both outside and in pots; creamy yellow and medium-sized flowers. Blushing Bride is a nice full small flower of a bluish colour. Lyon is about the best early rosy-purple, and an orange-shaded red sport from it, Alice Butcher, is equally useful. These two are of the pompon class. Sydenham White may be called a September-flowering Avalanche, for it resembles that beautiful kind in habit of growth, colour, form of flower, and if grown in pots for large blooms will develop to almost its size. It was raised some few years ago by Reid and Bornemann at Sydenham. Feu de Bengale, a large flower of Japanese form, does not bloom quite so early as those that have been already named, but it flowers outside in October, and generally early enough to escape frosts. Its shade of colour is rich orange, red tinted. The popular William Holmes, which is cultivated so largely for market, is worth giving a little protection to save its flowers. I have seen plants of it, after having grown in the open ground during the summer, potted up and placed under glass with excellent results. Its rich crimson flowers are acceptable and come at a time when Dahlias are mostly over and the bulk of Chrysanthemums not yet in flower. In this it appears to me the special value of medium early-flowering kinds lies. But there are also a lightness and elegance in the shape Chrysanthemums that makes them preferable to the best of the decorative Dahlias. Bouquet des Dames is a new October kind much like Elaine. It is very much dwarfed, and for that reason alone is better. The white is pure and it is of easy growth. For culture out of doors it is not needful to strike fresh plants each year; only to replace stools that are becoming old and worn out, or that may have succumbed to a hard winter. The old clumps may be protected after being cut down by a good mound of ashes or cocoa fibre and left alone.

To judge by the number of new sorts sent out during the last year or two, the French raisers are anticipating the taste for early-flowering Chrysanthemums. I saw a collection of over 100 sorts in flower last year, and hope soon to see them after another year's trial. They are certainly early and are mostly of Japanese form, possessing all the shades of colour to be found in this autumn plant. They have been freely distributed in different parts of the country, and it will be odd if something extra good does not come among them. One good quality is their general dwarfness, not requiring the long sticks which have been in the past somewhat ridiculed. The following I noted as worthy: Souvenir de Louis Ferrière, yellow fimbriated pompon; Vice-President Hardy, large bloom, red, edged yellow; M. Lemaille, claret-red; President René de St. Foix, fine Japanese form, carmine, reverse yellow; M. Dupuis, dark yellow; M. Bournisien, dull white; J. B. Duvoir, lilac; Mme. Edouard Lefort, fimbriated pompon, bronze; Ami Mezard, white, shaded yellow; Albert Chausson, dark crimson.

The October exhibition of the National Chrysanthemum Society should succeed in its object to assist in preventing the loss of many beautiful forms which were passing out of cultivation because they were too early for the shows of a month later. One may expect here, the same as in September, to see the later kinds so manipulated in bud-taking that they will appear in a presentable form. At the same time, Mlle. Lacroix and such as Margot, Elaine, Comte de Germiny, Hamlet, M. Freeman, and Val d'Andorre should be seen in numbers and great beauty.

H. SHOESMITH.



(Chrysanthemum Mme. Lacroix.)

heading of this note. Mme. Desgrange is very well known, but to get it early out of doors, the old stools should be used after having flowered in pots in preference to plants rooted the current year. A good plan to have pure white blooms of this is to set out newly-struck plants in the open in the spring, pinch the shoots back during the summer to make them bushy, and just before flowering to take them up with a good ball of earth and put them into pots. They should be sprinkled overhead daily and placed in a shady corner. In a few days they will have recovered from the check and make excellent subjects for decoration. This variety well repays the extra trouble, as it is only under glass that the blooms are quite white, which makes it so valuable for wreaths, bouquets, and such like purposes. The large blooms, each about 6 inches across and almost as deep, that no doubt were admired by a large number of visitors to the early Chrysanthemum exhibition, of Mme. Desgrange and the sports (Mrs. Burrell, G. Wernig, Mrs. Hawkins), of precisely the same habit of growth and size, but differing in colour from the cream of the first named to the deep

to a height of more than 1 foot or 2 feet. It is, however, not one of the easiest to propagate, and rather less hardy than some, so that the old stools should be taken up in the autumn after flowering and be placed in a cold frame for the winter. This also makes a very nice pot plant. La Perle and La Vierge are both pretty white early kinds with medium-sized flowers. La Perle has incurved flowers, and both are exceedingly dwarf and bushy in habit. Roi des Précoces, bright crimson, is very free and effective, and one of the best earlies yet introduced. Mlle. Leoni Lassali is always admired, the colour, a rich creamy white, being a favourite one. It is of medium size and capital growth. Disbudded and placed under glass, it produces blooms really large and handsome. Early Blush is another choice kind that blooms splendidly in the open border; so also is Golden Shah, deep yellow, very dwarf indeed and early; it forms an excellent bush and responds to the lifting recommended in the case of Mme. Desgrange. The flowers are small, but freely produced. Piercy's Seedling has flowers of a bronzy yellow colour, and is as useful as the last-named. L'Ami Conderchet is dwarf and



## FEEDING THE PLANTS.

CHRYSANTHEMUMS are the most voracious feeders of any class of plants that I know. It is not possible to so charge the soil with food at potting time to enable them to grow satisfactorily for the five months they are in their flowering-pots before the blooms are developed fully; the continual watering these plants receive robs the soil. The Chrysanthemum makes roots in such quantities, that the soil is almost exhausted even in bulk by the time the plants are cut down at the end of the flowering season. That the question of feeding requires some thought as well as knowledge no one, I think, will dispute. There is a variety of opinions amongst the older growers as to the best time to commence applying stimulants. Some say that feeding should not commence until the plants have set their buds. This argument I do not agree with; the Chrysanthemum is such a gross feeder and makes roots so freely, that all the nourishing matter in the soil will have been absorbed long before the buds will have been formed. Some check, therefore, to the plants must necessarily ensue if manure in some form or other is not given. The plants ought to be fed long before the time arrives for the buds to form, so that they may be strong at a critical period. If a check to the free growth of the plants through a loss of sustaining matter in the soil takes place, how can they be expected to form strong and healthy flower-buds? Weakly-grown plants never produce flower-buds of the same quality as stronger plants of the same variety, and if the buds are not produced in proportion to the necessary quality of each variety, how can the flowers be properly developed? When the plants are growing well, do not let them deteriorate through lack of attention, but keep them advancing. Another reason why feeding should not be deferred until the buds are set is that some sorts do not set their buds until the middle of September, and some even later than that. The time from then until the plants are in bloom, say the middle of November, is much too short to allow them to derive much benefit from the application of artificial support. When the pots are sufficiently filled with roots is the proper time to commence feeding the plants. Strong growing kinds, as, for instance, the Queen family, Prince Alfred, P. Bahaunt, and Princess of Wales amongst the incurved, Etoile de Lyon, Condor, Mlle. Marie Hoste, E. Molyneux, Avalanche, Stanstead White, and W. H. Lincoln in the Japanese section, quickly make roots, while such delicate growing sorts as Princess Beatrice, Lady Hardinge, and Barbara (incurved varieties) not being such free rooters will not require stimulants so soon. In no case should plants be given stimulants until the pots are full of roots. Positive harm is rendered to plants by supplying them with manure when the roots are not in a fit state to assimilate it, as thus the soil is rendered sour and the roots make no progress in it. The time the plants received their last shift and the manner in which they have grown all tend to hasten or retard the necessity or otherwise of stimulants. When the buds are forming in the point of the shoot, growth is for a few days at a standstill, and it is not wise in that case to excite the plant with stimulants. As many of the plants, especially of the Queen section, are just now setting late buds, these should not have any stimulant given them until the buds are seen to be swelling freely. Plants the buds of which have already set and are swelling freely are in need of assistance at the roots to push out the petals to their fullest capacity.

It is not wise to give the plants the same kind of food always. The kind of stimulant depends very much upon circumstances. Where animal manure can be obtained, nothing could possibly be better. It is wise to err on the side of weakness. The best way to manage any animal manure is to place a quantity in a bag sufficiently fine that the water can pass through it, but so that the manure cannot be washed out into the water. Place the bag in a tank of water, and by continually moving the bag about, good liquid manure can be easily and cheaply obtained. Soot is one of the best stimulants Chry-

santhemums can have; it imparts a healthy tone to the plants, rendering the foliage of a good colour where otherwise pale. Soot should be managed in the same manner as recommended for the manure; it is also a good plan to place the two kinds in the same tank. Guano, where it can be obtained of good quality, is a powerful stimulant. A 4-inch potful to 36 gallons of clear water is a safe quantity to use. Then there are the various kinds of artificial manure recommended, all no doubt of some value. Certainly, where animal manure cannot readily be obtained, artificial manure supplies the want. There is one advantage about artificial manures: the plants can receive stimulants even in continuous wet weather by using them. A little of either sprinkled on the surface when raining will have its effect on the plants when it would be positively hurtful to give a liquid stimulant at the time when the roots are in an excessively wet state through long-continued wet weather. Even when animal manures are employed, a change to artificial stimulants will be an advantage. Whatever is used should not be continued for more than a week at a time. When the plants are healthy and the buds swelling freely, stimulants may be given every time they need water, but they should be weak. Continue to feed the plants until the blooms are three parts expanded. E. MOLYNEUX.

**Mildew on Chrysanthemums** is the worst pest Chrysanthemum growers have to contend with. It makes its appearance in small spots on the leaves at all stages of growth, especially in damp, sunless weather towards the end of summer. I have, however, been more troubled with mildew on the leaves during a hot, dry summer than at any other period. My reason for this was the necessity of using water for the roots of the plants which was too cold, thus causing a chill which exhibited itself in a bad attack of mildew. It is a well-known fact that Vines have suffered from the same pest and for the same reason. It very often occurs that the leaves of Chrysanthemums are affected on their underneath side long before the pest is apparent. In cases of this kind the plants suffer before the mildew is detected, and what is more the parasite is difficult to eradicate when once firmly established by the usual remedies of sulphur, &c. By far the best cure for mildew is one made up in the following way: Place 2 lbs. of sulphur and 2 lbs. of lime which has not been slaked in 10 quarts of water and boil for twenty minutes. For syringing on the plants use two wineglassfuls of the mixture to four gallons of clean cold water. A syringe with the jet affixed, causing a single stream, is the best method of applying the liquid. By placing the forefinger over the orifice the liquid can be directed upwards and spread over the plant where required. In very bad cases the best way is to lay the plants on their sides and thoroughly drench them all over. If a slight discoloration of the leaves follows from the sediment it will not be injurious, and it will come off in time. Prevention is always better than cure, and instead of waiting for the presence of the pest, once a week syringe the plants thoroughly with the mixture at half the strength.—E. MOLYNEUX.

**Chrysanthemum Golden Shah.**—As with the varieties of the ordinary Chrysanthemum, the summer-flowered forms are now almost endless; still, there are some, and those by no means the very newest, that stand out among the best in their respective colours. Golden Shah I consider one of the best of those with yellow flowers and a first-rate subject for the open border, as it blooms continuously from the early part of July onward. It is of a good sturdy habit of growth, needs little if any tying, while, owing to the somewhat spare leafage, the flowers are more noticeable than in the case of many varieties, which are apt when planted out to grow rather rank, especially during a wet season. This Chrysanthemum is usually spoken of as a pompon, but it does not produce the pretty little button-hole flowers which in the early days of the Chrysanthemum were looked upon as representing the true

pompon. This must be regarded rather as a small reflexed flower, from 2 inches to 3 inches in diameter, if it is not disbudded in any way. Planted in the open border, it will reach a height of a couple of feet or thereabouts, and its value for cutting is enhanced by the fact that the flowers are borne on long, stout stems. The colour of the bloom is a rich golden yellow, which tint is not affected either by sun or rain.—T.

**Early-flowering Chrysanthemums.**—It is indeed difficult now to know what constitutes an early-flowered Chrysanthemum, as frequently good blooms of the varieties that flower at the ordinary season are to be met with before summer has fairly left us. Still, it undoubtedly came as a surprise to many to see such fine flowers as were shown at the meeting of the Royal Horticultural Society, held at Chiswick on August 23, and again three days later at the Horticultural Exhibition, Earl's Court. They were splendid flowers in good condition, though sent all the way from Edinburgh. Of course Mme. C. Desgrange and G. Wermig were represented, but the surprising part was that fine blooms of Edwin Molyneux, Puritan, Mrs. Irving Clarke, Stanstead White and Boule d'Or were also shown in a condition that would have passed well at a November show.—T.

—Although, as a rule, the summer and early autumn-flowering Chrysanthemums are not so much appreciated as the later blooming kinds, they are of value for the garden. Chrysanthemums are, of course, hardy plants, and should be more generally treated as such. There are many places in the flower garden where the early flowering varieties may be planted. When established in masses on the mixed border, around the margins of shrubberies or in beds, they are very effective. They grow and flower freely, too, in suburban gardens. There is, in fact, no better plant for town gardens. In Hyde Park and other public places in the metropolis they are planted somewhat largely in beds and on the borders, and these instances alone afford ample proof of their value for such purposes. Then, again, under good management they produce much bloom, which may be cut for the house. But it is with difficulty that the average gardener can be persuaded that Chrysanthemums are of any value in the flower garden. With him the only attraction in Chrysanthemums seems to be the big exhibition blooms. Let him once realise, however, the worth of Chrysanthemums as hardy subjects, and we should then find the early flowering kinds more freely grown. The blooms of the early kinds may not be individually so good as those of the later varieties, but that counts for little. They should, like all hardy flowers, be grown in masses, and then their beauty is seen to advantage.

**Dwarf plants.**—Where many plants are cultivated for the production of large blooms it very often happens that the points of the shoots get broken off. Instead of wasting such pieces of growth dwarf plants can be made from them of various heights from 6 inches to 1 foot. These will give one large bloom, each plant requiring but a small pot, and being extremely useful for decoration in a variety of ways. Attractive flowers can be had from plants growing in pots 2½ inches in diameter, but where larger blooms are desired, pots 4½ inches across are better. So useful are such plants found for indoor decoration in vases, that means are annually provided to secure a lot of such by cultivating an extra number of the large plants for the express purpose of providing cuttings. Another method of providing a stock is by growing an extra shoot to the plants beyond the orthodox three. If this plan is followed, no harm is done to the plant and material is provided at but little trouble. From the first to the last week in August is the best time to insert the cuttings; if taken earlier they are apt to become too tall to be so useful, and if taken much later the flowers are necessarily much smaller. Dibble the cuttings firmly into sandy soil, using 2½-inch pots, one cutting in each. Plunge the pots in a gentle bottom-heat; a partly spent



hotbed answers very well. Shade carefully from the sun and syringe the foliage every afternoon. The best position for them after they have rooted is on a shelf close to the glass in a cool house; the strongest plants ought to be shifted into larger pots, using rich soil and potting firmly. While growing in these small pots abundance of moisture will be required at the roots to prevent the loss of the lower leaves. Almost any variety is amenable to this treatment, but the Japanese kinds are perhaps the best, preference being given to those that are not weak in the peduncle. While the buds are swelling abundance of liquid manure should be given them to assist the development of the florets to their fullest extent.—E. MOLYNEUX.

## KITCHEN GARDEN.

### THE AUTUMN VEGETABLE SUPPLY.

THE month of September reminds us of the approach of autumn. Certain it is that in many gardens where a little forethought has not been brought to bear there is often a very serious falling off of seasonable vegetables at a time when they can be ill spared, and it is very difficult to keep up an ordinary supply without encroaching upon those reserved for the colder season. With a fine autumn it is well known how long some of the ordinary summer vegetables will keep in good condition and prove very welcome. Amongst these serviceable late crops may be mentioned French and runner Beans, Globe Artichokes, late Peas, Cauliflowers, and Vegetable Marrows. All these are useful autumn vegetables, and when they fail suddenly they are much missed. The runner Bean is a most useful vegetable for autumn, and as long as frosts keep off or can be kept off a supply can be had. Runner Beans are also naturally late this season, and even where a late sowing did not take place to prolong the season, the earliest give every promise of standing well, that is, when not allowed to be overburdened by old pods, as the closer these can be picked off the better for the well-doing of successional produce. In smaller gardens where a supply has to be maintained, this close picking off of the pods as they become large enough is of the utmost importance, as even if not required for immediate use they may be salted down in earthenware jars for winter use. Knowing how quickly runner Beans show the effects of frost, a slight covering thrown over a portion of the crop upon the likelihood of a sudden frost occurring may perhaps be the means of their being saved for perhaps three or four weeks longer. Although these early frosts often come upon us suddenly, there is generally sufficient warning to enable a covering to be placed over. A heavy covering is not needed, a piece of tiffany being sufficient to ward off a moderate frost. Certainly this may not occur until the end of the month, if even then, but it is always best to be prepared. In the case of French Beans, frames are the best protectors, as these are easily placed in position, and the glass covering affords additional warmth, that is, where the rows have been arranged for the purpose. Covering with mats, or even waterproof canvas, will ward off a lot of frost, and should certainly be practised where a supply has to be maintained as long as possible. With late French Beans it is also very advantageous, if the earliest opportunity is taken, to place small spray sticks along each side of the rows, so as to allow as much direct light and sunshine as possible. By doing this and keeping the pods closely picked off, a good supply may be maintained until

comparatively late in the season. Very often the latter part of September and the early days of October are very warm and bright, but in the case of French Beans it is not safe to leave them uncovered after the end of the month, and very often they need it earlier. Vegetable Marrows succumb to even a moderate frost, and although it would be a difficult matter to protect plants covering a large surface, it is often easy enough to protect the best part of a plant or two either by mats, to be kept off the tops with suitable supports, or, what is better, a spare frame. At any rate, it is much the wisest if it can be so arranged to protect even a plant or two, so as to be prepared against an emergency. In many gardens, especially those of a small size, such crops as runner and French Beans with Vegetable Marrows are about all there is to rely upon, so in these cases it will be most advantageous to have some means of protection, or at any rate to be prepared in case of a sudden visitation. Globe Artichokes also well repay for a little extra attention at this season. At this time there is generally a quantity of smaller late heads showing, besides those from this season's planted suckers. If these can be secured from injury, they will be found very acceptable. All that is needed is to place a few strong sticks around those it is intended to protect, so that a mat can be thrown over them upon the likelihood of a frost occurring. Old heads and stems which are still attached to the plants should be removed, as these, if allowed to remain, only draw the support from the later and succession heads. Cauliflowers are now both abundant and fine, and these will be quickly followed by Veitch's Autumn Broccoli. These are generally tolerably safe up till the end of the month, but after that it is best to either draw the tops together and tie them with a piece of matting or have leaves laid over them, at least those that are showing heads. This is generally sufficient to ward off a moderate frost. A. Y. A.

**Veitch's Giant White runner Bean.**—In addition to being of very large size, this runner Bean promises to be of first-class constitution, standing the dry weather remarkably well and bearing freely. A few rows have been the admiration of all who have seen them. The flowers of this variety are white, as are also the Beans. Some of the best of the pods when measured exceeded 10½ inches in length.—C. W.

**Cauliflower Magnum Bonum.**—To the four varieties named by "A. Y. A." (p. 209) the above should be added, for in my opinion it is one of the best for standing through the winter. For years I depended upon Early London, but now find Magnum Bonum superior to it, the colour is purer. The heads are also larger, not that this is to be particularly desired; still it is a gain in some respects, as some persons prefer rather large Cauliflowers.—E. M.

**Clearing Tomato houses.**—At this time of year, particularly where Tomatoes are merely grown for a summer crop, many people will be making a clearance and preparing the houses for other plants. It generally happens, too, that the clearance has to be effected in a very short time, so that under these circumstances the plants are either cut or pulled out in a very haphazard sort of way, and thoughtlessly carted to the rubbish heap or to a suitable spot for burning at some other time. In some cases there may have been no disease, but to avoid any risk it will be well to adopt the following plan: Before disturbing a single plant, thoroughly fill the house with sulphur fumes. A broken 8-inch pot or several, according to the size of the house, with a few red-hot coals in each answer the purpose well, so placed in readiness that the coals may be dropped in and covered with the sulphur at the same moment. A 4-inch potful of sulphur will be ample in each

vessel to give a dense volume through the house, while six pots will be ample for a house 100 feet by 20 feet. Prop the larger pot a little on one side to assist burning, and see that all chances of escape are cut off; especially is this important where side ventilators exist and with other houses in close proximity. It is also well to throw down a barrowful of sand or ashes at the doorway, for frequently a volume escapes at the sill, and in this way I have known weeds killed outright for a distance of 30 feet or more where the breeze has carried the fumes quickly along. By adopting this simple and inexpensive means growers will at least have the satisfaction of knowing that they are doing what they can to check the spread of diseases which in many cases are often very disastrous.—E. J.

**Tomatoes for market.**—As so many persons who are engaged in the cultivation of Tomatoes now send their superfluous produce to market or offer for sale to the nearest greengrocers, some interest may be by them attached to the exhibition of market Tomatoes made at Earl's Court lately, where so many baskets of these fruits were seen just as gathered for sale, and of which nothing was so apparent as the even size of the fruits and their comparatively moderate dimensions. There were very few such medium-sized fruits shown in any of the competing classes as were seen in the market sieves. It is very evident that the best sorts for sale are those which produce handsome, smooth, rich-coloured, medium-sized fruits, and in abundance. It is about time we brought our judgments of Tomatoes at shows into accord with the requirements of trade, for the culture of Tomatoes is a great industry now, and will greatly increase no doubt. We have yet to learn that even for private consumption large fruits are in more demand than are those of medium size.—A. D.

## ORCHIDS.

### MILTONIAS.

THIS is a genus of the Orchid family which contains many very beautiful kinds. The plants which have been removed from *Odontoglossum* to the present family by some authors are not included in the present enumeration. I allude to such kinds as *Phalenopsis*, *vexillaria*, *Roezli*, and some others. Miltonias are all evergreen plants. They all like the light, but all of them are very easily affected by the full sun shining upon their foliage. In my early days amongst Orchids I have seen specimen plants of this genus literally of a deep yellow, through being exposed to the full sunshine, so that the plants when in flower did not by any means have a pleasing appearance. Perhaps the plants flowered best when so treated, but I found from experience that when they were given a little thin shading during the hottest part of the day, the leaves retained their nice green colour, and though they did not flower so freely, they presented a very much better appearance. These plants require plenty of heat when growing, and I have frequently grown them in the East India house with an abundance of moisture in the atmosphere. At this time, too, they like a liberal quantity of water over their roots and foliage. The majority thrive best under pot culture. The pots should be well drained, and for soil use good brown peat fibre and chopped Sphagnum Moss in about equal parts, the whole made firm, placing the plants upon the surface. Miltonias may be rested in a cool house, keeping them rather dry, but never letting them remain without water even at this season. The following species and varieties are all deserving every attention:—

*M. CUNEATA* used to be somewhat scarce in our collections, but it has become more plentiful dur-



ing the past few years. It grows nearly a foot in height, and the scape bears six or eight flowers, which are each some 3 inches or 4 inches across; the sepals and petals are about equal, recurved at the tips, bright brown tipped with pale yellow, and sometimes also slightly streaked with yellow in various ways; the lip is large and white, sometimes spotted with rose or rosy-purple at the base. It blooms in the early spring months and is a very beautiful kind.

**M. CANDIDA** is also very beautiful. The peduncle is erect, bearing some five or six flowers, each being about 3 inches across; the sepals and petals spreading, chestnut-brown with yellow tips; the lip is crisp on the edge, white, stained with violet at the base. There are several recognised varieties, such as *grandiflora*, *Jenischiana*. It comes from the mountains about Rio Janeiro, in Brazil.

**M. CLOWESI** is a similar plant to the preceding and comes from the same locality; the peduncle is much longer, bearing from five to ten flowers, each some 3 inches across; sepals and petals chestnut-brown, transversely streaked with yellow; the fiddle-shaped lip is broad, white in front, stained at the base with rich deep purple. There are several forms, the variety known as *major* being the best; its flowers are produced in the autumn, and they last a very long time in good condition.

**M. PEETERSI** in habit is somewhat similar to the last named, having the sepals and petals deep rich purple; lip large and flat, deep violet-purple as far as the centre, becoming paler towards the front, and bearing on the disc several raised plates, the central one being yellow. This is a valuable and showy species, which still remains rare. It flowers in August and September.

**M. REGNELLI** has flowers of great beauty. The best variety, known as *purpurea*, I first saw in Mr. Rucker's garden at Wandsworth; indeed it was known for some years as Rucker's variety. I first brought this species from M. Schiller's collection in Altona to the Royal Gardens at Kew in 1862. Its flowers, borne upon an upright scape, are each about 3 inches across; the sepals and petals white; the lip white, suffused with soft rose, and having lines of deep rosy purple. In Rucker's variety the sepals and petals are soft rosy purple, the marginal borders being white and the lip rich magenta-purple.

**M. BLUNTI**.—In growth this plant somewhat resembles *M. spectabilis*; indeed by many it is considered to be a natural cross between that species and *M. Clowesi*; the sepals and petals are nearly equal, yellowish, barred with purplish brown; the lip white in front, stained at the base with deep crimson tinged with purple. A variety called *subversiana* differs somewhat in colour, and both are valuable acquisitions to the autumn-flowering Orchids. It was originally sent home by Blunt from Brazil.

**M. SPECTABILIS**.—This is a dwarf plant, seldom attaining more than a foot in height, and its scape bears one flower, which is some 3 inches or 4 inches across; the sepals and petals are white, lip broad, and of a deep claret colour with deeper veins. Numerous varieties of this species occur, all of which are extremely beautiful, but the best and most distinct is that known as *M. spectabilis Moreliana*, which resembles the species in habit of growth, and differs from it only in the colour of its flowers, which are of a deep bright purple, the broad lip being lighter and veined with deep vinous purple. Several varieties of this occur, differing only in the intensity of colour. It, like the typical plant, is very liable to become yellow when exposed to the sun's rays. Some others are in cultivation, but the principal and the best are named here.

WM. HUGH GOWER.

**Flowers from Lypiatt Park.**—Mr. G. Cypher, gardener to Sir J. E. Dorrington, Bart., M.P., sends some fine flowers of *Dendrobium Phalaenopsis Schroederianum*. The best form, I am told by Mr. Cypher, is from a spike bearing thirteen

flowers, which are very beautiful seen in this state, but when seen in the raceme upon the plant they must be superb. The flower in question measures fully 3 inches across the petals, which are round and full; the colour of both sepals and petals is a lovely soft rosy purple; the broad lip is curved upwards over the column, where it is deep maroon-purple, the front lobe three-quarters of an inch wide and rich purple with deep maroon veins. The second form, which appears to be the typical plant, is from a spike of twelve blooms. It, too, is a lovely flower, and has the sepals white, tinged with soft rosy mauve; petals very broad, making quite a round full flower. These are soft rosy purple with deeper veins; lip shorter and smaller than the last. This, too, is very elegant. *D. Phalaenopsis Statterianum*, again, is very charming, but its beauties are far eclipsed by the other two, the sepals and petals not being so rounded and the lip being smaller; whilst *D. bigibbum* is an exquisite flower, which carries its distinctive mark with it, having a white papillose crest on the disc of the lip, the colour being richer and brighter than either of the *D. Phalaenopsis*. This is a very nice set of flowers, which only wanted *D. superbiens* to make them complete. These plants thrive best in a very warm house having plenty of moisture in the atmosphere, fully exposed to the influence of the sun, and they always flower at this season, lasting a very long time in full beauty.—W. H. G.

#### Awards of the R.H.S. Orchid committee.—

On Tuesday last there were shown before this body some well-grown examples of Orchids; in fact, several were very superior. To *Habenaria militaris*, shown by Sir Trevor Lawrence, a cultural commendation was most deservedly awarded. To *Dendrobium Phalaenopsis* vars. *Schroederianum* and *Statterianum*, exhibited by Rev. E. Handley, the same award was made, and that rightly so. But why should other equally meritorious exhibits be passed over? *Vanda Sanderiana*, shown by Messrs. Sander, was well worthy of the same award; so also were the splendid examples of *Dendrobium formosum* grown by Mr. Farnham. Then there were the remarkably fine plants, not large, but freely flowered, of *Oncidium incurvum* from Messrs. Pitcher and Manda. These were, I consider, all of equal merit in their way. Is the standard set so remarkably high in some cases and not so in others? These seeming inconsistencies have occurred before, but should it do so? The award is a cheap one, and where it is found worthy it should be given. I am not on any account going to advise that it be given indiscriminately; but I think in the cases quoted, as well as in others previously under observation, it should have been awarded. Have the three Orchids referred to above ever been shown much better? Certainly in these cases the Orchid committee has not erred on the side of liberality in the slightest degree.—ORCHIS.

**Cattleya aurea**.—I was pleased to see this plant growing so well and blooming so freely in the garden of Mrs. Howard, The Grove, Teddington. Mr. Osborne, the gardener, tells me it grows and flowers as freely with him as the well-known *C. Mossiae*, and more freely than *C. Warszewiczii* (gigas). John Castleton, who sends me a good form of this plant, asks which is the best way to grow it. It requires abundance of air, plenty of heat, and a moist atmosphere when growing. Keep the plants cool and sufficiently dry through the winter to prevent them making a fresh start, for I am of opinion that growths starting at this time cannot ripen properly.—W. H. G.

**Rodriguezia secunda**.—I am in receipt of a spike of bloom of this from East Keswick, near Leeds. Although an old and well-known species, it is one of the most beautiful and showy kinds of small-growing Orchids. The specimen now before me is from a plant that is flowering for the first time since it was sent from British Guiana. Some few years ago when I had large masses of this species under my care I used to grow them upon good-sized blocks of wood with only a little Sphagnum Moss about the roots. It

is a charming little species, having small compressed bulbs, bearing rich green, somewhat coriaceous leaves, from the base of which the spikes appear; these are pendent and many-flowered. The flowers all face the same way, and are of a very bright rich rosy-scarlet, which sparkle as if frosted.—W. H. G.

#### SHORT NOTES.—ORCHIDS.

**Oncidium isopterum** (J. Bud-l).—This is your plant. In growth it resembles *O. sarcodes* in miniature. The flowers are densely set and of a rich clear yellow, the sepals and petals being thickly freckled with crimson, the crest prominent and dotted with crimson.—W. H. G.

**Masdevallia Foezli**.—A flower of this plant comes to me from George Shepherd, asking what it is. It is the plant which rightly or wrongly the German professor made specifically distinct. It is nearly allied to *M. Chimæra*, but the flowers are much deeper in colour. I do not, however, detect the entire edge to the lip which Reichenbach gives as a distinguishing mark to the plant.—W. H. G.

**Cypripedium euryale**.—J. Chapman sends me a flower of this hybrid, but does not send it with a name. He says it is a cross between *C. Lawrenceanum* and *C. superbiens*. It very much resembles the above-named hybrid, raised by Mr. Seden at the nursery of Messrs. Veitch at Chelsea. It is a fine, bold, well-marked flower, and blooming too at this season is very acceptable.—G.

## GARDEN FLORA.

### PLATE 875.

#### BIGNONIAS.

(WITH A COLOURED PLATE OF *B. SPECTIOSA*.)

THE Bignonias are not nearly so much cultivated in our British gardens as they should be. They are met with, it is true, at Kew Gardens, at Syon House and a few other places where several good things find a congenial home. The reason, or one at least, why they are not more often seen lies, I think, in the fact of their requiring more of an intermediate temperature than in the case of many plants, omitting, of course, from this category the few that are accepted as hardy or moderately so. Given what may be termed a warm greenhouse or a cool stove, with a border in which they can be planted, they are certainly grand plants. Some few will grow well in a cool conservatory, but I do not find them flower so well as where a little more warmth is maintained. *B. Cherere*, for instance, will thrive luxuriantly in a cool house, but I find it shy-blooming; whereas, with a trifling amount of heat I have seen it flowering most profusely at this season of the year. *B. venusta* is another lovely species which is occasionally exhibited in a cut state. This variety flowers best as it gains age and size; then it is a splendid sight. Both of the foregoing are scandent growing varieties, looking best if trained overhead in a lofty house, their flowering growths being allowed to hang down in a free manner. *B. speciosa*, the subject of the coloured plate, does not partake so much of this character, but may be termed a semi-climber, doing best when treated as a climber, but taking some little time to attain a good height as compared with either of the others. It is a beautiful species, flowering in the early summer months, its colour rendering it even more attractive than. *Bignonia*

\* Drawn for THE GARDEN by Champion Jones in the Royal Gardens, Kew, April 9, 1892. Lithographed and printed by Guillaume Severens.





BIGNONIA SPECIOSA







magnifica is a later introduction with larger flowers, partaking more of the appearance of a *Dipladenia*; flower of medium size. This variety has yet to make itself a name, for although introduced about thirteen years ago it is not often seen in good condition. Given a warmth as derived from a wall facing south or from that to west, *B. radicans* and *B. grandiflora* may be grown with every success, flowering well during the summer months. An open border is better than pot culture; in the preparation, however, every care should be taken. To commence with, good drainage should be secured, otherwise the soil will much sooner become exhausted. The compost should be rougher than for pot culture, being mainly composed of rough, but fibrous peat and good turfy loam; some lime rubble and charcoal will also be good additions. It is better to grow a plant on for a year or two before planting it out if it is not of extra size when first obtained. A full account of the genus will be found in *THE GARDEN* of Dec. 20, 1884 (p. 520). H. J.

## FLOWER GARDEN.

### THE TALL FLOWERS OF AUTUMN.

EACH season of the year has its own peculiarities in the outdoor garden, and it is the speciality of autumn to have tall plants, which, having had two or three months of warm weather in which to make their growth, begin in July and August to exhibit the full beauty of their flowers. Spring is gay with *Crocuses*, *Hyacinths*, *Tulips*, and *Anemones*, and, generally speaking, low-growing flowers, but now we are gathering from plants of our own height with flowers on a level with the eye. This gives no small amount of additional labour to the gardener, for unless our tall-growing border plants are well staked and secured, their beauty may easily be spoiled in one stormy night. Some things it is almost impossible to tie up properly; for instance, a bed of *Asters*, *Pæony*-flowered, which was gay and beautiful before the recent rains and wind, is now laid low. I do not know of any method of preventing such a mishap. It is simply impossible to tie hundreds of stems, and the great heads of bloom are so heavy, that the rain quickly makes them nod and bend, and then fall low upon the ground. They will do still to gather, but the display of rich colour coming from hundreds of *Asters* of various shades from fine lilac to rich red and purest white is a thing of the past already.

I have been much pleased with *Lupines* this year. Their great seeds grow readily without any trouble in the spring, and now the tall branching stems have lovely spikes of bloom, which have the additional advantage of being very sweet. The perennial kinds (*L. polyphyllus*) are over with me, though their long spikes of blue flowers lasted for some weeks, but *L. mutabilis Cruickshanki* is just in full beauty. *Lupines* are amongst our most common cottage garden plants, and therefore scarcely receive the attention they deserve. The variety of colour on a spike of *Cruickshanki* is exceedingly pleasing to the eye. Why should it have such a dreadful name? The tall growth of this *Lupine* only adds to its beauty when in a suitable place, for the spikes are brought well up to the level of the eye.

Amongst the numerous varieties of yellow composite flowers which come out in autumn, I think *Rudbeckia Newmanni* is still the best of all. It is crowded with its fine deep yellow

blossoms, and the dark convex centre of the flower gives it great beauty. This *Rudbeckia* will grow almost anywhere, provided always that it has plenty of water. It droops quickly under a blazing sun, but well watered it will do best in an open spot, and it is well worthy of it. Another beautiful flower of this kind, totally different in its mode of growth because it grows tall and branching, whereas the *Rudbeckia* spreads itself about never more than 2 feet from the ground, is the so-called "miniature Sunflower." It grows with me about 6 feet high, and goes on flowering throughout the autumn months. The centre of the flower is nearly black and the leaves are small. For an autumn flower of this kind it is to be strongly recommended, it lasts so long when cut for the house, and has none of the coarseness which rather disfigures larger Sunflowers. Now that *Harpaliums* and *Heleniums* are nearly gone, other flowers of the same type and form and colour are most useful, both for the beauty of the border and also for making up large nosegays for the decoration of our rooms. On this account both *R. Newmanni* and the miniature Sunflower are invaluable. The dark eye is always a pleasing feature in flowers of this kind. Unfortunately, the perennial *Coreopsis*, *C. lanceolata*, has not got it, and on this account it is far inferior to the annual plants of the same genus. Annuals give so much trouble in spring, that, all other things being equal, we should naturally give the preference to the perennial species. But in this case, though *C. lanceolata* is well worthy of a place in the border because it is so prolific in producing its flowers, it will not bear comparison for a moment with *Coreopsis* (or *Calliopsis*, as it is more generally called) *tinctoria* or other annual kinds. As the latter are exceedingly hardy and easily grown, it is a pity not to find a place for them somewhere. The rich maroon-brown of the petals of this plant is scarcely to be found elsewhere.

*Galtonias* do not seem to find much favour as we become more acquainted with them, and yet as autumnal flowers they are certainly handsome. The bulbs I bought last year are flowering well, but they have been constantly watered. Like many other bulbous-rooted plants, these things require to be attended to in the hot and dry months and to be well watered; and, after all, they are worth it. Their tall spikes of white bells contrast beautifully with the scarlet *Gladioli*, which are in flower at the same time. This *Galtonia* or *Hyacinthus candicans* (I suppose some authority will settle in due time what its name ought to be) is said to be a shy bloomer; but with a little care, I do not think there need be much fear of not getting flowers.

*Anemone Honorine Jobert* is just now one of the most beautiful things in the border. It is a terrible weed, but one can forgive its weedy habit, which the poor call "wrestling," for the sake of its lovely white flowers, which are produced in such profusion. The earliest are the best, but for weeks this fine *Anemone* is extremely beautiful. The red variety of *Anemone japonica* is not nearly so pretty as the *Honorine Jobert*, and its weedy habit is even more pertinacious, so that it becomes a troublesome thing when once admitted into the border.

The "tub garden" at this season is resplendent with magnificent *Agapanthus* blooms. I have not got the white variety; it is not easy to find a good form of it. I saw it quite early this year at a Bath show, apparently a good variety, but not equal to the blue in length of tube. That may have been because it was so early.

I have been most pleased with *Ricinus camboensis* this year. Just now its dark purple foliage is very striking, and contrasts well with the pale green leaves of large-foliaged *Cannas*. These *Cannas* never flower with me, but the peculiar way in which their leaves unroll and the large soft green of their foliage when fully expanded make them interesting plants for the lawn. The flowering kinds, Crozy's hybrids, are also beautiful, but they have not done so well here out of doors as the large-foliaged *Cannas*; still, their dark red leaves look well in the border and their flowers are very pretty.

*Salpiglossis* should not be forgotten among the tall-growing plants of this period of the year. Their marbled flowers are wonderfully varied in colour and most beautiful, and by their side one good plant of the white *Tobacco* (*Nicotiana affinis*) will scent a large space in the evening. Its scent is delicious out of doors, though almost too heavy for a room.

I do not believe that the old *Cactus Dahlia Juarezi* has ever been equalled, much less excelled, by any more recent varieties. What I want to find is a white *Cactus Dahlia* equally good. I have not found one yet. *Dahlias* are no great favourites, but for many purposes they are useful and almost necessary at this time of the year. *Gladioli* are so soon over, and then some strong red flower is wanted. A pure white *Cactus Dahlia* would be almost equally useful if one could only come across a really good variety.

I think *Eryngium amethystinum* is one of the most beautiful of our autumn flowers. The colour is unique and its habit lasting. The wild Sea Holly (*Eryngium maritimum*) is very pretty growing on sand-hills by the seashore, but this garden species is undoubtedly one of the most beautiful of the plants which are to be found in our outdoor gardens.

A GLOUCESTERSHIRE PARSON.

**Lilium Henryi.**—This beautiful Chinese Lily improves at Kew year by year, and it gains such additional vigour, that there is little doubt it will turn out to be a thorough good garden species, and not one of those curiosities that, though pretty when in bloom, are so seldom seen in that stage that they will never become popular. On the other hand, *L. Henryi*, which at a superficial glance reminds one in some respect of *L. tigrinum* and also of *L. speciosum*, appears likely in constitution to be the equal of either of them, while its colour is different from that of any other Lily, being a deep orange-yellow. In general appearance an individual bloom when fully expanded bears a deal of resemblance, except in colour, to the white flowered Japanese form of *L. speciosum* Krætzneri. As *L. Henryi* is such a promising Lily, it is sure to be much sought after when it gets into the hands of the trade, and no doubt some of our enterprising firms are on the look out to get some importations of it if possible.—T.

**Lilium sulphureum.**—After a considerable lapse of time and a good deal of correspondence on the subject, the Lily known as *L. Wallichianum superbum* has at last been recognised as a distinct species under the name of *L. sulphureum*, and it is to be hoped that the confusion in its nomenclature will be ended now that Mr. Baker has reconsidered his decision with regard to this Lily being a variety of *L. Wallichianum*, and assigned it the specific rank that should have belonged to it from the first. Two or three notes of mine have from time to time appeared in *THE GARDEN* pointing out the inconsistency of retaining it as a variety of *L. Wallichianum*, and referring to the fact that Wallich purposed naming a Lily *L. ochroleucum*, a very appropriate title indeed for the present species, but a most unsuitable one for *L. nepalense*, which is regarded by our Lily authorities as synonymous with *L. ochroleucum* of



Wallich. I have not had the advantage of referring to Wallich's notes on the subject, so that my suggestion as to the Lily then known as *L. Wallichianum superbum* being really *ochroleucum* (which was first given in THE GARDEN over a couple of years ago) was simply founded on the supposition that a person of Wallich's experience would never for one moment contemplate giving that name to *L. nepalense*, for which as well as for *L. sulphureum* we are indebted to Messrs. Low. Having now stated my reasons for suggesting that the Lily in question might be *L. ochroleucum*, I gladly welcome the name of *L. sulphureum*, as by that one of the finest and most distinct of Lilies has at last been raised to specific rank.—H. P.

**The Mexican Daisy** (*Erigeron mucronatus*).—This very pretty little bushy Daisy is so conspicuous in many parts of my garden where it is almost naturalised as to excite much inquiry amongst my visitors. Its history has been told before. I recollect first seeing it thirty years ago in Turner's nurseries at Slough, where it passed by the name of *Vittadenia triloba*, and was referred to Australia. A few years ago it was found to have been wrongly named, as it is really *Erigeron mucronatus* from Mexico, described by De Candolle in "Prodromus," vol. v., p. 285. The other name is not a synonym, as sometimes stated, but the name of a different plant, a native of Australia, also described by De Candolle ("Prodromus," vol. v., p. 281). My object in writing this is to say that I have found it perfectly hardy during the last two severe winters, though many of my friends say they have lost it. Where the old stumpy plants die of old age, as they are sure to do, abundance of self-sown seedlings are ready to take their place. It flowers from May to November, and is excellent to hang over raised edgings. It is naturalised amongst the Italian lakes and in Sicily, as eye-witnesses have told me, and the late Mr. Neville Reid said he had seen it in other places in Central Italy growing as a wild plant, so it will soon have a right to a place in the European flora.—C. WOLLY DOD, *Edge Hall*.

#### FLOWERS AND FUNGI.

THE common annual Sunflowers have this year been attacked by a fungus which has killed the plants off wholesale. The parasite attacks the plants just above the surface of the soil, and the first noticeable effect is spottedness of the leaves; shortly after this is seen the whole plant withers. An examination shows the whole of the stem for about 6 inches from the ground to be dead, while congregated about this part of the stem are kidney-shaped white fungoid growths, smaller, but much like the growths sometimes seen on decaying trees, and varying in size from a pea to a filbert. The first I saw of this was in a neighbouring garden where the plants were real giants from 10 feet to 12 feet high, and I was inclined to think it was due to an excessive use of rank manure, but since then it has visited us, attacking plants grown on ground which has had no manure of any kind. We have so far only lost two plants out of as many hundreds, but in the case first mentioned many have been lost, the disease spreading along a row in both directions from the plant first attacked, which was near the middle of the row, and taking every plant before it, the row of fine plants being gradually killed out. It may be that change of site another year may prevent its recurrence, for in each case I have seen Sunflowers have occupied the same position for the past two or three years. Against this, which may be only a temporary disease, one is glad to be able to record a much better state of things than usual with Hollyhocks and Lilies. Fewer Hollyhocks have been grown of late years, as they have been so eaten up by the fungus, which affects them as to make them unsightly, but what we have grown this year are quite clean, healthy, and strong, and it is pleasant to see in the cottage gardens of the district grand healthy spikes of flowers and foliage, reminding one of what used to be seen in their best days when the disease was little known, if known at all.

If this good state of things obtains in future, we shall see grand displays of this stately old-fashioned flower in our borders and by cottages where they have been sadly missed of late years. I have lately seen some very fine spikes of a beautiful clear lemon-coloured double kind which I do not remember having seen before. Madonna Lilies we have had better than for years past; in fact the disease has served us so badly of late as to rob us of all flowers, though the plants always started strongly and grew well up to within a week or two of the flowering season. Last year when matters could not be worse I acted on a hint given in THE GARDEN by "E. J." I think, and lifted the whole stock (about three barrowfuls) of bulbs just after they should have finished flowering; they were then placed thinly under glass and had a good roasting till late in the autumn, when they were replanted, but not on the old site. This year we had but little sign of disease and there was plenty of good flowers. There may not have been quite so many blooms from each bulb as may be sometimes seen, but many of the spikes carried from ten to twelve spotless flowers. As change of soil with immediate replanting had been tried before with a portion of the stock and had failed to prevent disease, I can but think that either the roasting or the length of time they were out of the ground (preventing the usual autumn growth) was the antidote. J. C. TALLACK.

#### CARNATION NOTES.

THE blooming season is now past, and we look back upon it with a sense of gratitude. If the plants have been well provided for at the root, they will withstand a great amount of heat and drought without suffering apparently in the slightest degree. So it was in the past month. It is very evident that August is the outdoor Carnation season, and therefore the holding of a Carnation show in July reduces to a minimum the good that might be done. Shows devoted to other flowers are recognised as potent factors for good, even though the methods are not exactly ideal. The date of the Carnation show can hardly have been fixed in accordance with the season of the flower, taking the average of years. The methods of culture pursued prevent the cultivators who chiefly exhibit from realising fully the difficulties existing because they have their plants under absolute control, so that they can be hastened or retarded for a few days. In some previous notes, written early in July, I remarked that the season promised to be an early one. At that time the weather was bright and hot, and the plants were progressing rapidly. Then came a wave of cold, and for ten days it was hardly possible to see that any further progress had been made. The season, retarded at the outset, was hastened to a close, at any rate in the eastern counties, by such deluges of rain that literally rotted the blossoms in a single night. The rainfall for the month exceeded 4 inches, and, besides being in itself a record, this volume of water nearly all descended during the last half of the month.

#### SEED-SAVING.

Almost all cultivators like to raise some seedlings. The work is full of pleasure and interest, even though it is not rewarded by anything new, novel, and startling. The flowering this year of many seedlings at any rate led up to the desire to have more. The quantity of flowers is exceedingly great, and in part atones for lack of quality. During the fine weather some of the best kinds were crossed, and the rapid fading of the flowers afterwards betokened success. But a number of contingencies have to be calculated with, as seed-saving in the open air is not so simple a matter as it is upon plants sheltered and in pots. The petals

as they wither must be removed, lest by the moisture they hold from dew as well as rain the young seed-pod should rot prematurely. An additional precaution against this happening even after the petals have been removed consists in slitting the calyx so that it does not hold water. Lastly, we have to reckon with a treacherous and destructive foe in the earwig. Unobserved he will be comfortably quartered inside the calyx, and will lose no time in eating a hole through the base of the seed-pod and devouring the seeds. The best way of all is to look round and catch the culprits. Once in position they rarely leave, and therefore are easily taken. If very numerous—happily they have not been so with me—recourse must be had to the method that the Dahlia growers adopt of putting a little litter in a pot and inverting it on a stick. Seed takes several weeks to ripen, but a sharp look-out must be kept and the pods gathered as they begin to burst at the apex, otherwise many of the best seeds may be lost. Seed-saving, as here roughly detailed, is a systematic operation, but it repays. No ardent cultivator will long rely upon chance-saved seed. If a quantity is obtained, the produce will as a rule be only second-rate, with a large percentage of single-flowered kinds.

#### LAYERS AND PLANTING.

These are now the most important matters for consideration. Those who were able to layer early are now in a position to plant correspondingly, and thus have a good start towards another year. It will not always do to wait till particular kinds are going out of flower before layering them. For example, with me *Raby* is always later than any other, and this year the shoots were layered even before a bud was showing colour. If the plants are grown on purpose for stock, as I have previously suggested some should be, then layering is completed in July and plants ready for planting out in September are assured. If the plants are to occupy fresh ground, this should have been first well prepared by thorough digging. Loam is one of the best additions that can be made to the soil. Manure should be used in moderation, and should be thoroughly rotted, but burnt refuse and soot may be liberally applied. The weather is sometimes dry at planting time, and when such is the case it is well to give the layers that are to be lifted and transplanted a good watering. This facilitates lifting, helps to preserve the ball of roots through the moist soil adhering, and lastly, the plants feel the disturbance less, and need no extra watering after transplanting. Above all things it is important to plant firmly, as Carnations naturally require a firm root-run and refuse to grow well in loose soil. Plant early and firmly strong plants with good roots, reject weak, ill-rooted ones, and unless foes beneath the surface work destruction, the following spring will not manifest many gaps needing to be refilled.

#### MARGUERITE CARNATIONS.

The peculiar value of these lies in the season at which they come. True, the flowers are not quite so fine as the rich bold selfs of summer, but happily the two do not come into competition for favour, as when the selfs are waning these burst forth in brilliancy and profusion. At present a noteworthy and pleasing feature is the predominance of self colours, and it is to be hoped this will remain so. Some of the flesh colour and pink shades are lovely. The form is perfection, the type of flower a standing protest against the rules of the florist as regards smoothness of edge and regularity of outline. Last, but far from least, the flowers



are very fragrant. If winter or autumn storms set in before the plants have exhausted their energies they repay for potting up, and in a warm house will give blossoms more or less throughout the winter. Is the actual origin of this race known and the source from which it inherited the chief characteristic feature of flowering in five months from seed? A. H.

#### NOTES ON HARDY PLANTS.

**Actæa spicata.**—I never saw this species in greater beauty than it has been this summer. There are four varieties; the distinctions are chiefly in the colour of the berries. The black-berried sort is the earliest to ripen; the berries are large and of a deep coal-black. The scarlet berries are extremely showy, glittering like glass. The white and blue berries are smaller than those of the other two. It has been frequently asked why the plants, which are very strong and flower freely, do not set their berries. For a time this seemed puzzling, but the reason was afterwards explained. Specimens which have been submitted proved to be something else, and the same plant came under notice twice in one week under the erroneous name of *Actæa*; it proved to be *Cimicifuga racemosa*. A fortnight ago I saw the same Bugwort doing duty for the Baneberry in a nursery, and I was told that other tradespeople sold it as such. It therefore seems that a considerable quantity of the *Cimicifuga* may have been distributed in error, and it might be as well for us to verify our plants at the earliest opportunity, and that at any rate before questioning the production of berries. The two plants are very similar in foliage and foliar habit, but the *Actæa* is much the dwarfer in the flowering state, and its spikes of white flowers are only 2 inches to 5 inches long; whereas those of the *Cimicifuga*, besides being a month later, are much longer and thinner, and they have a branched habit. Each spike has also a bend or twist never seen in the *Actæa*. Both belong to the same order, but are botanically quite distinct. The *Actæa* is a native plant, and occurs wild near here. The *Cimicifuga* is an American species. It is true the *Cimicifuga* has a synonym (*Actæa racemosa*), but the *Actæa*, so far as I know, has never by any either modern or ancient authority been called a *Cimicifuga*, and even were it so, we could not afford to retrogress in these matters. The berries are said to be poisonous, but the larger birds take them greedily.

**Gentiana pyrenaica.**—This very dwarf species is a fairly good subject in light, but gritty loam. It affects situations where the finer Fescue Grasses grow, and therefore the moist conditions needful for the Bavarian Gentian might not be the most suitable. Still one frequently finds that when the whole set of conditions is changed, as when wildings are brought from their mountain homes into lowland gardens of another climate, it does not matter much either way as to a more or less degree of moisture or a precise quality of soil. For my own part I attach more importance to density of the rooting medium of many things and to the mechanical character otherwise, especially for the kinds that have the habit of spreading by means of root stems, as in the case of this species. I wonder this very beautiful kind has not received more attention from growers of the choicer European alpine. It most closely resembles the exquisite Indian species (*ornata*) of any I know, and certainly it is better adapted for our climate. Flowering period, latter end of May to July.

**Acæna Novæ-Zelandiæ** and **A. microphylla.**—These are almost the best and most useful of rock garden plants at present; their peculiar fruits make them quite conspicuous, though the plants are amongst the humblest. Rain does not hurt, but seems to make them shine all the more. In all respects these differ from the general run of other things. The leaden-hued and Fern-like foliage of the former is unique, and pretty

well may be reckoned as evergreen, if a plant totally without the green colour may be so termed. *Microphylla* has dark greenish brown foliage, which forms a dense mat. Its spiny fruits are of a pleasing bright rose, and produced in such abundance as to quite cover the foliage. Both are close surface creepers, and may be classed among the best rockery subjects.

**Campanula Waldsteiniana.**—This lovely species is yet in a leafy state, and may with safety be divided, and should the earliest frost keep off pretty well, the divisions, if not made too small (though in this case they must essentially be little bits) will do well. Do not, however, hurt the roots, and retain also every scrap of leaf and stem as long as you can. Guard against the lifting action of frost; the low temperature alone can do no harm.

**Spiræa crispifolia.**—I believe it is usual for this to continue flowering from May to November. It is true the old flowers, which are very persistent, detract from the beauty and brightness of the new; still, this sturdy and arborescent shrub of the stature of a foot or less has other good qualities to fit it for the rock garden. It is quaint, distinct and pre-eminently in harmony with rugged, stony surroundings. The sombre dark colour of its rigidly crisp leaves, which resemble bits of crimped green sandpaper, has no match for tint, if we except, perhaps, one or two varieties of *Erica vulgaris* or *tetralix*, and these give no idea of the stout and rigid habit of this ever-blooming pigmy tree, otherwise known by the name of *S. bullata*.

**Ericas.**—Speaking of these, it is at once remarkable how well many do near big towns, and regrettable that they are not made more extensive use of in places where they could not do otherwise than thrive, and add the special feature which we can only by the employment of Heaths. A very great deal could be said for the individuals of the various groups were they to be noticed separately, so good in habit and both blossom and foliage are they almost without exception. Their hardiness, too, is a good recommendation. Even in districts not quite suited for these, you may keep them going for years by liberal top-dressings of sand and powdery peat applied after they have done flowering. Of course, you may not grow the *Ericas* in some parts, as, say, on the lime, or in some areas of Cheshire. But then we can say as much about many other and less worthy things which we persistently plant and which as constantly fail. The tufted varieties of *vulgaris* are specially adapted for rockery use, where they form a warm and cosy setting for bright bulbous plants.

**Cardamine pratensis pl.**—This favourite flower frequently dies out in gardens. It is not, however, because it is difficult to grow, but just the opposite. The stronger it grows the sooner the root-knobs reach the surface, and crop up in such a way that frost soon severs the soft and short fibrous roots, when they may often be observed loose on the surface. To keep the plant going, either top-dress heavily in the autumn or in early summer as soon as the plants have done flowering; dig up the old roots, divide the knobs, and set them 2 inches or 3 inches deeper. This operation may be done every second or third season according to circumstances, for in some soils the plant will succeed better than in others. This is precisely the way we treat the *Primroses*. But there is another way to deal with this pretty double Bitter Cress. As if to make up for the loss of its chance of increase by means of seed, it often without aid multiplies by developing plantlets on divisions of the leaves. Those who care to assist it may do so, making the larger lie down flat on the surface of the soil in early summer, where there will soon be a crop of little plants. The plant affects a moist situation. J. WOOD.

Woodville, Kirkstall.

**Begonia rosea floribunda**—This dwarf growing variety belongs to the semperflorens or shrubby section. The growth is very compact and the flowers abundantly produced. I lately saw this *Begonia* growing in a mass in one of the small beds in

the Chelsea nurseries of Messrs. Veitch. The effect was considerably improved by the plants of *Acantholophanthia* which were dotted amongst the *Begonias*.—E. M.

**Maize or Indian Corn.**—For years I have employed the variegated forms of Maize in our flower garden arrangements, and with pleasing results. For a long time the variegated, form of japonica was the most appreciated, but owing to the few plants which were really variegated, I now grow only *Zea gracillima*, which is probably the best of all. The habit is semi-drooping, giving it a graceful appearance. To make sure of planting none but the best variegated forms I sow rather early, grow on the plants in a cool house or frame until the leaves develop their true character and the plants are of a good size. By giving an extra shift into 5½-inch pots the leaves are retained in good condition. The manner in which this Maize is employed here this year is in conjunction with an extra dark-leaved Castor-oil (*Ricinus cambodgensis*), which has darker coloured leaves and is not so robust in growth as *R. Gibsoni*. Intermixed also is a quantity of *Gladiolus brenchleyensis*, the three colours harmonising well. The plants underneath grown as a carpet are Harrison's Musk and Swanley Giant Heliotrope.—E. M.

**The Flame Flower** (*Tropæolum speciosum*).—My experience with this Flame Flower differs slightly from that of "J. C. B." in the matter of autumn and spring planting. I have found that those roots put in the ground at the end of October, for instance, succeed quite well. The most important point to observe is to avoid draughts of cold air in the spring when new growth is just visible above the soil. For instance, roots planted with the intention of covering a portion of a north wall would be much improved by placing slates or tiles on edge 9 inches high and projecting as much from the wall. Such shelter affords great assistance when the growth is commencing. I find after it reaches 1 foot or so high that it does not suffer to the same extent as previously. A striking instance of the want of shelter occurred here last year. I planted many roots at the foot of a Holly hedge on the northern side. One end of the hedge was imperfect at its base, the Hollies being much more irregular in their bottom branches. Gaps of this kind provided ready access for strong winds, which have materially affected the progress of the tender shoots. At the opposite end the plants grew fast, until the shoots are now fully 6 feet high, many having flowered freely. Although this plant is supposed to die down every year, it sometimes happens that the wiry-like growths do not quite perish. In such cases it is well to examine them carefully, as I have come across instances where the wiry-like growths have been quite fresh. From such as these a full crop of early blossoms is obtained. I find this *Tropæolum* grows equally well in a variety of soils, but perhaps best when planted in that which is rather inclined to be light than otherwise. It enjoys abundance of water when growing freely.—S.

#### SOLANUM TORREYI.

I HAVE read with interest "I. M.'s" appreciative little notice of *Solanum Torreyi*. In one point, however, I am quite unable to follow him, and the plant itself would suffer in the esteem of many from his way of describing it. My eyes may deceive me, but I certainly should never say that the "flowers are purple, becoming lighter with age." Neither does Mr. Nicholson say it in his invaluable dictionary, which I have just now been consulting about this matter. He writes, "The corolla is violet, rarely white." That is just what I should think, and I cannot subscribe to purple at all. I brought the question before a committee of ladies this morning, and their opinions were amusing and instructive in the highest degree. Not one of them mentioned purple as the colour. Lilac, lilac and slate, mauve, bluey mauve, blue, violet, heliotrope colour—these were the returns. Alas! only for purple; it had no place with them on this head. I am told it is to be admitted that some years ago,



say forty or fifty, purple covered a good deal. It was a sort of generic name, which had a great many species and sub-species under it. But I am not referring to what happened in the days of our forefathers, but to what obtains now. To call such a colour as that of *Solanum Torreyi* purple in this year of our Lord 1892 would throw any milliner in Ryde into fits on the spot. This may seem like finessing to those who only live in the past, but I can assure you it is not so at present. The greatest authority about colours with whom I have ever had to do, and to whom I am immensely indebted for some advice she once gave me about the diapering of the chancel walls and roof of my church—I allude of course to Miss Jekyll—will not tolerate purple in her garden or house. Only say to her that such and such a flower is purple, and she discards it at once. *Calandrinia umbellata* has no interest for her. *Exogonum purga* has made a great mistake about the hue with which it is covered. I submit, therefore (and the ladies to whom I have referred are my assessors in judgment), that in this sense *Solanum Torreyi* is not purple at all. Call it mauve or violet, or anything else of the sort, but I beseech M. Moly to drop purple with regard to it for ever. As to its being tomentose, opinions may perhaps also differ a little. Mr. Nicholson writes that "it has prickles small and subulate, scanty, and sometimes nearly wanting." I prefer this description myself, but tomentose as well as purple may cover a good deal. J. Moly is certainly quite right in the estimate which he puts on the *Solanaceæ* in general and on *Solanum Torreyi* in particular; but it must not be taken for granted that because it does so well in the Isle of Wight it will do equally well in other localities. It hails from Texas and can only be called half-hardy, though here I have no anxiety about it at all beyond throwing some coal ashes over its head during winter.

HENRY EWBANK.

## TREES AND SHRUBS.

### DWARF POMEGRANATES.

THERE are several forms of Pomegranate in cultivation, most of which, however, need to attain the dimensions of fair-sized bushes before they can be depended on to flower freely; but there is a dwarf form (*nana*) very amenable to pot culture, and so treated it produces great numbers of its bright-coloured blossoms when less than a couple of feet high. The flowers of this variety are of a glowing orange-scarlet colour and single, as in the case of the ordinary Pomegranate (*Punica granatum*), of which, in fact, it is a counterpart, except in size. This dwarf form is very seldom seen, though said to have been introduced into this country as long ago as 1723. As wall plants the other Pomegranates are well worth a place, but my favourite of all of them is the common kind, for not only are the blooms less lumpy than in the case of the double-flowered varieties, but they are also borne in far greater profusion. On a warm south wall I have had this Pomegranate flower throughout the months of September and October, while even in November some blossoms are produced. When the wood is well ripened nearly every shoot is terminated by its bright-coloured blossoms, which even before they open are wonderfully pretty, hanging as they do like great drops of sealing-wax, for the entire flower is of a thick wax-like texture. On a sunny wall the foliage usually dies off richly tinted with yellow. The neat style of growth fits the Pomegranate for training to a wall, and the fact that it does not flower till the end of the summer is also an additional merit, at all events in many cases. The different double-flowered varieties produce large and showy blossoms, but not nearly so numerous as on the single forms. The Pomegranates may be increased in various ways, firstly by seed, which cannot, however, be depended upon to propagate any individual peculiarity; then by grafting on to seedling stocks; and lastly by cuttings, which are not difficult to root,

and soon grow away afterwards. When a close case exists for their reception the best time to take the cuttings is during the growing season, when they should be formed of the half-ripened shoots and dibbled into pots of sandy soil. They will root in a couple of months or so, when they should be hardened off for a few days and then potted, using for the purpose loam and leaf mould with a good dash of sand. If kept in a gentle heat and where a growing temperature is maintained during their earlier stages, they will make much more rapid headway than if kept cool from the start.

T.

**Clethra alnifolia.**—This North American shrub has in many places this year flowered with very great freedom, and, taken altogether, it is a very useful subject and one well worth a place in many gardens, for hardy shrubs that bloom in August or even later are by no means numerous. The blooms are white, borne in dense spikes, and distributed nearly over the entire plant. They are also very sweetly scented. This is the commonest kind, but there is another (*acuminata*) well worth attention. This differs not only in the leaves being more pointed, from whence its varietal name is derived, but also in the blossoms, which are of a purer white, rather larger, and borne in longer spikes. These *Clethras* delight in a cool moist soil, and, in common with many of the *Ericaceæ* to which they belong, that composed to a certain extent of vegetable matter will just meet their requirements. Flowering sprays of these *Clethras* are very pretty indoors when in a cut state, and in this way they diffuse a very pleasant fragrance. Messrs. Veitch, too, have at different times shown us well-flowered examples in pots a good deal earlier than they bloom naturally in the open ground, and very attractive they were.—T.

**Ligustrum Quihoui.**—The finest of all the Privets from a flowering point of view is *L. sinensis* or *Fortunei*, which blooms in August, while the present species now rapidly unfolding its blossoms is also very pretty and well worth attention, more particularly as all the others are past. *L. Quihoui* forms a much-branched spreading bush about 5 feet or 6 feet high, clothed with small deep green oblong-shaped leaves and a great profusion of large, loose terminal panicles of pure white blossoms. As it will grow and flower freely in almost any soil, this Privet may in most gardens have a place found for it; still, the heavy overpowering smell of the Privet family clings to it, and consequently it must be banished from the neighbourhood of the dwelling-house. Another Privet very attractive just now from a foliage point of view is the golden-leaved variety of *Ligustrum ovalifolium*, whose colouring has been greatly intensified by exposure to the summer's sun.—H. P.

**Euonymus alatus.**—By the end of August it seems somewhat premature to speak of autumn tints, but this *Euonymus* has changed to an intense crimson colour, owing to which it stands out conspicuous from any other shrub. It is by no means particularly ornamental at any other season of the year, as it forms a somewhat loose growing bush clothed with oblong-shaped leaves, which are, however, not very numerous. The specific name of *alatus* is derived from the corky ridges which run along the bark of the young shoots, in the same way, but to a much less extent than in the case of the Winged Elm (*Ulmus alata*).—T.

**Cytisus capitatus.**—This shrub, which is found wild throughout a considerable tract of country in Central and Southern Europe, is worthy of note here by reason of its late-flowering qualities, for though yellow flowers are very numerous among our hardy *Leguminosæ*, yet by the end of August very few of them remain, and of the limited number the freshest of all is this *Cytisus*, which has numerous buds yet to expand. It forms a neat compact growing shrub about a yard high, clothed with trifoliate leaves, which in common with the stems and unopened flower-buds are so thickly covered with hairs, as to give the entire

plant quite a hoary appearance. The flowers, which are borne in terminal heads, are of a light yellow colour, and the plant is so free-flowering, that every shoot contributes its share to the floral display. I noticed flowering branches of it shown in good condition by Messrs. Veitch at the fruit show at Earl's Court on August 26.—H. P.

**Hibiscus syriacus.**—This hardy shrub, represented by numerous varieties, succeeds best with a fair amount of moisture, and where this has been accorded it during the past summer, the bushes of it are in most cases flowering with great freedom, while, on the other hand, if it has been at all parched up the foliage quickly becomes yellow and drops prematurely, while many of the flowers do not open kindly. There are several forms both of the double and single varieties, but these last are my favourites, the blossoms being less lumpy than those of the double-flowered kinds. The variety *coelestis*, a bluish-tinted flower, and *albus*, the petals of which are white with a reddish base, are two very pretty varieties. In making a selection of flowering shrubs, some of these forms of *Hibiscus* should, from their autumn-blooming qualities, have a place assigned them, while they also succeed better than many other shrubs in the immediate neighbourhood of London.—T.

**Horse Chestnut not flowering.**—I shall feel obliged if the editor of THE GARDEN will say why a Horse Chestnut grown from a pink Horse Chestnut seed seventeen years ago has never flowered. It is now a fine tall young tree.—M. R.

\* \* Several circumstances; nature of soil, being grown in too exposed or in too confined a position, and being of too tender years may account for the pink Horse Chestnut of seventeen years' growth not yet having flowered. Even when it does bloom, the flowers may be of the normal colour, if we suppose that the scarlet-flowered Horse Chestnut is but a garden form of the common tree.—A.

**Moving a Cedar tree.**—At what season should a young Cedar tree be moved? It is about seven years old: What precautions should be taken with it this winter?—M. R.

\* \* Dig a trench now around the young Cedar at say 3 feet from the stem, cutting back all roots met with, and refill the trench with good fresh soil. Transplant early next spring by removing with as large a ball as possible.—A. D. W.

**Costus igneus.**—No particular period can be assigned for the flowering of this *Costus*, as blossoms are produced at all seasons, and right welcome they are at any time, for they supply a colour very little represented among stove plants. In common with several other members of the genus, the roots of this are thick and fleshy, and it forms a strong crown, from whence are pushed up stout erect stems, and if planted out in a damp, free soil it soon forms a large mass, but if confined to pots of moderate dimensions it reaches a height of a couple of feet or thereabouts. The stems are terminated by a flattened cone-like arrangement, from whence the blossoms are produced. The individual blooms are about  $1\frac{1}{2}$  inches across and of a bright orange-red colour—a tint that is particularly noticeable among flowering plants. This *Costus* was introduced about ten years ago from Bahia by M. Linden, and though it has been often noted in the various horticultural publications as a most desirable plant, it has never become even in the least popular. There is certain, however, to be some day a far greater demand than there is at present.—T.

**Self-coloured Antirrhinums.**—I referred recently to a very pure white Snapdragon largely grown at Swanmore. I have seen this in some other gardens, but not used so liberally. I can hardly conceive of a finer variety than a rich crimson mouthed form named *Brilliant* to be a companion plant to the white one. I saw this growing *en masse* at the Bedford seed grounds recently, and the constancy of the variety from seed was wonderful. *Brilliant* has not only a mouth of the rarest crim-



son colour, but a pure white throat, which greatly enhances the beauty of the flowers. As an effective border or bedding sort it is worth all the finest striped varieties ever raised. As the several hundred plants now blooming have shown fully ninety-five per cent. absolutely true, it looks as if it would not be needful to propagate by cuttings to secure a true stock. A. D.

## STOVE AND GREENHOUSE.

### DRACENA GOLDIEANA.

THIS fine species stands out quite unique from the rest of the members of this extensive genus

when well grown. Compared with most kinds it is of a slower growth, but more lasting in its character, the foliage being stouter and of greater substance. It is not a difficult plant to cultivate when a healthy plant is once obtained. If purchased in a small state, it takes some little time before it is fit for use other than as an object of interest and beauty in the stove itself. When a plant is large enough to use upon the dinner-table, it makes quite a change, being seen to the best advantage, I think, as a central object upon a round table. I have used it thus, and that repeatedly without injury, but being a rather tender species, it is more susceptible to injury than most kinds from being in a cold room or house. In order to

shoot, which in its turn when large enough may be taken off for striking. It is these lateral shoots which make the most compact plants, whilst they strike as readily, or even more so, than the top has done previously. Other shoots will follow in due course if the old stool is kept in good health, and by this means a stock can be steadily worked up. For my own part, I have found it best to use a rather more peaty soil than for the stronger growers, the roots being much finer, which of itself seems to indicate this variation, whilst it does not need quite so liberal a treatment as to watering. Care must be taken not to overpot it, otherwise the roots will be liable to suffer. It does not appear to suffer from the attacks of the thrips peculiar to *Dracenas* nearly so much as other sorts, but occasional spongings will add much to its appearance. Its novel marking, banded and marbled in an irregular manner with dark green and silvery grey, gives it when in good character a decidedly handsome appearance, whilst the back of the unfolded leaves is of a pale reddish purple, which further adds to its beauty. The illustration gives an excellent idea of its effect when seen grouped together, for this must not be taken as that of one plant, but of several together, dwarf plants surrounding the taller one. H. G. A.



*Dracena Goldieana.*

of fine-foliaged plants. It was introduced into this country about twenty years ago and first put into commerce by Mr. Wm. Bull, of Chelsea. It is a native of Western Tropical Africa. Some doubts were expressed by botanists after its introduction as to whether it would prove to be a true *Dracena*, but this was settled as soon as the plant flowered. Although it has reached the flowering stage, I do not think any attempts have been made to intercross it with another species; if so, the fact has entirely escaped my notice. Being so distinct from any other species, it is most valuable, making a beautiful vase or table plant

propagate it success-fully, a different mode of procedure to that usually adopted has to be pursued. It does not propagate so kindly from eyes as most kinds, coming in this respect under the same category as *D. gracilis* or *D. marginata*. My plan has been to cut off the top when a plant becomes too tall or leggy at a convenient height, inserting it in a 2½-inch pot and plunging in a brisk heat in the propagating pit. Thus far the plan adopted does not vary from that at times followed with other sorts as to striking, but after the top has been taken, every care is needed to preserve the old stool intact. This will break forth afresh at the top, generally one

*Thunbergia laurifolia*.—There are many beautiful stove climbers now in cultivation, but there are few that can surpass the *Thunbergias*. When calling at Inwood House, Dorset, in early summer, I noticed *Thunbergia laurifolia* a mass of bloom growing up a pillar in the stove. *Thunbergias* look best when not trained closely, but allowed a little freedom, as was the case with the plants referred to.—J. C. F.

*Hymenocallis macrostephana*.—This handsome variety of the *Pancratium* family is a valuable addition to the list of stove summer flowering plants, and, what is of still greater value, it will thrive in a much lower temperature than does the *Pancratium* proper. We have a number of strong bulbs which never fail to flower every year, and they are always much admired. Like the *Eucharis*, this fine Lily thrives in a mixture of loam and peat with a good portion of coarse sand intermixed, and in a moderately warm stove it grows freely, producing plenty of offsets. All who are interested in the *Pancratium* family should include the above plant.—C. W.

*Celosia pyramidalis*.—Although at flower shows and in gardens I see many *Celosias* during the summer, yet none have that perfect pyramidal form and pointed spikes of florescence allied to rich crimson colour so admirably combined as in the strain which Mr. Turton has at Maiden Erleigh. Plants in 4½-inch pots are 2 feet in height and of perfect form; others in 8½-inch pots will reach 4 feet in height. They are usually grown for indoor decoration during the shooting season.—A. D.

*Fuchsias*.—For house decoration where the rooms are at all dark *Fuchsias* are of but little value, the blooms dropping so quickly. As pillar plants in the greenhouse or conservatory *Fuchsias* are admirable, while as specimens to be plunged on gently raised Grass mounds they are extremely useful. Standards or half-standards might be employed with good effect for bedding. For instance, plants with 4 feet of clear stem could be utilised with advantage, and thus afford much scope for other plants below to give a good contrast in colour besides being somewhat novel. In the Begonia house in Messrs. Veitch's nursery at Chelsea, *Fuchsias* are employed with splendid effect trained to the rafters from both sides of a low span-roofed house, the drooping branches being heavily clad with dense green foliage and richly coloured flowers. For filling vases out of doors *Fuchsias* are undeniably valuable, especially such varieties



as the old Rose of Castile. We have a mass of a variety called Charming with purple corolla and red sepals in a large bed, the soil carpeted with Geranium Manglesi kept pegged down, but not too close. Now is a very good time to strike cuttings for the same purpose next year, except, of course, where large specimens are needed. Fuchsias also make good window plants. Given a sunny spot, plenty of water, and not too much pot room, many a bright display can be assured even in a cottage window.—E. M.

**Bessera elegans.**—Though this is hardy in some districts, it is also a first-rate subject for flowering in pots, and in this way it is very striking at the present time. For this purpose pots 5 inches in diameter are most suitable, as then sufficient bulbs can be put in each pot to form an effective mass or clump, for in this way the bright coloured blossoms, suspended by their slender stems, are seen to the best advantage. The leaves of the Bessera are narrow and not particularly numerous, while the flower-stems which run up to a height of a foot or so are quite erect, slender, and terminated by an umbel of blossoms. The flowers are supported on quite hair-like stalks and are drooping in character. They are of a pleasing bright red colour, and, what is more, remain in perfection a considerable time. The blooms are by no means of a uniform tint, for in some individuals they are to a certain extent marked with white. It was introduced in 1850, but was soon lost to cultivation, or nearly so, till re-introduced about ten years ago, when from the quantities sent here it became quite common for a time, but I have not seen nearly so much of it for the last two or three years.—H. P.

#### ROMAN HYACINTHS.

It would be interesting to know how many tons of these are annually disposed of in the markets of our large towns and florists' shops generally. They have given us just what we need, a plentiful supply of white flowers, at a season when Chrysanthemums are going past and other white flowers are still scarce. One has only to look at the church decorations and wreaths and crosses made during the first two months in the year to realise what an important position the Roman Hyacinth occupies among white flowers at that season. It may truly be regarded as a benefactor to florists and others, for it enables them to supply white bloom in the dead of winter at much lower prices than they could otherwise do, thus inducing many to buy flowers who could or would not purchase more costly things. Frequently in February I have known a fair sized bunch of Roman Hyacinths to be sold for twopence, and not so many years ago the same amount of white bloom would have cost more than six times that amount. It is, of course, the imported flowers that bring down prices to such a low point, and the home grower has no chance of profitable returns unless he forestalls the season of imported bloom. In the Chrysanthemum season there is such an abundance of white bloom, and as this now lasts quite a month longer than formerly, the need for other things is but little felt until the new year is well in. From the middle of January to the end of February flowers of all kinds are scarce in the London markets, and during that period Roman Hyacinths make fair prices, especially if the weather is not very favourable where they are grown largely in the open for export to this country. For an early supply of bloom it is desirable to get the bulbs potted as soon as they can be obtained, and if a succession of flowers is desired through the early months of the year, more bulbs must be potted at intervals of a fortnight up to October. Half a dozen bulbs may be put in a 6-inch pot, but where any quantity of bloom is desired boxes are best, this being the method generally adopted in market gardens. The boxes, when filled, are placed in the open air and covered with several inches of ashes or cocoa fibre, being put into warmth in batches as required. Sometimes bottom-heat is employed, but in a

general way it is found that satisfactory progress is made without it. If the house be well provided with piping, there is no difficulty in maintaining a temperature sufficiently high to thoroughly warm the soil through. For Roman Hyacinths I like the compost rather lighter than what is in favour for Hyacinths generally. As they have to be brought along at the dullest time of the year, it is of importance that root-action should be encouraged as much as possible. With a liberal addition of leaf-mould and river sand, there will be less danger of the roots becoming torpid, and water may be more freely applied without fear of bringing the compost into a close condition. Plenty of moisture must be given when the flower-spikes are pushing up, but in the depth of winter heavy waterings should be avoided. J. C.

*Byfleet.*

**Campanula isophylla alba.**—Last season I sent you a note respecting the above. This year it is even more conspicuous in this neighbourhood than last. It seems to do best in windows which face the north. In Angel Road there are about 170 houses, and in fully the half a plant of this will be found in the window. Most of the plants are suspended, and the drooping masses of pure white blossoms completely hide the foliage. It seems essentially a window plant and requires little skill to have it in fine condition. It will grow well in any ordinary loamy compost and requires to be kept fairly moist. It is easily propagated from cuttings or division in the spring-time, and cuttings struck early in the season make fine plants for flowering the same season. Unlike most soft-leaved plants, it is not much troubled with insects. It certainly deserves to be well known, and I am surprised at the number of visitors we have who, although in the trade, do not know it. I find that its culture has extended considerably beyond here this season, and no doubt it will continue to extend until it is as well known throughout the country as a scarlet Geranium is at the present time.—A. H., London, N.

### THE WEEK'S WORK.

#### HARDY FRUITS.

**APPLES.**—Birds are very troublesome among soft Apples such as the Codlins, Lord Suffield, Ecklinville, Cellini, and Peasgood's Nonsuch, and this not unfrequently has the effect of inducing those responsible for the preservation of the fruit to gather before it is really fit for storing. No Apples ought to be gathered and stored before the pips have changed from a greenish-white to brown, and any dragged from the trees never attain their full flavour, premature shrivelling inevitably resulting. In the case of pyramids, bushes, and horizontally-trained trees birds can be kept off by the aid of nets. Premature dropping of a few fruit also misleads. If these are examined, most of them will be found unsound, the ripening being brought about by some check to the swelling. Take no heed of a few dropping fruit, but be guided as to when to gather and store by the state of the bulk of the fruit on the trees. There should be no general clearance, but some few varieties may be fit for storing now, others a fortnight hence, and the remainder, these being late sorts, ought to be left much later, a little frost not hurting them. When the fruit either parts readily from the trees, or a fair sample fruit when cut open shows browned pips, no time should be lost in gathering. Duchess of Oldenburg will in most cases have been gathered ere this, and the Keswick Codlin is also an early ripener, the fruit, however, keeping fairly well after it is gathered, but the first-named is disappointing in that respect.

**THE FRUIT ROOM.**—If not already done, the fruit room or store should be got ready for the Apples, and of which there are more on the trees than at first anticipated. Apples being soft and porous are easily tainted, contact with anything strong-smelling or musty, or confinement in an

impure atmosphere invariably communicating an objectionable taste to them. A hot, dry, or airy room is unsuitable for keeping Apples in, a comparatively cool and somewhat close and dark place better suiting them. Thatched sheds are particularly to be recommended. In any case the walls, floors, and benches or shelves should all be thoroughly clean, a coat of limewash not being wasted on the former. Especially ought straw or hay to be kept clear of Apples. Such material soon becomes damp and musty, and contact with it is the cause of large quantities of Apples being practically spoiled. Even newspapers for covering the boards are objected to by some lovers of Apples, nothing but clean kitchen paper being tolerated. Nor ought unsound fruit to be left among that which is sound, as the former soon decays and spoils all the rest surrounding it.

**PEARS.**—It is not much room that the crops of these will require this autumn, but with so few to gather it becomes imperative that the greatest care be taken of all there are. If small birds are liable to peck holes in the fruit near the stems, this completely spoiling them as far as keeping is concerned, their attacks ought to be anticipated. A single light small-meshed fish net hung or set out clear of the trees will usually keep off small birds, but coarser mesh netting has in some cases to be doubled, or the tits will find their way through. Blackbirds are the most troublesome among the trees in the open garden, and are sometimes to be caught gorging themselves with soft fruit on wall trees. The gun is the best remedy for these, that is, if in expert hands, novices frequently doing more damage to the trees than to the birds. Netting over large pyramids is a difficult undertaking, but it has to be done in the neighbourhood of woods, shrubberies, and game preserves, where birds are always numerous. Horizontally-trained trees and bushes can be readily netted over, but in each and every case the nets must be strongly supported with poles, stakes, and tar twine, so as to swing them clear of the trees, or otherwise the fruit will not be saved from the voracious blackbirds, and strong winds may also do mischief. The same rule as to when to gather and store Pears holds good as in the case of Apples. Dragging them from the trees will not do. If on being lifted slightly out of their natural position the stalks part freely from the socket, they are ready for storing, and brown pips is another sure indication of fitness. The crops are very partial, some few trees being heavily cropped and only too many of the rest completely bare of fruit. This points to the necessity of lengthening out the season of bad-keeping varieties as long as possible. Most sorts can be forwarded considerably in a gentle dry heat, some of them being considerably improved thereby. Louise Bonne of Jersey, Marie Louise, Beurré Clairgeau, Doyenné Boussoch are among the few varieties that are carrying good crops in different gardens this year, and if some of either or all of them are gathered just when the pips are on the point of turning brown and placed in heat, they will ripen early. If others be gathered a fortnight later to succeed them, the remainder being left on the trees till they are commencing to drop, a long succession will be maintained and every fruit turned to good account. Pears are colouring more than is usually the case, and will continue to do if well exposed to the light and air.

**PLUMS.**—In many gardens the bulk of these have been gathered, but those who can keep them for some time longer will find them very serviceable. Not unfrequently the fruit keeps much better off the trees than on, this being especially the case where slugs and wasps are troublesome. Coe's Golden Drop on trees against cool walls is not yet fully ripe, and Guthrie's Late Green, Ickworth Impératrice, and Blue Impératrice also ripen late and keep well. Gather all other sorts that are ripe and store thinly in trays, a cool, dry fruit room from which wasps are excluded being the best place for them. Perfectly sound fruit of late varieties, notably Coe's Golden Drop, will keep even better if wrapped separately in small squares of tissue paper.



**LATE STRAWBERRIES.** Wasps, slugs and birds are all very destructive among late Strawberries, or those obtained by planting out forced plants of Vicomtesse Héricart de Thury, La Grosse Sucrée and Noble. Slugs may to a certain extent be defied and the ripening be facilitated by propping up the clusters of fruit with Birch or Hazel twigs, and fish nets will keep off the birds. Wasps are the most difficult to deal with. If garden frames or handlights could be placed over the beds, and a little of the advertised wasp-killer placed on some partly-eaten fruit in a saucer, it is not many wasps that will be seen afterwards, and the same remedy sometimes answers fairly well in the open air. Strawberries in full bearing will lift readily, and if some of the later plants are placed in 8-inch or rather larger pots now, the crops can be ripened on shelves in comparatively cool houses as required. Any that have been kept in pots, these being plunged rather deeply so as to allow them to root out freely, should now be transferred to cool Peach house shelves, saucers being used for setting them in, or otherwise it will scarcely be possible to keep them moist enough, owing to the pots being so full of soil and roots.

W. IGGULDEN.

### THE KITCHEN GARDEN.

**MAKING UP MUSHROOM BEDS.**—With abundance of suitable material, the formation of the beds may now be proceeded with. The preparation of the material being of the greatest importance, care must be taken that it is now in good condition for the purpose. This may soon be noted, as if not in a good state it would be wet and rank to the smell and also generate a lot of steam when lying together in a heap. Beds which are made up with improperly prepared material rapidly become very hot and also as quickly cool on account of the over-heating drying the mass. To ensure success it is advisable not to make the beds too small, as these rapidly lose heat, especially if the position where they are to be made up in is not confined. A fair depth would be 20 inches, width 4 feet, and length not less than 8 feet, which would be sufficient to maintain a genial warmth for the support of the crop. The material should be placed together in layers of about 3 inches, each being well beaten as the work proceeds; in fact, the firmer the bed the more regular and lasting the heat. After being made up, wait for a few days for the heat to rise, and if it does not rise above 100°, all will be safe, but if above this, holes had better be made to let out the heat. A stick thrust into the bed, or, better, a bottom-heat thermometer, is the surest guide, as very often when only an ordinary thermometer is used and inserted just beneath the surface only the surface-heat is obtainable, whilst the centre of the bed may be too hot for the safe inserting of the spawn. With a receding thermometer 85° is not any too hot, although 80° is the usual temperature at which spawning is usually done. Use good-sized pieces of spawn, inserting them 9 inches apart and just beneath the surface. After spawning, and if the temperature is not likely to rise above 80°, the beds must be soiled over. Good fertile loam should be preferred. This should be laid on to the depth of 2 inches and beaten firmly with the back of a clean spade. It will be necessary to cover beds over in sheds and other such places with a layer of hay to conserve both moisture and the requisite surface temperature. In Mushroom houses or cellars, mats form the best covering, keeping them off the surface with strips of wood.

**BEDS IN THE OPEN AIR.**—Where the formation of open-air beds is contemplated, the work should now be gone on with, as success is the more likely to accrue with beds at this season than later on. A sheltered site must be selected. The beds should be from 3 feet to 4 feet wide at the base, and built up sharply to 12 inches at the top. The material must be placed in thin layers and well beaten as the work proceeds, as, like flat beds under cover, they cannot be too firm. Overheating is not likely to happen with well-prepared material.

After spawning, and if the heat shows no tendency to rise, the bed must be soiled over, so that when it is well beaten it will be of an even thickness of 1½ inches. After the work is finished, the bed should have the appearance of a solid mass. A covering of long litter must now be provided, the quantity necessary being judged according to the weather and temperature of the bed. What is actually needed is to maintain a genial heat about the surface of the bed. Too heavy a covering and mild weather would be liable to raise the temperature of the bed too high, besides having a tendency to draw the mycelium through the surface. At these times an inch or two would be sufficient, whilst later on when colder weather arrives, a foot would not be too much, to be further protected with a tarpaulin stretched along the ridge during wet and stormy weather.

**COLLECTING GARDEN REFUSE.** At this season garden refuse is apt to accumulate very rapidly. Such material forms a harbour for slugs and other insects which attack vegetables, and instead of allowing it to remain to be dug in, it is best removed. Not merely for slugs and insects need the refuse be removed, but also for exposing the soil to the influence of the sun and air. Whether it should be burned or allowed to remain in a heap to decay is to a certain extent a matter of ways and means, as very often it has to be depended upon to do duty for manure. Such may certainly benefit some soils, but as a rule it is best burned, as the ashes will be found a greater fertilising agent than when used in a decayed state. Where slugs or root-eating insects are troublesome, it is best to burn it. The burned refuse will be found of great advantage in the early spring months for dressing over plots previous to the reception of small seeds.

**WINTER SPINACH.**—A sowing of winter Spinach made now will be valuable, coming in at a time when it is generally scarce. By sowing now it will just have sufficient time to appear above the ground and grow about an inch. With the return of genial weather in the spring, it starts into growth and comes in very acceptable at the time stated.

A. YOUNG.

### ORCHIDS.

THE changing weather warns us to be on the alert to see that the temperatures do not run down too low. In our neighbourhood on the morning of September 5 the thermometer fell to the freezing point, and the Grass was crisp under foot in the early morning. Of course there is generally a feeling in the air at 10 p.m. that gives fair warning of what is likely to be at daylight next morning, and the watchful cultivator will see that the hot-water pipes are nicely warmed and the fires banked up to rather more than maintain the same warmth until well towards the morning, and if because of this extra heat in the pipes the atmosphere is also drier than usual, this can be rectified by sprinkling water about in the house. If the sun shows out well, the day temperature even of the warmest house at this season can be easily maintained without the use of the hot-water pipes. No shading will be needed after this date for the Cattleya house, unless it might be to save the flowers from being scorched at the hottest part of the day. The sweetly-scented Cattleya Eldorado is now in flower in most collections; although it is one of the species requiring considerable heat, there is no need to keep the plants in a very high temperature when in bloom, and the flowers seem to last rather longer when the plants are kept comparatively dry at the roots. This is true of most Orchids, but it would be unsafe to try the experiment with cool house Orchids, such as *Ondoglossums*, *Masdevallias*, &c. Cattleyas, on the other hand, are generally about or in the resting period when in flower, and a rather dry state of the roots is what the plants need. Cattleya maxima is now a feature in some collections. I saw a handsome specimen this week in a collection, and with it several pretty forms of *C. Eldorado*, *C. Gaskelliana*, *C. Harrisii*, and two beauti-

ful forms of *Laelia elegans*, the very dark variety *Turneri*, and the lighter tinted and, I think, more elegant *prasiata*. All these should be grown by those who want these beautiful flowers at this season. I advised the repotting of *L. elegans* and its varieties when they pass out of bloom; the roots which push out freely from the base of the last-formed pseudo-bulbs will lay hold of the new fibrous peat and become established before the winter. All the garden hybrids flowering in September are doubly valuable, and I made a note of a distinct and pretty bi-generic hybrid in Messrs. Veitch's nursery at Chelsea early in the present month. *Sopbro-Cattleya Veitchii* has bright reddish sepals and petals; the lip is a crimson-red with a rich yellow throat. The colour of the pretty *Sophrontis grandiflora* has gone well into this flower, and seedling Orchids when carefully treated do not get readily into bad condition. It is remarkable that this branch of Orchid culture has so long been neglected. For years it was well known that hybrid Orchids could be easily raised, and yet very few made any attempt to produce them until within the last ten or fifteen years. We may now expect many distinct and beautiful varieties every year, and those attempting the production of hybrids would be well advised to try for those likely to flower at the present time. There can be no difficulty in obtaining very beautiful specific forms of Cattleyas and Laelias to work upon. I saw the day before writing this calendar in Messrs. Veitch's nursery at Chelsea a group of Cattleyas and Laelias, comprising *C. maxima*, *C. Eldorado*, *C. Dowiana*, *C. Gaskelliana*, two forms of *Laelia elegans*, *C. Harrisii*, and conspicuous amongst them the dainty form of *Sopbro-Cattleya Veitchii*—sufficient material truly to produce an abundant harvest of Orchid seed. There is no particular time of the year for hybridising Orchid flowers, and the seed pods ripen in any month of the year; therefore it is well to have a seed-bed ready for them. The best place to sow the seeds of Cattleyas upon is the surface of the peat and Sphagnum, in which worthless forms of the common species of Cattleyas are growing in. The best fibrous peat ought to be used, and patches of short growing Sphagnum here and there amongst the potsherds and pieces of charcoal. It requires much patience to wait for the flowering of hybrid Cattleyas and Laelias—from six to very nearly twenty years. The long period of nineteen years has elapsed between the sowing of the seeds and flowering of the plants. A much easier genus of Orchids to deal with is the *Cypripediums*. They are also amongst the most valuable of winter flowering plants. The following is a selection from a group of garden varieties and seedlings I noticed in Messrs. Veitch's nursery on September 7, and an equal number may be counted at any time during this and next month: *C. Harrisianum superbum*, a fine dark form as much superior to the ordinary varieties as it is possible to be; *C. tonsum superbum*, a pale, delicate greenish variety; *T. B. Haywood*, *Henry Ballantine*, *C. callosum*, *C. Spicerianum*, *C. Perseus*, *C. cœnanthum superbum*, *C. Alektor*, *C. Chamberlainianum*, *C. Sedeni candidulum*, and a still more delicately tinted, more elegant and nearly allied form, *C. cleola*. I merely noted the above as being the most distinct and valuable forms, but it will be readily seen at a glance how easy it would be to obtain crosses that would go far to produce a wealth of garden hybrids, varying infinitely in form and colour beyond anything that has yet been obtained. It does not take such a very long time either to obtain the seedling plants or to get them into flower; less than half of the time required for Cattleyas. Their quaint and beautiful forms are most useful for decoration; the flowers last so long in good condition either as cut flowers for rooms or for the Orchid houses in winter. We have this week been repotting Cattleya and Laelia hybrids; they had well filled the small pots in which they were growing with roots, and an active state of root growth had commenced; we therefore chipped the small pots to pieces and carefully repotted them in the best peat and Sphagnum that could be obtained. *Cypripediums* needing re-



potting will also be seen to, as any plants put into new material will readily become established before the winter sets in. The temperatures may be kept up to nearly the summer heat until the plants are seen to be making roots freely into the new material; also shade them from bright sunshine; they may need it when established plants do not.

J. DOUGLAS.

#### PLANT HOUSES.

**NEWLY-PURCHASED PLANTS.**—This being a time of the year when it is customary in many establishments to get in a stock of plants, either to replace those that may be past doing good service or to further add to the stock, a few remarks thereon will not be out of place. I will first draw attention to such as are now being disposed of by thousands at the large trade sales, particularly around London. These include *Ericas*, *Epacris*, and many more hard-wooded plants, also those which are grown up more quickly, usually termed soft-wooded. Besides these there are many of the hardier fine-foliaged plants, as *Palms*, *Ferns* and *Ficus* in variety, all of which are useful and valuable from a decorative point of view. It will be noticed that this class of plant is not in any case over-potted; this, whilst the plants are carefully attended to, is quite in order, but it often happens that non-attention to watering is the fore-runner to future failures in many cases. Take, for instance, the *Ericas* and *Epacris*; the former of these are frequently quite pot-bound, as in the case of *E. hyemalis* and other free-growing kinds. In all such cases the plants must be looked after sharply as to watering; if not dry in the morning when a general overhaul is given, they must be looked to again and again. Do not on any account allow them to get sufficiently dry to suffer; if for a few times the plants suffer and the points of the shoots droop, the result will be a partial failure of the crop of flower. No doubt many have noticed this, the buds in the earlier stage turning yellow and refusing to advance, and further, the partially-developed flowers either opening in quite a crippled condition or very small if the plants suffer many times at the roots. In dealing with this class of *Ericas*, I would rather anticipate their need of water than allow them to suffer in the slightest degree. The *Epacris* will not, on the whole, require quite so much water, but they must not suffer; otherwise the plants if they have been grown freely will at times die off completely. The dark green that is oftentimes seen in such *Ericas* as *E. hyemalis* is mainly brought about by the careful use of sulphate of ammonia, an active stimulating agent. When plants thus treated change hands and do not get even enough clear water, it is not surprising that they suffer. I should not like it to be inferred that I advocate the use of this chemical stimulant; far from it; for if not used with the greatest caution the effects will be quite the opposite to what was intended. I am acquainted with a good plant grower who never uses any stimulants at all in the case of these plants. This grower's stock would, as far as appearance goes, be considered inferior, simply because not of so deep a green colour, but the growth by exposure has been well ripened and is thus rendered more capable of producing the finest flowers, and that in profusion, as I have repeatedly noted in comparison with other instances where stimulants are used.

Soft-wooded plants, where grown by the trade in quantity, are quickly grown, and that to a great extent, by the means of stimulating agencies. Now, in dealing with these when changing hands, somewhat of a similar course must be adopted, otherwise they must inevitably suffer. It would not in any sense be fair to blame the original growers of these plants. They have grown their plants as well as possible, which where they are grown in bulk is always an easier matter than when dealing only with a few of a kind. When the plants change hands the crucial test comes in. If then good attention is not given to their requirements the plants will show symptoms of decline. As in the case of hard-wooded subjects, it is essential to

look closely after the watering, using in these cases weak stimulants pretty frequently. For instance, the berried *Solanums* will require such treatment to fully develop their fruits. Winter-blooming Tree *Carnations* will take occasional doses of manure water; so also will the Persian *Cyclamen* where fairly well advanced. The Chinese *Primulas* (both single and double) will be all the better if given weak manure water rather than aiming at further improvement by repotting. *Genista fragrans* or *Cytisus racemosus*, on the other hand, will be improved by having a shift at once if in very small pots in proportion to the head; there is plenty of time for this class of plant to become well established before flowering in the spring. The potting should be done thoroughly well, in a firm manner, using good loamy soil, giving only a bare shift so long as the soil can be well worked around the tall. These plants may then stand out of doors still for another three weeks or a month, a little frost not injuring them in the slightest degree. If not potted it is more than probable that the plants will be starved out before flowering, resulting in small spikes of bloom. Where it is not deemed advisable to pot afresh, the plants must be kept well watered and be fed up freely later on. *Bouvardias* as usually purchased of a medium size should not now be potted afresh, but where the plants are well furnished a moderate supply of weak manure water will assist them. These plants should not be kept too cool; a pit or house with a night temperature of 55° will suit them very well. In a cool house the foliage at times is disposed to damp off. Of fine-foliaged plants it should be remarked that a careful sponging with at least soft soap and water will do no harm; there may be in the case of plants grown under glass some trace of insect pests which should be checked in time. This class of plants, particularly *Palms*, must not be kept too dry at the roots; such a course would be most injurious to them. They may not show signs of distress for a time, but yellow and faded foliage will in time be apparent. A dry atmosphere is also injurious; so also is a too free circulation of air. High temperatures are not advisable, so as to force growth thus late in the season, particularly if the plants be intended for immediate decorative use.

J. HUDSON.

### THE FRUIT CROPS.

#### MIDLAND.

**Gaynes Hall, St. Neots.**—Apples a very thin poor crop. Pears thin poor crop. Plums very light crop. Peaches about half crop. Apricots very thin crop, scarcely any. Currants a fairly good crop. Gooseberries fair crop. Raspberries a good crop.—R. MOULTON.

**Worden Hall, Preston.**—The fruit crop here is the worst I have ever seen, with the exception of Cherries, Currants, Damsons, a few varieties of Pears on standard trees, Nuts, and Strawberries, which have been plentiful and of good flavour.—R. FRISBY.

**Kenyon Hall, Kenyon.**—As a whole we have the worst crop of fruit we have had for the last twenty years. Apples, Pears, Plums are light crops. Cherries average crop. Raspberries, Red, White, and Black Currants good crops. Gooseberries moderate crop. Strawberries, the early varieties, light crop. Midseason and late varieties heavy crops.—W. WEBSTER.

**Calderstone, Liverpool.**—Apples showed abundance of strong bloom and looked promising, but owing to the cold east wind that prevailed at the time they were in flower most of them failed to set. We have not more than a third of a crop. I think this is about the average for this neighbourhood. The following varieties are carrying the most fruit with us: Annie Elizabeth, Jolly Peggart, Tower of Glamis, Small's Admirable, Keswick Codlin, Lord Suffield, Warner's King, Cox's Orange Pippin, Lord Grosvenor. The rather shy Princesse's Nonsuch fruits freely when kept well root-pruned. Pears

fruited so freely last year that the trees exhausted themselves, and only showed a small quantity of bloom, so that they are a very light crop in all cases. This is general in this district. Of Cherries we had an abundant crop on all the early varieties; the same may be said of the Morello. Peaches and Nectarines are a very good crop on the open wall. Of course we had substantial screens for protection whilst the trees were in bloom. We have gathered good fruit from Early Beatrice and also from Hale's Early. Lord Napier Nectarine is a full crop. I consider this crop well worth all the trouble we bestow upon it, as we never fail to get a fair return. Apricots, Plums and Damsons are a failure here and in this district generally. Gooseberries have been a very light crop, owing to the late spring frosts. Currants, Red, White, and Black, are an average crop. Raspberries a very good crop. Strawberries we look upon as rather an important crop, and I may say we have had a good one this year.—W. TUNNINGTON.

**Ossington Hall, Newark.**—The Apricots are grown on a south and east wall, and this season the trees are heavily laden with fine fruit; varieties Moorpark, Royal, and Turkey. Apples are very light indeed, with the exception of two or three varieties, and among these I cannot speak too highly of Bramley's Seedling, which in my opinion ought to be in every orchard. It is a splendid keeper, and an excellent Apple for all kitchen purposes. Of Pears there is a fair crop, more especially on the walls, Marie Louise and Winter Nelis being well represented.—A. WAGG.

**Crewe Hall.**—Most of the fruit crops in this district, I regret to say, are below the average, especially the important ones of Apples, Pears, and Gooseberries, the last having a smaller crop than for many years previously. A few kinds of Apples, such as Irish Peach, Lord Suffield, Keswick, Pearmain, and Grenadier, are bearing average crops, but the most of the others have little or none. Pears the same. Peaches and Nectarines are good, but Apricots under average. Black Currants are also under, and Raspberries and Red Currants about an average. Plums and Cherries scarcely up to average. Strawberries were an average crop, but ripened irregularly owing to the intermittent rain and absence of sunshine.—W. WHITTAKER.

**Heysham Hall, Lancaster.**—These gardens are situated on Morecambe Bay, five miles due west of Lancaster, and are exposed to the south-west gales, which sometimes do considerable damage to the fruit crops. Apples under average. Pears good. Currants average. Gooseberries very heavy. Plums under average. Cherries under average. Raspberries good. Strawberries average. Damsons very poor.—S. LOMAS.

**Knowsley Gardens, Prescott.**—Apples and Pears are a thin crop generally in this locality. Plums are all but *nil*. Apricots a thin crop of under-sized fruit. Peaches and Nectarines moderate. Cherries have done well, and so have Strawberries, Raspberries, Gooseberries, and Red and White Currants, but Black Currants are little better than a failure.—F. HARRISON.

**Glossop Hall, North Derbyshire.**—The crops in these gardens and the surrounding district are by far the worst I have seen during the seven years I have been here. Apples, Pears, and Plums may be described as a total failure, attributable in great measure to the exceptionally severe frost we—like many others in more favoured districts generally—had while the trees were in full blossom. Morello Cherries are a fair average crop. All soft fruits have been a good average crop, and, with the exception of Raspberries, very fine, these latter having been very maggoty.—B. ASHTON.

**Thrumpton Hall, Derby.**—Fruit crops are very much under average with the exception of Red, White, and Black Currants. There was a good show of bloom, but the late frosts were very destructive, although I am of opinion that the dry state of the roots had more to do with it when the bloom was setting, as the rainfall for January, February, March, and April was very much under



the average. Apples are very scarce in the orchards. Lord Suffield has a fair crop in the garden. Pears are almost a failure; on south walls we have a fair crop. Apricots very few; this I consider is for want of moisture, as on a tree that had plenty of water we have a big crop.—W. M. GEDDES.

**Hopton Gardens, Wirksworth.**—Fruit crops are generally thin. Morello and Late Duke Cherries good on walls. Early Prolific and Golden Drop Plums good. Stirling Castle and Irish Peach Apples first-rate. Pears a failure. Damsons poor here; five miles away out of the Peak district splendid crops. Raspberries, Red, White, and Black Currants abundant and of fine quality, very clean. Gooseberries grand; unpruned standards were wreaths of fine fruit. President Strawberry heavy crops, most certain variety for this place. Vicomtesse Héricart de Thury fine crop. Laxton's Noble, first time of growing, has cropped well for young plants, and of far better flavour than I expected. Several of Laxton's varieties grown for first time are turning out well and of very robust habit. Shall be able to test them well by next year.

Early Potatoes have been splendid; second earlies are very fine and clean, but in cutting through, disease is starting in the centre.—G. BOLAS.

**Waterdale, St. Helens.**—Peaches, Nectarines, and Apricots are not grown outside in this neighbourhood. Plums promised well with a good show of bloom, but late frosts and stormy winds reduced the better class to a mere sprinkling. Damsons in sheltered situations are plentiful, but where exposed, scarcely any. Cherries are a fine crop. Morellos very good. Pears were not very promising, as the quality of the bloom was not good, and the late frosts left the trees almost fruitless. Apples set an average crop, but the last stormy wind in June brought two-thirds of the fruit to the ground. Red and White Currants were fairly good, but Black were thin, and Gooseberries the same. A few of the earliest blooms of Strawberries suffered from the late frosts, but, taking them all round, the crops were very good. I find the three following varieties very suitable for our cold, deep clay subsoil: Vicomtesse Héricart de Thury, President, and Sir Joseph Paxton. All crop well, and are good in quality according to season. We have found none so suitable as the three named. Raspberries are late, but a good crop; Fastolf is our best.

Large breadths of Potatoes are grown in this vicinity. I never saw the haulm looking more healthy or the tubers more abundant and free from disease so far.—J. SMITH.

**Orton Hall, Hunts.**—Although there was a good show of blossom in the spring, the fruit crops in this neighbourhood are below the average, with the exception perhaps of Strawberries and Black and Red Currants. Pears are a good crop generally, but some kinds of Apples are good, notably Lord Suffield, Dutch Codlin, Ecklinville, Hawthornden, Yellow Ingestre, Old Golden Pippin, and Norfolk Beaufin. Some of the Plums on walls are good, but on bushes thin. Peaches and Nectarines are a middling crop, but Apricots poor. Gooseberries were a fair crop. There is a good crop of Quinces, but nuts are not so plentiful as was anticipated.—A. HARDING.

**Roby Hall, Liverpool.**—Fruit crops in this district are much under the average. Apples and Pears are exceptionally so. Of the former the Codlins have the heaviest crop; Stirling Castle, Alfriston, Dumelow's Seedling, and all the dessert varieties are almost a failure. Pears in the open are also scarce; a few varieties against the wall are carrying a thin crop. Plums are also a very poor crop except Damsons, which are a moderate crop. Cherries have been very good. Small bush fruit has also been very good with the exception of Gooseberries, which the frost destroyed early in the season. Raspberries have been an abundant crop, although many of the canes were killed during the winter. The Strawberry crop has been abundant, but many were destroyed by the wet

weather. I only grow Black Prince, Vicomtesse H. de Thury, and President. I usually force about 600 plants and I can manage to get Vicomtesse ripe by March 11, and President follows until fruit of Black Prince is ready outside. I generally plant on the early Potato ground, and no plants are left in the ground more than three years.—LEWELLYN JONES.

**Trafford Park, Manchester.**—The fruit crops have been very disappointing this season. Apples, Plums, Pears, Gooseberries, Currants being complete failures. Morello Cherries have been very good, also Strawberries. I have tried a great number of varieties of Strawberries, but the only kinds that are suitable for our climate and soil are Vicomtesse Héricart de Thury for early use, with James Veitch and President for succession. We are giving John Ruskin a trial outside; I shall be able to report on it at some future time. We do not allow any longer a period than three years for a bed. If there are three plots it can readily be arranged to plant a new one every year, at the same time destroying the oldest one, thus always ensuring a regular supply.—J. ADDICOTT.

**Cole Orton Gardens.**—Apples in this neighbourhood are very scarce. Pears hardly any. Peaches and Nectarines good crops where protected and trees very healthy. Morello Cherries are a heavy crop, also Victoria Plums on a north wall; other Plums very scarce; when in flower we had 15° of frost. Gooseberries were about half a crop. Black Currants good. Red Currants a very heavy crop. Raspberries a thin crop round about; my own very good, especially Baumforth's Seedling. Strawberries were only a middling crop, in some places nearly a failure, season for them soon over. The kind that is most grown and does best round here is Sir Joseph Paxton. Laxton's Noble does well as an early kind; this year it was of fair flavour. Vicomtesse Héricart de Thury is not much grown, as it has a habit of dying off suddenly. President is very subject to mildew, not grown much; the best kind I find for late use is MacMahon. I usually plant in August and sow Tripoli Onions between for pulling young, and in three years chop them up.—G. MAYNARD.

**Newnham Paddox, Lutterworth.**—Apples' Pears, and Plums are quite a failure in these gardens and in the neighbourhood generally. I have never known such a scarcity for several years. The late frosts played sad havoc when the trees were in bloom, and a great many of the flowers were weak owing to the wood not having been thoroughly ripened through the cold, wet, sunless season we experienced last year. Peaches a good crop. Apricots light. Cherries a fair crop. Strawberries good, but a great many of the first flowers were destroyed by the late frosts. Gooseberries under average, having suffered very much from the same cause. Currants and Raspberries a fair crop. Damsons not half a crop. Filberts a failure; they promised well, but were destroyed by the frosts. On June 10 the thermometer here registered 4° of frost, which cut down French Beans, Potatoes, Dahlias, and tuberous-rooted Begonias. Some of the allotment holders in this district suffered badly, while their neighbours only a few yards distant had scarcely anything touched.—W. HARMAN.

**Bosworth Park, Market Bosworth.**—The fruit crops in this and immediate neighbourhood are of a somewhat variable character; the continued low temperature with successive frosts, during the flowering period of most stone fruits told heavily against their future well-being. At the same time we must look back to the previous autumn with the wet, sunless weather as really the cause in great part of so much loss amongst fruit crops, the immature wood, the precursor of weakly blossoms, teaching a lesson (slow to be learnt) to cherish every available ray of sunshine, and so assist Nature as far as possible by the removal of superfluous growths, so that all necessary wood may be thoroughly ripened, and able to withstand the rapid alternations of temperature so prevalent in these islands. Taking the Apple crop first, the prospects are much below average, although such

an old and trusty friend as Keswick Codlin seems this season to be carrying good crops, as also Lord Suffield, Worcester Pearmain and a few others. The Pear crop is much below average, and no fine table fruit, we fear, need be expected. Sweet Cherries have been scarce, but Morellos are plentiful. By the way, the demand for the latter in private establishments has of late years been much on the increase, and rightly too. Plums are somewhat variable, and I should say crop below average; our crop on north wall is good, especially Victorias. Apricots make a poor show, while Peaches on the whole are a fair crop. Early Rivers', Early Galande, and Royal George are this season our best sorts. Unless assisted by a very fine autumn, it is doubtful if Bellegarde, Walburton Admirable, and Barrington will ripen. Strawberries have been a plentiful crop. Raspberries moderate. Gooseberries below average. Black and Red Currants very plentiful.—R. BLACKSTOCK.

**Coddington Hall, Newark-on-Trent.**—The fruit crops in this district (South Notts) are much under average. Strawberries were the best yield, but the severe winter crippled the more tender varieties. Gooseberries half a crop, owing to the severe frosty nights when in flower. Currants of all sorts are abundant and good. Raspberries medium. Plums very scarce, owing to frost destroying bloom. Apricots are a good crop, thanks to extra protection of frigi domo. The fish-netting protection would have been of no avail with us. Peaches and Nectarines on walls are a good crop, and the wood is clean and healthy, but only early and midseason sorts are grown here. Amsden June does well, followed by Hale's Early, Stirling Castle, and Dymond. Lord Napier is our only outdoor Nectarine. This swells to a good size and colours well. Apples are the worst crop known hereabouts for many years, and Pears half a crop. I am still of opinion that better Apple crops cannot be expected until not only our autumns, but summers generally are finer and sunnier, in order that the wood may become well ripened.—J. CRAWFORD.

**Ingestre Hall, Stafford.**—Apples an average crop. Pears very poor crop. Plums under the average. Cherries an excellent crop, above the average. Peaches and Nectarines fair crop. Apricots under the average. Small fruit very good crop, above the average.—E. GILMAN.

**Wrottesley, Wolverhampton.**—Apples very much below the average, in fact the worst crop I have had for years. Apricots are very good, better than they have been for some years both as regards quality and quantity; I had to take off a considerable quantity in the early stage of their growth. Sweet Cherries I have discontinued growing, not having been satisfactory; Morellos do well; I have a good crop this year as usual. Currants very good crop and clean. Gooseberries not a heavy crop, owing to the very abundant crop last year; the best are on espaliers, which I find a very nice way to grow them, being very convenient for netting. Nectarines and Peaches both in the cases (without artificial heat) and on the open wall are very good. Pears are a very thin crop and swelling badly. Plums are a good average and doing well, considering the heavy crop of last year. As to Damsons (this is the centre of the great Damson district), they are below the average. Raspberries are not so good as usual, fruit small.—EDWIN SIMPSON.

**Thoresby Park, Ollerton, Notts.**—The prospects of crops here were good when the trees were in flower, as everything had an abundance of bloom, but the cold east winds and frosts set in when the trees were in bloom. We had such a long time of cold harsh weather with frosts, that very little of the bloom set. Small fruits of all sorts were plentiful. Strawberries were plentiful, but did not ripen nor had the flavour they usually have; so little sun.—A. HENDERSON.

**Keythorpe Hall, Leicester.**—Speaking of the fruit crops in this neighbourhood, I should say Apples are very much below an average. In our own orchard, which is only a small one, I have not



seen a single Apple. True, the trees are old; the site is a bad one and enclosed with trees. In the garden we have only a very light crop on a few trees. Pears an average crop on walls. Morello Cherries average. Plums under average. Gooseberries under average, owing to late frosts. Currants of all kinds very heavy crop, also Raspberries. Strawberries the heaviest crop I have ever seen in the garden here, though there are complaints in the district that they are poor, the bloom having suffered from the frost.—H. CLARK.

**Alton Towers, Cheshire.**—Fruit crops, though late, are generally excellent. All stone fruits are good. Damsons are a marvellous crop. Gooseberries large and a remarkable crop; Whinham's Industry is first rate with me. I consider this the best Gooseberry in cultivation, fine in flavour here for such a sunless season. Currants and Raspberries are fine. Nuts, Apples and Pears good crops.

Vegetables are also very good. Potatoes are a wonderful crop and free from disease. Sharpe's Victor is our best early and a fine cooking Potato Sutton's Maincrop and Sutton's Abundance are very heavy crops and good with us.—T. H. RABONE.

## SOCIETIES AND EXHIBITIONS.

### INTERNATIONAL HORTICULTURAL EXHIBITION, EARL'S COURT.

SEPT. 9 AND 10.

THERE is no falling-off either in the extent or the quality of this series of exhibitions. This one was exceedingly bright and effective, and Dahlias being a leading feature, they were seen here in greater perfection than at the Crystal Palace or Aquarium. The collections of cut Dahlias arranged for effect, the Cactus and pompon Dahlias, and the Gladioli and other cut flowers in bulk were arranged round the sides of the two annexes; the stands of show flowers, &c., down the centre tables; centre and end groups were very effective and the general arrangements perfect. Collections of stove and greenhouse cut flowers made a charming display. The best came from Mr. Gibson, Sevenoaks, and comprised fine bunches of Dipladenia, Pancratium, Allamanda, Eucharis, Bougainvillea, &c. Mr. J. Prewitt, Swiss Nursery, Hammersmith, was second with a similar collection. The finest collections of Gladioli ever seen were staged on this occasion. Messrs. J. Burrell and Co., Howe House Nursery, Cambridge, who were also placed first with a very fine collection at the Royal Aquarium two days previously, staged on this occasion 200 spikes, many of them very fine seedlings of their own raising. Of established varieties, there were marvellous examples of Flambeau, Abricoté, Mr. W. H. Fowler, Mons. A. Brogniart, Crepuscule, Grande Rouge, Enchantress, Iolanthe, Amitie, Florence, Cygnet, a beautiful white variety, Baroness Burdett Coutts, Carnation, &c.; second, Messrs. Harkness and Sons, nurserymen, Bedale, who are pushing the Gladioli in the north, as Mr. Burrell is in the east and Mr. Kelway in the west, had a smaller, but a remarkably fine collection grown so far north, comprising splendid examples of Shakespeare, Enchantress (perhaps the best spike in the whole show), Baroness Burdett Coutts, Delila (very fine), Formosa, Orpheus, &c. In the amateurs' class for a collection, Mr. E. B. Lindsell, Hitchin, was the only exhibitor, with a very fine collection of seventy-two spikes unnamed. Messrs. Burrell and Harkness also had varieties of the Lemoinei type, and altogether about 400 spikes were staged, forming a magnificent show in itself.

Dahlias were very fine indeed; the blooms appeared to have greatly improved in finish since the Palace show. The best sixty came from Messrs. Keynes, Williams and Co., Salisbury, who had very fine blooms of Agnes Emily, Rebecca, Duke of Fife, Royal Queen, Mrs. J. Downie, Willie Garratt, R. T. Rawlings, Crimson Globe, Frank Pearce, Henry Bond, John Hickling, Duchess of

Albany, Colonist, Rev. J. B. M. Camm, John Walker and Mrs. Langtry. Second, Mr. C. Turner, Royal Nursery, Slough, with a fine collection also. Mr. G. Humphries, Chippenham, was third. With twenty-four show varieties Mr. S. Mortimer, Farnham, was first with a remarkably good stand; among the flowers a bright crimson self, not often seen, viz., W. H. Williams, perhaps the best bloom in the show, all things considered. Mr. John Walker, nurseryman, Thame, was a very close second, and Messrs. Saltmarsh and Son, Chelmsford, third. Mr. Thomas Hobbs, Lower Easton, Bri-tol, had the best twenty-four varieties, and during the many years this veteran has exhibited (nearly fifty) he has never before put up a better stand. He had very finely-finished blooms of John Hickling, Henriette, William Rawlings, Mrs. Langtry, Mr. G. Harris, Coronet, Prince of Denmark, Glowworm, and Mrs. Gladstone. Second, Mr. J. T. West, Brentwood. Third, Mr. A. Ocock, Romford. The best twelve blooms came from Mr. S. Cooper, Chippenham, very fine indeed; Mr. J. T. West was second, and Mr. T. Vagg, Romford, third.

The collections of Dahlias arranged for effect filled nearly one side of an annexe, and were remarkably good. Messrs. Keynes, Williams and Co. took the first prize, having cones formed of Cactus Dahlias and screens of pompon varieties, with boards of very fine show and Cactus types forming the front line; this was highly effective. Messrs. J. Cheal and Sons, Crawley, were second, having in the centre a crown of single Dahlias resting upon a cushion of the same, with banks of pompon varieties and wings of Cactus types. Third, Mr. T. S. Ware, nurseryman, Tottenham, whose design was somewhat flat and stiff.

The class for eighteen bunches of Cactus and decorative Dahlias was a superb feature. Mr. C. Turner was placed first with bold and striking bunches of flowers of high quality, having Honoria, Lancelot, Blushing Bride, Maid of Kent, H. E. Milner, Panthea, Robert Maher, &c.; second, Messrs. Keynes and Co., showing their new Cactus varieties somewhat largely; third, Messrs. J. Cheal and Sons. Mr. C. Turner was also first with twenty-four bunches of superb pompons, having in very fine condition Darkness, H. E. Searle, Mars, Boule d'Or, Lady Blanche, Janet, Amber, Ringdove, White Aster, E. F. Jungker, &c.; second, Messrs. Keynes and Co.; third, Messrs. J. Cheal and Sons.

Quilled German Asters were finely shown by Messrs. Saltmarsh and Son and S. Cooper, and French Asters of the Peony type by Messrs. Walker and Saltmarsh. Mr. P. Blair, Trentham Gardens, was the only exhibitor of twelve blooms of Chrysanthemums, having the white and yellow varieties of Mme. C. Desgrange. The best group of Chrysanthemums in pots came from Mr. E. Vince, of Highgate; Mr. Norman Davis, of Camberwell, took the second prize. Collections of cut blooms of Sunflowers were numerous and good. Mr. G. H. Sage, of Richmond, was first, and Messrs. J. Burrell and Co. second. Michaelmas Daisies were also shown, but not so well as was expected.

In the way of table decorations, Mr. J. R. Chard, Stoke Newington, was first with a table decoration, and Mr. M. V. Seale, of Sevenoaks, second. With a floral design of a funeral character, Mr. Chard was first with an admirably executed anchor, and Miss Baines, Kensington, second, with a wreath. The best vase of flowers also came from Mr. Chard, Miss Lilian Hudson, The Gardens, Gunnersbury House, Acton, being second.

Fruit was somewhat sparingly represented. The three best dishes of dessert Plums came from Mr. Carr, Croydon, who had Bryanston Gate, Kirke's and Jefferson's. Second, Mr. P. Blair, with unnamed fruit. Mr. J. McIndoe had the best three dishes of cooking Plums, having Magnum Bonum, Pond's Seedling and Monarch. Mr. Carr was second with Kirke's, White Magnum Bonum, and Pond's Seedling. Mr. McIndoe was the only exhibitor of three dishes of Apricots, having excellent fruit of Large Early, Moorpark, and the Peach Apricot.

Miscellaneous collections consisted of nine remarkably fine Pine-apples, Smooth Cayenne and Charlotte Rothschild, from Mr. R. Nicholas, South

Molton (silver medal); four dishes of Peaches from Mr. J. McIndoe, viz., Princess of Wales, Bellegarde, Exquisite and Golden Eagle (bronze medal); from Mr. Geo. Garner, a collection of excellent fruit (silver medal); from Mr. W. Wells, Earlswood, a collection of Chrysanthemums (silver medal); from Messrs. Pitcher and Manda, nurserymen, Swanley, a collection of cut Lilies and other flowers (silver medal); from Mr. E. F. Such, nurseryman, Maidenhead, a collection of cut flowers (silver medal); from Messrs. W. Cutbush and Sons, Highgate Nurseries, a collection of hardy flowers, &c. (silver medal); from Messrs. Shuttleworth and Co., nurserymen, Peckham, a large and noble group of plants, filling one end of the southern annexe (gold medal); from Mr. W. Welsfield, nurseryman, Brixton, cut flowers (bronze medal); from Mr. J. R. Chard, Stoke Newington, a table laid for ten persons with arcadian floral designs (silver medal); from Messrs. Reid and Bornemann, nurserymen, Sydenham, a group of Chrysanthemums, &c. (silver medal); from Mr. M. V. Seale, a bouquet and basket of flowers (bronze medal); from Messrs. B. S. Williams and Son, nurserymen, Holloway, a fine collection of Crotons (silver-gilt medal); from Mr. S. Mortimer, a collection of Dahlias; from Mr. J. Walker, the same, and from Mr. A. Rawlings the same (each awarded a silver medal); from M. H. Vrede, Luneberg, Germany, a collection of Pansies (silver medal); from Messrs. Jarman and Co., Chard, a collection of cut flowers and fruits (silver medal); from Messrs. H. Lane and Son, nurserymen, Berkhamsted, a collection of Plums and other fruits (silver-gilt medal); from Messrs. C. Lee and Sons, nurserymen, Hammersmith, a collection of bunches of foliage, hardy flowers, &c. (silver-gilt medal); from Messrs. J. Laing and Sons, Stanstead Park Nurseries, Forest Hill, a large collection of cut flowers, fruiting trees and dishes of fruit (silver-gilt medal); from Mr. C. Turner and Mr. G. Humphries, collections of Dahlias (each awarded a bronze medal); from Mr. R. Dean, Ranelagh Road, Ealing, a collection of French Beans (bronze medal); from Mr. Salmon, Elder Road, Norwood, a collection of Asters in pots, hardy flowers, &c. (bronze medal); and from Messrs. Paul and Son, Old Nurseries, Cheshunt, a collection of cut flowers (silver-gilt medal).

### The National Chrysanthemum Society.

At the recent meeting of the above society first-class certificates were awarded to Mr. J. Agate for Chrysanthemum Lady Fitzwigram, white-flowered, as an early decorative variety; Sydenham White, an early-flowering white Japanese, from Messrs. Reid and Bornemann, said to be identical with an American variety named Mrs. Phelps. An alleged sport from Mme. C. Desgrange sent by Mr. J. R. Chard, Stoke Newington, was not regarded as a true sport. First-class certificates were awarded to Gladiolus Grand Vainqueur and Mont Blanc, two very fine varieties from Mr. W. H. Fowler, Taunton; to Messrs. Keynes, Williams and Co. for Cactus Dahlias Kaiserin, Countess of Gosford, Countess of Radnor, and Bertha Mawley, all very fine and distinct; and to Mr. Charles Turner, Royal Nursery, Slough, for pompon Dahlias Amber and Hilda, and Cactus Dahlia H. E. Milner. An improved Chrysanthemum board and tube from Dr. G. Walker, of Wimbledon, was commended.

**Grass walks.**—A gardener told me the other day that by using weed-killer freely on gravel walks and roads, he saved at least the labour of one man all the year round. But then this was at a place where good gravel is very scarce; indeed, it is little better than shingle; and, of course, being so loose, offers a free seed bed for weeds. At Hackwood, where the very extensive kitchen garden has not an inch of gravel path in it, but broad Grass foot-paths, the labour of keeping them in firm, neat condition is, through the agency of the horse mower, really trifling, and even the edging of the margins does not take very long to accomplish, although a mile at least in length. I walked over those Grass walks several times during the most continuous



wet day of the summer, and again next day after there had been a drenching rain all night, and found them to be firm and dry, whilst the garden soil, a stiff, tenacious clay, was very wet and adhesive. No doubt a good deal of credit is due to the way in which they were originally formed; still it is evident that Grass walks in kitchen gardens are not only very possible, but exceedingly satisfactory. The introduction of the mowing machine made so much possible that was not so before, that I think there are few, if they will either obtain plenty of turf and make walks, or will form them properly and sow Grass seed, but will be more than gratified with the result.—A. D.

## NOTES OF THE WEEK.

**Crocus Sharojani.**—With reference to the statement on page 224, I beg to observe that there is another early autumnal yellow Crocus under cultivation here. It is *C. Suwarowi* from Ossetia, in the Caucasus. The colour is a deep citron-yellow, and the very acute-pointed segments, in combination with the uncommon colour, make it a very striking plant. It flowers from the middle of August onward. In company with this comes *C. vallicola*, the snow-white flowers of which are very pretty.—MAX LEICHTLIN, *Baden-Baden*.

**A note from Edge Hall.**—I have sent you to-day some flowers of *Helianthus occidentalis* which has come on slowly. Its character is to grow 3 feet high with upright stalks, naked the upper half and black; stalks in a dense forest. I send it because it is not known in the trade true. I have also sent you *Eryngium amethystinum*. I have never seen alpinum sent for this, or indeed sent out from nurseries at all. I send an old head. *Sedum trifidum* (Himalayan) has an excellent habit. *Malva Munroana* (Western America) is rare in cultivation. It grows prostrate or hanging.—C. WOLLEY DOD.

**A note from Florida.**—Mr. W. Downs, in a letter to us from Winter Park, Florida, says: We have a hot trying climate here during the summer months, the thermometer ranging from 70° to 103° in the shade. In winter it is, as a rule, all we could wish for as to climate, ranging from 45° to 70°. Sometimes we get a little frost—generally once or twice in a season. Chief products are Oranges, Lemons, Grapes, Pine-apples and vegetables. The country, at least in this section, is rather disappointing to the new-comer, as the land of flowers is certainly a misnomer. Flowers under cultivation do fairly well, especially the sub-tropical Lilies, while such plants as Allamandas, Gardenias, Roses, Jessamines and such like grow remarkably well.

**Pea Chelsea Gem.**—It is always pleasant to answer such friendly criticism as that from Mr. Wythes at p. 171 on early Peas. My seed of Chelsea Gem Pea was obtained direct from the firm who sent it out, and I have not the slightest doubt as to it being the true stock. This year I obtained part of my supply direct from the firm in question and part I saved myself. The first year it was sent out I obtained a supply, and have every year saved a few from the original stock. The crop from both lots of seed came alike as to height, namely, 30 inches, when sown side by side. My soil is loam resting on gravel, and I always treat the Pea crops liberally in the way of food. On the ground the Peas in question grew I at the present time have a batch of Cauliflowers for late work. These were put in without doing anything to the ground beyond clearing off the weeds, &c. I intend trying Chelsea Gem largely for autumn sowing, as it can be so well protected against birds, frost, &c.—J. CROOK, *Forde Abbey*.

**The Yerba Manse** (*Anemopsis californica*).—In the issue of THE GARDEN for August 6 appear a figure and description of this remarkable plant, known to American botanists as *Anemopsis californica*, but placed by some Old World botanists

in the Asiatic genus *Houttuynia*. *Anemopsis* (as recognised) is a monotypic genus, and this plant bears the Spanish vernacular name of Yerba Manse. It is in great repute for medicinal use among the Indians and Mexicans. In the above-mentioned description it is stated that the inner three of the six large spreading floral bracts are "spotted with red, the others white." This is erroneous, as all these bracts are normally white, tinged with apple-green beneath at times, and never red. But the plant is frequently affected by a peculiar disease of doubtful character, by which means these bracts become spotted and blotched freely with crimson, deepening to a rich maroon-purple, forming a beautiful contrast with the waxy whiteness that is the normal colour. The foliage is likewise affected, sometimes changing from the beautiful normal green until the whole leaf is of a dull red colour. This disease is common, and does not seem to affect the vitality of the plant naturally. In the sketch the uppermost flower is of normal whiteness, while the older flower cone has the bracts strongly marked.—C. R. ORCUTT, *California*.

## SPANISH TERRACES.

THE following interesting remarks on necessary terraces are from a lady in the south of Ireland. With them we heartily agree:—

I like what you say about necessary terraces, &c. In Spain I much liked the gardens in and about the Alhambra and the Palace of the Generalife. Terraces in such precipitous places are needful, and can be made most exquisitely picturesque. I remember (in the month of December) these terraces with tall Orange trees laden with ripe fruit breaking the lines of the terraces, and red Monthly Roses climbing about everywhere and Violets on the ground, and Maiden-hair Fern by the streams. Since I saw the Maiden-hair growing in Morocco, always by water and hanging down, I cannot bear to see it in a pot upright. Sometimes, too, in the little Spanish homes, where space was small, by a cunning use of baby terraces and pots, a delightful effect and crowd of flowers are obtained. I never saw more paintable "bits" than these—just like our own little cottagers' gardens in England. One may walk through many a five-acre gentleman's garden and not find a spot one would care to pitch an easel before, and get half-a-dozen excellent points of view in a cottager's garden.

Even the wretched Anglo-Italian houses would not be so miserable and bleak if their so-called Italian gardens were let grow a bit wild, as the real Italian ones are. Banksian Roses half strangling the stonework of a fountain, and big trees with climbing plants and Orange trees, &c., about the terraces are very different affairs from terraces with endless dabs of tidied Geraniums and—save the mark—carpet beds. None of those lovely floral chances—it were a shame to call accidents—no freedom, no Nature; everything petty and restricted and stupid—an offence to Nature and the sun.

I never cease reviling inwardly at the race of architects who have aided in covering Ireland with the ugliest buildings in Christendom.

## ENGLISH GARDENS.

MR. F. L. OLMSTED, the distinguished American landscape gardener, has been staying in England during the summer. The following extracts from a letter to us will, no doubt, interest our readers:—

The villages in the Cotswold region to which I referred as well built were Camden, Broadway, and Middle Hill. I do not remember if I wrote you about our little tour in the Sherwood Forest, the Dukeries, Chatsworth, and Haddon Hall. Briefly, I enjoyed the remains of the forest and the villages on its borders very much; was much pleased with Thoresby; enjoyed Haddon Hall; enjoyed the more unsophisticated scenery of Derbyshire greatly, including the bleak heathery moorland; enjoyed

the park at Chatsworth, did not like the terrace but found, notwithstanding some bad anomalies, the results of Paxton's work in the pleasure grounds more agreeably interesting than I had in some way been led to suppose or than I remembered them. I suppose this is the result of growth. Justice can often not be done a landscape gardener's design in less than fifty years after the work has been initiated. Nor then or ever, unless it has been in the hands of one in sympathy with Nature.

Reviewing all that I have seen in England, it appears to me that the selection and disposition of trees and plants, the modelling of surfaces and the arrangement of roads and walks and architectural conveniences, with a view to pleasing general effects of scenery, have been of late much confused and often lost sight of in efforts to provide brilliant local spectacles, to display rarities, curiosities and luxuries of vegetation, and to exhibit masterpieces of horticultural craft and costly garden *bric-a-brac*. Vast numbers of trees have been planted without knowledge or soundly formed anticipations of what they will become. Many of them are failing, and many that are not failing are conspicuously offensive, because of their unfitness to combine with the native elements of English scenery. Since my earlier visits the country has lost something of picturesque interest, mainly, I think, through agricultural and economical improvements, but a little, I am inclined to think, because of some slight and probably temporary turn of public sentiment toward prosaic neatness and formality.

Since my last visit there has been a decided abatement of the bedding-out nuisance and of all the garish and childish fashions that came in with it. The gardeners and others with whom I have talked have been generally conceding—some with evident regret—that it was going out of fashion. Any who think that with it their occupation will be gone had better come quickly to America, where all the beauty that I have been aiming to provide on various grounds is wholly put out of countenance by it. There has never been a square yard of bedding out on any ground under my direction.

**Chrysanthemums from Japan.**—At what time and in what way should Chrysanthemums be sent from a distance? My Lilies, Irises, and Paeonies which were sent to me this year direct from growers in Japan arrived in excellent condition, but the Chrysanthemums were all dead.—H.

**United Horticultural Benefit and Provident Society.**—We are asked to state that the annual dinner of this institution will take place at the Cannon Street Hotel on Wednesday, October 5, at 6 p.m. Mr. John Fraser, of Lea Bridge, has consented to take the chair.

**Names of plants.**—*A. Chalmers*.—Looks like a *Hedychium*; send better specimen with leaves.—*B. L.*—We only undertake to name four specimens at one time.—*F.*—Impossible to name from such a scrap.—*D. M. R.*—*Linum catharticum*.—*G. F. Wilson*.—*Cyrtanthus hybridus*.—*J. A. Porch*.—Poppy fallen to pieces; impossible to determine.—*W. A. G.*—*Bifrenaria vitellina*, as far as we can make it out.—*T. Godding*.—1, *Stenomorphus speciosus*; 2, *Rodriguezia recurva*; 3, *Pholidota imbricata*; 4, *Xylobium squalens*.—*Greenleaf*.—1, *Cyrtomium caryotideum*; 2, *Cheilanthes alabamensis*; 3, *Doodia aspera*; 4, *Gymnogramma trifoliata*; 5, *Adiantum macrophyllum*; 6, *Asplenium alatum*; the others will be named when you send fertile fronds.—*J. Harding*.—1, *Trichomanes membranaceum*; 2, *Hymenophyllum polyanthos*.—*T. Robinson*.—Cannot name tuberous Begonias; try *Laing*, of Forest Hill, or *Cannell*, of Swanley.—*H. Schwartz*.—1, *Lastrea triangulata*; 2, *Asplenium salicifolium*; 3, *Odontosoria aculeata*.—*G. Turner*.—1, *Plumbago capensis alba*; 2, *Goniophlebium subauriculatum*.—*T. Faener*.—1, *Fuchsia exorticata*; 2, *Antirrhinum glandulosum*; 3, *Leptostichon luteus*.—*G. Burton*.—*Cattleya aurea*, good form.—*J. McP.*—*Cypripedium Pitchinum*.—*J. E. K. C.*—The Bladder Senna (*Colutea arborescens*).—*J. H.*—Next week.—*H. F. R.*.—1, *Mercurialis perennis*; 2, *Scrophularia vernalis*; 3, *Atriplex portulacoides*; 4, *Atriplex littoralis* (?); 5, *Lonicera xylosteum*; 6, *Mercurialis annua*.—*H. B. Burnay*.—1, *Vaccinium Vitis Idæa*; 2, *Vaccinium officinalis*.—*Rer.*—*Sap-nara officinalis fl. pl.*



## WOODS AND FORESTS.

## FORESTRY NOTES.

## THE NURSERY.

LAYERING consists in bending down the desired shoots to the ground, pegging them there, and placing a spadeful of soil atop to aid the quick formation of roots. After being rooted, the branches are severed from the parent plant and the rooted layers lifted and planted out in the nursery border, where by strict attention an upright habit of growth may be brought about. By layering, larger plants can at first be procured than from seed or cuttings, but the plants usually lack in rapidity of growth.

The warm and damp weather will still render it imperative that the hoe and rake be kept going amongst the young trees in the nursery, and cutting off weeds before seeds are produced must be attended to at all hazard. Weeds thus collected should be conveyed to the *débris* heap to assist in the making of nursery compost, and if at the time of stacking a small quantity of unslaked lime is added, the decomposition will go on more quickly, and the seeds of the weeds be deprived of their germinative properties. As seeds of trees and shrubs become ripe, they should be collected and spread out thinly to get dried by the sun and wind. Keep a sharp look-out amongst the nursery occupants for any of the numerous hordes of insect pests that seem to be unusually prevalent this season. Infested trees should be collected gently and destroyed by fire. In the case of large trees and such as are rare and valuable, hand-picking or the application of some of the recommended mixtures may be resorted to—measures that can never be adopted in the forest and woodland.

## FENCING.

Hay and other crops having been removed from fields to which farm stock will have access later on, the overhauling of all fences and tree guards should be a preparatory movement. Tree guards for the welfare of single specimen trees may be quickly and cheaply erected as follows: Drive three, or four if the tree is large, stout posts into the ground and as near the main stem as the roots will allow, joining these together by means of other pieces of wood at 2 feet and 5 feet from the ground, nailed horizontally from one to the other. Uprights are then nailed to these at 3 inches apart, the tops, which should be pointed, projecting above the top horizontal bar for 6 inches or so. This, when made of squared timber, makes a neat and efficient fence, and one that prevents even horses from injuring the trees. Of course, it will be understood that such a fence is only practicable with clean-stemmed trees, those that are branched to the ground requiring the enclosure to be of much greater capacity. Tarring or painting of iron and wood fences should be pushed forward when the weather is dry, and previous to painting a washing or scouring of the surface is to be recommended. Tar varnish is a cheap and excellent application for both iron and wooden fences, and does not require to be applied in a heated state. It should be borne in mind that it is very unwise, and productive of sudden collapse and rottenness or decay, to apply a coating of either paint, tar or varnish to newly-erected fences, particularly those of only partially seasoned home timber. Should it, for appearance sake, be found necessary to colour the fence, paint may be applied on the most conspicuous side, leaving at least two faces of the post untouched, this allowing seasoning to go

on, a process that is completely at an end when the whole surface is coated with paint or tar.

## GENERAL WORK.

Rank-growing weeds act unfavourably towards recently planted trees and shrubs by depriving them of air, and by retaining too great a quantity of moisture around the stems and branches. In view of this it is well, once at least every year, to have these cut away until the trees are sufficiently large to take care of themselves. Weeds, such as Thistles, Docks, &c., that produce seeds freely and that are a pest to the neighbourhood should, whether they interfere with the health of adjoining plants or not, be cut over before the seeds are ripe.

A great amount of attention will be required to keep paths and roads in a passable condition, the late heavy rains having washed the gravel and stones into heaps, and left the roads with ruts and inequalities that it will require some time to put right. The mouths of gratings and culverts, too, have got choked up by the accumulations of drift and sand, and should be cleared out and put in good working order. By passing a heavy roller over the roads at least once each week, much good will be brought about by consolidating the surface and so rendering it less liable to get washed up by the rain.

Faggots and firewood may now be carted home and stored for winter use, and good weather, when they are dry, should be chosen for the work. The brushing of woodland paths and roads should be concluded at once, so that the game driven in when harvesting may be unmolested. Charcoal-making will soon be at an end for the season, but as chance permits cart in all the rougher pieces of timber that cannot otherwise be readily disposed of, and have it stacked ready for next year's work.

See to the stakes of trees that have lately been planted, as the rough winds that we are now and have been experiencing are sure to have loosened the ties, and so allowed the stems to rock about, and thus do much damage to the roots. The completion of all ground-work preparations where planting will soon be engaged in should be pushed on quickly, so that as many trees may be planted during the late autumn as possible. A. D. W.

## MANAGEMENT OF QUICK HEDGES.

For a cattle-proof fence in parks or anywhere on an estate there is nothing equal to Quick, and in such situations it is worth while to bestow a little extra labour on the preparation and planting, so as to obtain a fence that will be a protection in every sense of the word. With a thorough preparation of the ground and good Quick, well planted at the proper season and well cared for afterwards, in a few years a fence more formidable to either biped or quadruped than any ordinary wall will be had. Quick must have a dry bed in which to grow; it is perfectly useless to plant it where there is anything approaching stagnant water in the soil; consequently, if the land is not dry enough, it must be made so either by an open ditch or covered drain. Next, it is a plant that will bear any reasonable quantity of manure. If the soil is shallow and wet, I should recommend a ditch to be formed on the outside of the hedge. It should be made 3 feet wide, sloped out to nothing, and 1 foot deep at the side next the hedge. The soil taken out goes to raise the bed on which the hedge is planted, elevating it in a way that precludes its suffering from stagnant water. The ground should be trenched 18 inches deep and 4 feet wide, with 6 inches of rotten manure worked into it. This work should be done in autumn, if possible, before the land gets saturated with rain; it will thus be in a much better state for planting than if de-

ferred until late in the winter. Planting should never be delayed, as is often done, until the buds have begun to swell; the sooner after Christmas it is completed the better.

In selecting Quick, mere size should never be the first consideration; on the contrary, choose robust stocky plants that have been twice transplanted, and the last time not too long before the final planting. Large old Quicks that have stood for years without being moved are all very well to tempt the inexperienced planter, but he afterwards finds out that they are some time before they make much progress, smaller plants, in proper condition for planting, far outstripping them. For such situations as those under consideration, I should recommend a double row of Quick, 1 foot apart in the row and a similar distance betwixt the rows. In planting angle the plants thus: \* \* \* \* \*

The practice of heading down to about 6 inches from the collar at the time of planting is still carried out by some, but it is a bad plan. Plants so treated make wretched growth the first year, and correspondingly little root progress to enable them to make more than half the growth they should do even the second year. Heading the plants down to within 6 inches of the ground is a most essential operation, but they should never be so treated until they have had a year's growth after planting, and then it should be done in the winter, before the buds begin to push, using a good sharp pruning knife for the purpose, always cutting upwards, so as to leave the stools smooth and clean. This cutting back is to cause each plant to produce a number of shoots, instead of forming one leader, thus leaving the hedge thin at the bottom. To the non-initiated it often seems a pity to cut Quick back in this way and appears a waste of time, but the omission is fatal to the hedge ever forming a thick, close bottom. When headed down as described, this double-row fence will break back so thickly as to be almost fowl proof, and by the autumn of the second year after planting will be at least half a season's growth ahead of the fence that was beheaded at the time of planting. In the autumn of the second season after planting, any time after the leaves have fallen, the growth should be cut back to within a foot of where it was headed back to the previous winter, always using the switch hook in preference to the shears. If all goes on well, the fence will each season make rapid progress, branching out and getting strong. Every autumn go over it with the hook, cutting back within a foot of the preceding year's cutting, always preserving the hedge widest at the bottom, gradually tapering up to a point at the top. No other form of cutting will keep a fence full and thick at the bottom, which this does by counteracting the natural tendency of the plants to run too much to a head. Local circumstances will regulate the height. A 6-foot fence for such situations as those under consideration is a good height; but there is no objection to one even higher than this. But it must be borne in mind that the higher the fence is allowed to grow, the wider it must be at the bottom, otherwise it will get weak and thin. A hedge 7 feet high must not be under 4 feet 3 inches wide at the base. When full size has been attained, it must, at every pruning, be cut right back as near as possible to where the hook went at the preceding cutting, otherwise it will soon get too large, which would necessitate its being cut back into the old wood, giving it for some time an unsightly appearance. F.

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"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE." *Shakespeare.*

## ORCHARD AND FRUIT GARDEN.

### RIPENING AND KEEPING LATE GRAPES.

SEEING how often late Grapes have been exhibited during the past few weeks, the inference might be drawn that they are in a more forward condition than usual, at least as far as colouring is concerned. Being ripe is another matter, as these at the time of being exhibited instead of being fit for table will require another few weeks to make them suitable for eating. I have invariably noticed that where these late Grapes are fully coloured or well advanced towards such, by the closing days of August or the first few days of September they may be considered in good condition for keeping. Instead, however, of the bulk of the late Grapes being in a forward state, I daresay it is just the reverse, they being much in the rear, as even where they were started early enough the lack of fuel has kept them in a backward state. When fully coloured, of course, the greater part of the gardener's anxiety is over, but his exertions even at this stage must not be relaxed, as it will depend greatly upon the treatment received during the next few weeks as to the flavour they will develop, it being no infrequent occurrence for the Grapes, although well coloured, to be comparatively sour, or at any rate very indifferently flavoured, simply from the want of finishing.

I am very much of the opinion that in far too many instances artificial heat is diminished too suddenly, the growers being under the impression that very little is needed after colouring, merely just sufficient to dispel damp and no more. Heat must be looked upon as the primary factor in ripening or developing the flavour of the fruit, and although we take all due advantage of solar influence, yet this is not sufficient to impart flavour to late Grapes. What is needed is a continual flow of warm air circulating about the bunches. This can only be provided by using artificial heat more or less according to the weather. When the artificial heat is checked, it also acts prejudicially upon the foliage, causing this to decay much sooner than it should do, and also preventing the ripening of the wood. The flavour of late white Grapes, excepting, of course, the Muscat of Alexandria, is never extra good at the best of times, and when artificial heat is suddenly withdrawn or only just sufficient given to dispel damp, although this latter is seldom the case, they are insipid in the extreme. With a circulation of warm air continually playing about them, they take on a better colour, while the quality is also much improved. Muscats, if the Vines are in good health and the roots working in a suitable medium, keep on improving with the warm treatment afforded. Even when fully ripe and the flavour well developed, a continual flow of warm air is the best preventive of damp or decay, which not infrequently occurs in the heavy moisture-holding months of October and November. In some instances this decay of the berries sets in so rapidly, that the bunches are soon reduced to mere skeletons. At one time the best mode of keeping late Grapes upon the

Vines after being fully ripe was to only allow the artificial heat to circulate during the day-time, this being taken off in the afternoon, say at about 4 p.m., and closing the structure for the night. Under this treatment the temperature either drops too low, or becomes too moisture-laden during the night and early morning, with the result that moisture condenses on the berries. At this stage not much heat in the pipes is needed, but just a gentle circulation, with a little ventilation continually on both the front and top ventilators, increasing it in the morning and during the early part of the day as the natural temperature rises. A strong heat, of course, would act prejudicially by shrivelling the berries, especially so in the case of Muscats after these are well ripened. Amongst black Grapes, Gros Colman is never so presentable—at least as far as its edible qualities are concerned—unless given a good amount of heat right up to the last, or as long as the foliage can perform its functions. It is also the same with Lady Downe's. Alnwick Seedling, to develop anything like edible qualities, requires to be finished up in a fair amount of heat, even if it shrivels slightly. This, I daresay, is the easiest Grape to colour up to a jet black and even long before it is ripe, and if cut at this stage the flavour is sour in the extreme. Black Alicante and Mrs. Pince are never so good or refreshing in flavour when the heat is withdrawn. One and all are decidedly improved in flavour by hanging when the temperature is tempered with a little heat and judicious ventilation given. Y. A. H.

### FRUIT TREES IN THE GARDEN LANDSCAPE.

SOME thirty or more years ago, and often since, some of us made considerable efforts to awaken landscape artists and decorators to the value of fruit trees in the landscape. It was therefore with special pleasure I read Mr. Iggu'den's notes on the subject in THE GARDEN (pp. 203 and 204). We may not quite agree as to the order of merit in which he marshals the more common fruit trees, Cherries, Apples, Pears and Peaches. For example, I would place Apples and Crabs in advance of all other fruit trees and bushes, alike for their stature, form, foliage, fruit and flowers. What else in the vegetation of temperate or tropical climes can match their rich buds of pink and white? True, Cherries and Pears are like them in the profusion and purity of their white blossoms; Peaches, matchless as pinks, but the blending of the two in the bloom of the Apple gives it an easy victory over all the others. But our aim is less to pick out the best fruits named for our purpose, but rather to see that all named and many other hardy fruits are employed for the highest decorative purposes. For years we have been compassing seas and scouring foreign lands for decorative materials for our purpose while the entire mass of hardy fruits has been neglected, or wasting their beauty in our gardens and orchards at our own doors. It seems almost impossible to account for this folly, which seems of comparatively modern growth among us. In the olden time it was common to tack on at least the orchard or fruit garden to the landscape. But this we know, that whereas fruit trees, and especially Apples, once enriched our ancient landscapes, now they have almost totally disappeared. And perhaps this is enough for our present purpose, which is the free use of fruit trees, bushes and shrubs in the formation of our modern gardens and pleasure grounds. We want back all that is richest and most beautiful of the old material as well as the new; all that is rich and striking in stature, habit, leaf, flower, fruit, berry, and seed among our common hardy plants on new and more picturesque lines. Few or none of us would care to see in our pleasure grounds the old orchards and fruit gardens in their formal lines. Fruit

trees can be moulded into as graceful artistic groups as any others. No cultivator will contend that they cannot be fruited or cultivated in flowing masses as successfully as in geometrical lines. The latter have been the more common in the past and have their conveniences. But so far as shelter and escape from chilling winds that so often blight and blast our fruit in the spring are concerned, grouping would have it for safety as well as for beauty. Groups of Apple trees artistically planted, flanked if desired with Morello Cherries—what is there among any of our so-called ornamental trees to match this? But the combinations are endless, and I stay not to give examples, but only to enforce the freer use of our hardy fruit trees for forming groups in our modern landscapes. As for the usefulness and extreme suitability of the blossoms and leaves for decoration, a single trial will convince most people that we have hardly any richer, better material. Single blossoms or rosettes of Apple and other blooms are also invaluable for some sorts of bouquet work, and impart a charm often greatly in excess of that derived from some of the richest tropical flowers. D. T. F.

### THE JUDGING OF GRAPES.

"W. I." (page 235) again calls attention to this subject, which has given rise to more criticism and heart-burning than possibly any other feature of fruit shows. Perhaps the easiest way to a satisfactory solution would be through an entire rearrangement of our Grape schedules at fruit shows. I do not propose finding a remedy for existing difficulties through breaking down existing divisions, but by having more varieties of Grapes exhibited. The first objection likely to be made by exhibitors will be as to the number of Grapes needful to show in every division of the show. Simply show one bunch in each class instead of two, three, or more. For the purpose of determining the highest quality, one bunch is as good, or better, than three or a dozen. The better is used here advisedly, for all twos are by no means pairs, and trios are yet more rarely of uniform excellence. Let each exhibitor stage his best single bunch of any given sort against his neighbour's unit, and the whole quality of the show of Grapes would be sensibly raised, the work of judging made easier, and the chances of error or mistake reduced to a minimum.

By having a class for each leading variety of Grape one of the chief distracting forces in judging, viz., the prejudice or predilection of jurors in favour of particular varieties, would be entirely got rid of. At present one juror swears by Hamburgh as the king of black Grapes, another by Lady Downe's, a third by Madresfield Court, a fourth by Gros Maroc, and so on, and thus it happens that so few Grapes are judged on their own individual merits, but rather and very largely relatively as to the merits of others, real or assumed. One can hardly help using the latter phrase when we see Gros Maroc taking first over Hamburgh perfect in bunch, berry, colour and flavour. And yet these self-same Gros Maroc were as sour as Sloes. Almost any experienced Grape grower could determine which of a dozen or score of single bunches of Hamburgh was the best. Though believing that such glaring errors as the one pointed out by "W. I." are rare, it must yet be admitted that not a few mistakes are often made in the judging of fruit, and, so far as Grapes are concerned, these might be avoided through each leading variety competing against itself. As of course each variety would have a space to itself, the general effect would be more striking than at present, and the relative merits of particular sorts for special seasons be made more apparent. One more word, and that as to the exaggerated importance that not a few jurors attribute to colour or bloom on Grapes. Colour and bloom are all very well in themselves and as fair proofs of good culture, but they are worth little as a test of flavour, and are not seldom most often present when the Grapes are as sour as Sloes.

Some exhibitors will answer they cannot show in each class. If not strong enough to show separately



in each class, let them keep their weak ones at home. Grape shows thus protected from mediocrity or having it weeded out of them would be far more attractive than now. The public are only interested in seeing and knowing how to grow the best, and little or not at all as to how many prizes the great growers got, or how much money one exhibitor netted at such and such a show.

CALEDONICUS.

#### THINNING THE CROWNS OF STRAWBERRIES.

I CAN remember the time when the thinning of the crowns of forced Strawberries was looked upon as quite unnecessary. I could give various reasons for thinning the crowns, the strongest being that one or two strong crowns are ample for pot plants and will give stronger spikes of bloom than several weak ones. I consider the thinning of the crowns of forced Strawberries important, and one that should always be practised whether the quantity forced be large or small. To get early Strawberries say in February or March, it is necessary to throw all the energies of the plant into the crowns, as even with the best managed plants the spikes are none too robust so early in the year. With some kinds, such as Vicomtesse Héricart de Thury and early kinds especially, the crowns have a bad habit of splitting up, this taking place just as the pots get filled with roots, and often when liquid manure or feeding commences, so that at this state no time should be lost in reducing the small or side crowns as soon as they appear. To do this requires a little care so as not to injure the larger crowns left, which is sometimes done when the thinning is too long delayed. If the thinning is done early there will be less trouble, as the strongest crown is then readily seen and the weaker ones can be more easily removed. I would advise going over the plants as early in September as possible so as to throw all the strength into the crown or crowns left. As the plants do not all grow equally strong and some are earlier than others, it will be necessary to repeat the operation weekly till each plant has been attended to; this is readily done, as runners and useless crowns can be removed at the same time. I have previously stated that the crowns should be reduced to one or two, and in this matter the cultivator must use a certain amount of discretion, as some varieties grow more strongly than others, and those that grow freely do better with one large firm crown than two medium sized ones. The size and strength of the plants, size of pot, and other details must be thought of. I prefer one crown in most cases to more. The thinning or removal of weak crowns will also induce a quicker growth when hard forced, as in some varieties it is difficult to get the flower-stalk well above the foliage. When there are numerous crowns with a lot of leafage, it often occurs that the leaves shade the bloom and a free set cannot be secured. With single crowns there are fewer leaves, and the flower truss is sooner pushed up. Being very robust, there is less difficulty in securing an even set of fruit early in the year. This thinning of the crowns recommended for forced plants is to some extent practised by growers who now grow this fruit by planting annually, as though thinning does not actually take place, the plants being planted yearly are not allowed to split up into so many crowns.

The ripening of the crowns is also equally important, and though I have touched on this point in the course of my remarks, I would point out the necessity of thorough ripening, so as to get a hard firm growth by the end of October. To do this, frequent removal of plants is necessary, as this prevents the plants rooting through the bottom, allows the moisture to escape readily, and affords an opportunity for feeding the plants when they are swelling up their crowns. There is much gained by allowing plenty of room and a free circulation of air, so that if the pots can be shifted at least once a fortnight and placed the reverse way they previously stood, a short sturdy growth is induced. The placing together rather thickly when first potted is often practised for the sake of

economy in watering, but it is a mistake to allow them to remain too long in the same position. The system of placing the pots down the sides of walks is a good one in many respects if the ingress of worms is prevented, as the plants standing singly in rows get abundance of sun and air. The mere covering of the walks with a slight depth of ashes is not sufficient to prevent worms doing injury. I prefer a narrow thin strip of board to ashes when stood on walks, as then there is no danger and the walks are not disfigured. The cost of Larch or Scotch Fir boards cut roughly is very trifling and they last some time. Roughly-made racks may also be used to advantage and with good results if only a few plants are forced. Whenever any doubts exist as to worms or bad drainage, a good watering with soot water will do much good in dislodging the former, and if the plants are frequently moved the latter rarely exists. I would also add that much of the splitting of crowns may be avoided at potting time by rejecting plants with double crowns, also by using good sound loam of a heavy texture in preference to that which is light with a lot of manure in it. Manure can readily be given in a liquid state if required. Short, sturdy-grown plants with hard plump crowns are secured by using sound loam; whilst a gross growth and a quantity of weak crowns and long foliage are often the result of too rich soil at the start. Dryness at the roots should in all cases be avoided. G. WYTHES.

#### STRAY NOTES ON APPLES.

ECKLINVILLE SEEDLING is a very handsome fruit and the tree is a good grower and free bearer, and on the Paradise begins to fruit almost as soon as planted, but it is not a favourite with the cook, as it wastes so much in cooking. No matter how full the pie-dish may be filled, there is not much in it when the baking is completed. To a certain extent this is a fault of the Codlin race generally. Lord Suffield is, I think, the best of the Codlin family, but the tree is a bad grower, chiefly in consequence of its prolific habit. Thinning the fruit severely might perhaps aid its growth. Alfriston is one of the best late-keeping Apples, and I think fruit growers would do well to turn their attention more to late than early sorts if they wish to make a profit. The rush now among planters is for the large early kinds, and in a few years the markets will be glutted. Good Apples after Christmas will be scarce for some years yet, at least so far as regards home produce. Alfriston is not only a good cooking fruit, but is fairly good when eaten raw, though it is rather too large for dessert. Lord Burleigh is one of the best late dessert Apples. I have had it good in May, the flesh as firm as when first gathered. It is a rich bronzy red next the sun; should be worked on the Paradise to get size and fertility. Sturmer Pippin is a well-known late dessert Apple of great excellence, that does well in most soils which are capable of producing good fruits. For weight of crop, taking one year with another, it would scarcely be possible to match Stirling Castle. I have had trees on the Paradise literally hanging to the ground with the weight of the crop, not in isolated cases, but year after year. Cox's Orange Pippin, if it could be relied upon in all soils, would be an ideal Apple, but unfortunately it requires a special soil, and will do best in the southern counties. What a beautiful Apple the Worcester Pearmain is to look at, especially on the Paradise, though as regards flavour there are Pearmaines I like better. Claygate Pearmain is a better Apple for eating than the Worcester. For late kitchen use Wellington cannot be surpassed where the tree does well. Like that other old favourite the Blenheim Orange, it

takes time to make bearing trees, though it is possible the Paradise stock will help us to shorten the probationary period. But the Wellington and Blenheim are such grand trees when they are grafted on the Crab and have room to strike out, that the orchard is the best place for them. I saw down in Berkshire the other day a magnificent tree of the Blenheim Orange which I was told was not twenty years planted; it was growing with other Apple trees in the hedgerow which separated two meadows, and the thought occurred that anyone with a few acres of such trees might rest and be thankful. Peasgood's Nonsuch is a beautiful Apple, especially good on the Paradise, but will it be anything more than an exhibition fruit? If it bears freely always, its appearance will undoubtedly sell it, and the fruits are so large that it will not take many to fill the measure. I confess at present I am rather disappointed with Bismarck. It is neither so large nor so handsome as I expected from the glowing description given. Beauty of Bath is a very handsome little fruit, and on seeing it for the first time at the show at Earl's Court the other day, I ordered half a dozen trees of it. Two good Apples which everybody should plant are Cellini and Prince Albert; they will be useful both for home use and also for market, as they are not only good, but they look good, and the latter point is as necessary as the former in anything grown for sale. E. H.

**Late Grapes at summer shows.**—The great point of objection to these is the placing of such varieties as Alicante, Gros Maroc, or Alnwick Seedling before fairly good samples of either Black Hamburgh or Madresfield Court, even when the three former named are tolerably well coloured about the middle of August. Very few examples of these kinds are really fit for table in August, while the other two are certainly to be preferred for flavour. Judges with a thorough knowledge of the varieties and a firmness of purpose have the remedy in their own hands, and if they would exercise this more than at present, it would do much toward checking the cutting and exhibition of late Grapes in summer.—S.

**Apricots on gables of houses.**—I cannot speak for Cornwall, but over a considerable extent of country from Yorkshire to Devon, and from East Anglia to Oxford I have seen promising Apricots on the gable ends of houses, and can testify that the free and easy growth mostly incident to such trees is more or less the cause of their health and fertility. By giving the trees their heads, they lose fewer limbs and keep on with their proper business of fruit bearing. The finest gable-end Apricots ever seen by me were between Oxford and Woodstock, or in the village of Woodstock. The ends and sides of the cottages were literally golden with fruit, which was said to have paid the rent of houses and gardens for many years. The next finest tree was in Suffolk, which covered the whole gable end of a stable, the centre of the gable being 20 feet or more high. The span was wide in proportion, and a single tree covered the whole area, seldom missing a crop. It was named the Royal Apricot, the fruit being small, of good flavour, and of a rich mixture of gold and bronze. It very seldom missed a crop, though the site was nearly east, the soil strong, almost a clay, 4 feet thick. It looked more like a stumpy half-standard backed up to the wall, and received but little pruning and less training. It is to be hoped that "Cornubian" and others will furnish more particulars as to the failures of Apricots in Cornwall. May it not be the mildness and moisture of the climate, the former making the flowers open too soon? But the overhanging gable-ends with the merest modicum of protection would prove the surest protection against failure. Can the fault be in the soil, or does the fact of so few Apricots being grown in the county explain why they are so badly grown?—CALEDONICUS.



## KITCHEN GARDEN.

## DUKE OF ALBANY POTATO.

Of all the American Potatoes introduced to this country, and they have been many, none have retained so strong a hold on public estimation as the pretty pink-skinned Beauty of Hebron. Its great cropping qualities, excellent quality, and earliness have been its saving grace. The first, and perhaps in its day the most popular of the American section, was the Early Rose. That is still with us, but not so widely grown, having been largely displaced by Beauty of Hebron. Now this popular sort is undergoing the same process of elbowing out through the greater popularity of the White Duke of Albany, otherwise White Beauty of Hebron, really the original in everything except in colour of skin. There is in the London market, and probably it abounds, a prejudice in favour of white-skinned Potatoes, and thus the Pink Beauty is less in favour now than is the White Beauty. That this variety is a true sport there can be no doubt, and also that the sport occurred in more than one place. The Duke of Albany

rendering in the case of large sets, if planted, disbudding needful. But these early varieties should, in the matter of seed tubers, be represented only by those of very moderate size, in which the crown eyes only are active; these break with one or two buds only, and are the very best for planting. All large tubers should be consumed by the end of the year. Where sets of the size mentioned are properly prepared by sprouting in shallow boxes and are planted early on warm borders, lifting the crop may begin very early in the summer, and the borders be cleared and cropped in ample time to secure a second summer produce of something else. Although the old Beauty of Hebron has such a pale pink skin, still that colour suffices to discolour the Potatoes when cooked so long as the skins are thin and tender. Then it is that the white-skinned form is both more useful and popular. There can be no doubt but that it will have a long run, for our ablest raisers of Potatoes find it very difficult to produce any very first class early varieties. A. D.

**Mushrooms in the fields.**—It is astonishing what an enormous quantity of Mushrooms has been

other so-called preventives of fungoid diseases. Luckily, the Cladisporium, Peronospora and other diseases that attack Peas are not so persistent as mildew, and it may be next season they will not be seen. At the same time it is advisable to burn all the haulm as it is cleared off, also to avoid seed-saving, as some authorities are of opinion that such diseases are introduced by the seed. A change of site is also advisable.—W. I.

**The James' Keeping Onion.**—I should like growers' opinion of this fine Onion. Being more globular it weighs heavier than the best strains of the Spanish White or Brown. By the way, what difference is there in the latter excepting in the colour? Some growers contend that the Brown Spanish keeps better than the White, but I have not found it so, while the James' Keeping keeps much longer than either—in fact still deserves its name. I have, however, no intention of disparaging the Spanish Onion. On the contrary, I have long felt that good selected strains of it are difficult, mayhap impossible, to beat. Still personally I prefer James' Keeping, and should like to hear the opinion of other growers on this point. I should, however, say that my James' Keeping strain was the product of a picked selection for a good many years. Frequent failure in the Onion crop induced me to save my own Onion seed for a

good many years. I had no more failures, and the fair strain of James' Keeping started with was regarded into a very superior strain, so much so, that a high price was offered for the lot by one of our most enterprising seedsmen. There is no doubt the plan of sowing Onions in February is rapidly extending, and results in larger Onions. But not a few cultivators complain that the bulbs so treated are seldom of such sound quality and seldom keep so well. In judging a very large exhibition of Onions recently it was found in most cases the spring-sown in the open carried off the first prizes for quality. They were not the largest, but the quality was highest. And even with such hardy crops as Onions and the comparatively short time it needs to reach maturity, there seems no good

reason why all this nursing and transplanting should be indulged in with the chief result of making them bigger and weaker. And in such tests of quality and for specific gravity the James' Keeping is far ahead of the White or Brown Spanish and most other sorts.—CALEDONICS.



Potato Duke of Albany.

stock was, I believe, first put into commerce by Mr. Sharpe, of Sleaford. The White Beauty came from no one knows where; hence it is just possible that Pink Beauty broke into the white form in many places. It is now being grown very largely for market, and is also to be found in many private gardens, cottagers and allotment holders specially taking to it as a favourite variety. We had a few years since from America Early Puritan, which is practically a white Early Rose in appearance, but of better quality. Still I do not see that it will displace the White Beauty variety, as it is neither earlier, more prolific, nor of better quality, whilst the latter has become to some extent acclimatised, a very important feature in American varieties. The Duke of Albany, or White Beauty, may be recognised by its broadish form whilst still long, and the Puritan, like the Rose, is roundish long. It is worthy of note that White Elephant, really a later and larger form of Beauty of Hebron, having the same pink skin, has also sported to a white form, and is, by those who have tried it, very highly esteemed. The general characteristic of the long American Potatoes is the abundance of eyes, and if kept over till the end of the winter, almost every eye will push, thus producing rapid exhaustion of the starchy properties of the tubers, and

in the fields this summer and autumn. Some fields have been almost white with them. This is not confined to pastures where stock has been grazing. In one field here in which corn was grown three or four years ago Mushrooms have been gathered by the sackful, while on the lawn at Cricket St. Thomas they have been equally abundant.—JOHN CROOK, Forde Abbey.

**Peas failing** (*J. R. S., Staffordshire*)—Now that fuller particulars have been supplied and samples of haulm in full bearing received, there is a greater likelihood of a true solution of the difficulty being arrived at. Evidently no blame can be attached to the cultivation, the haulm being strong and perfectly free from mildew, that great bugbear in so many cases. A disease of a fungoid nature attacks both the leaves and pods, and most probably it is one of the Cladisporiums that has done the mischief in this instance. Wherever the spores effect a lodgment, they soon eat their way through the tissues, and what at first was only a tiny spot soon spreads to a more plainly discernible size. Decay does not take place and spread so rapidly in the case of the leaves as it does where the pods are affected. A single disease spot on each was the cause of the rapid loss of the whole decaying pods received, and why only one in a pair decayed is simply because only one was touched by disease. It is very doubtful if a good remedy can be recommended, the Pea haulm, leaves and pods being of a glossy nature and not easily coated with anti-fungus powder, Bordeaux mixture or

## POTATOES AT CHISWICK.

AMONGST the duties of the fruit committee of the Royal Horticultural Society is the occasional meeting during the summer at Chiswick Gardens for the purpose of examining the various products grown there for trial. Of these Potatoes have ever been prominent, and this year, thanks to the comparative lightness of the disease attacks, the lifting of roots was much more pleasant than usual. There were nearly ninety sorts of Potatoes to be examined when the committee met there on the 13th inst. Of these some were old, including various Ashleafs and others, but the majority were new. The committee had of each variety some two or three roots lifted in each case. In some instances, though but few, disease was found to be very bad, but generally the tubers were free from attack and very good. In some cases the root produce showed marked irregularity in size, some being small, some large, so that a good market size was hard to find. In others there was marked evenness with comparative smallness, and in some few cases remarkable evenness and good size. This feature was specially



found in Boston No. 22 (Johnson), a white round main cropper, wonderfully productive, turning out a beautiful even sample of flattish round Regent-like tubers that would make it one of the best market varieties ever put into commerce. Very good also in the matter of evenness of sample was White Russet (Harris), also of round form and a heavy cropper. The Canon (Dean), white flattish kidney, also showed admirable evenness in the tubers and a capital crop. A red round that was exceedingly taking in appearance, Berkshire Rose (Maher), also had this feature, and was a very heavy cropper, but it needed more maturing ere fit for table. Crawley Prizetaker (Cheal), a long flattish white round, gave a fine crop; so also did Success (Applin), an oval white form, sample even and very prolific. Radcliffe Kidney (Selby), flattish with rough skin, had a fine crop. Paul's White Round was very good in crop and appearance. So too were Laxton's Victorious, flattish white round, and Victory (Cannell), also white skinned of medium size, and prolific. The Times (Ross), a very robust grower, gave a heavy crop of white round tubers, and Mary Anderson, a strange name for a Potato, resembled Reading Giant in strong growth and heavy crop. Monarch (Letts) was of the same type. One of the best for early work was King of the Earlies (Ridgewell), evidently a first-class Ashleaf. Appleby's Early Nonsuch gave a great crop of medium-sized, roundish, oval white tubers. Ultimately, after tasting twenty sorts of capitally cooked samples, the committee gave three marks to Boston No. 22, King of the Earlies, The Canon, Laxton's Early Short-top, also grown last year, and to Reading Giant, an old variety. Two marks were awarded to White Russet, Paul's White Round, and Crawley Prizetaker. So far as relates to the tasting, whilst every sort cooked was served up with all possible skill, it is very evident that much depends upon the condition of the tubers as to ripeness at the moment lifted, and the effect of the soil in producing that condition of goodness without which there is no hope of getting an award. There is no vegetable upon which soil exercises so much effect as upon Potatoes. A variety will be first-class in some soils and poor in others. If some of the varieties that failed to secure the highest awards after being grown at Chiswick were tested from diverse, especially field soils, the result may have been different. Of course, the committee must have the tubers cooked before granting certificates or marks of merit.

A. D.

### THE TOMATO SEASON.

I THINK this will be generally admitted a good season for Tomatoes, both under glass as well as in the open air. As regards outdoor crops, it is now some five years since they were so generally plentiful. The season no doubt has been greatly in their favour as regards being free from disease, but it will depend upon a fine and dry autumn whether the bunches of green fruit now hanging will ripen up satisfactorily or not. Plants growing against walls can be assisted greatly by having any spare lights reared up in front of them, this being preferable to cutting the fruits in a green state and ripening them up in heat. Certainly they change colour by such a course of treatment, but the flavour is nothing to be compared with that of fruits allowed to ripen on the plants. Nor in any case is it advisable to cut the fruits hanging on the plants unless frost should be imminent, as if this should keep off they will keep on ripening up on the plants to quite the middle of October or later. If there are any leaves or surplus shoots crowding up the fruits, these should be removed forthwith, as nothing impedes so much the ripening up and colouring of the fruit as shade. The present season also

shows the necessity of putting out strong and well-prepared plants, as where only small or weakly plants were put out, these are very backward and will do but little good. This season I have grown a quantity of Tomatoes in cold frames, so as to further test the system, and I may say it has turned out a great success, the plants being very healthy and covered with fruit. The plants were put out along the front in a prepared rooting space, the growths being trained on a trellis fixed over the whole body of the frame. The lights were never kept close, a free circulation of air being allowed to play over the plants night and day. This was done to keep away the disease, as I have always been of the opinion that it is through keeping unheated structures too close that disease is brought on. In small gardens especially, frame culture of Tomatoes is a great help in securing a supply of this now favourite esculent. Two varieties I have found excellent for the purpose are Conference and Early Ruby, the latter being an American introduction. It is very prolific, the fruits being of just the size needed. These medium-sized kinds are the most appreciated, whether for home or market use. A Tomato weighing two or three ounces is much to be preferred to that weighing nearly a pound. Another excellent little Tomato is the Pear-shaped. It is small, but what it lacks in size it makes up in quantity, as it is the most free-setting variety I have ever met with, the fruit hanging in bunches of six or seven. I find it a most useful Tomato for preserving whole in a green state. For garnishing, the fruits used in bunches as cut have a very pleasing and novel appearance. Those who favour the appearance of Tomatoes on the table for dessert will find the Pear-shaped an ideal variety for the purpose, being pretty in shape, small in size, and also considered by those who prefer Tomatoes in an uncooked state of excellent flavour.

The golden or rather yellow-fruited varieties do not appear to make much headway, although in Golden Queen we have a fairly good setter with fruit of a bright golden colour. At one time we were led to suppose that the yellow-fruited sorts would command a better price on account of quality than the red sorts, but at present it does not appear so. A particular fault of these yellow-fruited Tomatoes is their liability to crack, even when grown in the same structure as the red ones. The first yellow variety ever sent out—Carter's Green Gage—now some seventeen or eighteen years since, but for this fault of cracking, I liked better than the later raised kinds, as when grown in pots it was very prolific and of a pleasing colour. To stop the cracking at that time, the pots were removed to a very light and airy, well-heated pit, and the roots allowed to ramble through into a soil bed beneath. At any rate they were good enough for the gardener to take first prize, or at least the special prize given by Messrs. Carter for the best box of fruit at that time.

The season for Tomatoes under glass has been particularly favourable, there being fewer complaints of disease than I ever remember. Certainly there may be a few isolated cases, but when grown under glass and the structure efficiently or otherwise rationally managed as regards ventilation, no disease will affect them. Growers are now beginning to find out the wisdom of not allowing the fires to go out during the night-time at any rate, even if a spell of warm weather should set in. Many large growers even have found this out to their cost, and instead of letting out the fires upon the approach of warm weather a little heat is kept

continually in the pipes, and this, combined with judicious ventilation so as to promote a warm, buoyant atmosphere, is sufficient in itself to ward off fungoid diseases. When Tomatoes have to be grown in structures entirely unheated, then a free circulation of air is necessary night as well as by day. Closing up the structure, thinking to hasten the ripening, will end in failure sooner or later. At this season all fruits must be well exposed to the sun even if some of the leaves have to be removed. At any rate a half of each leaf may be removed with advantage.

A. Y. A.

### POTATOES FOR EXHIBITION.

At the co-operative exhibition at the Crystal Palace, where Potatoes were exhibited in great quantities, probably not more than 10 per cent. were other than good class sorts. Really there is no reason whatever why poor quality should be found in exhibition tubers, for even of the coloured kidneys, I have seen the most perfect samples of Ruby and Prizetaker, red varieties of great excellence; Bedford Purple, a high-class variety; Lord Raglan, a real Lapstone, having blotched purplish streaks; Beauty of Hebron and Crimson Perfection are all really good eating sorts. These make a capital show half-dozen. Then of coloured rounds we have really first-class sorts—Reading Russet, King of the Russets, both red; Vicar of Laleham and The Dean, purple; Lord Tennyson, white streaked purple, and Conference, streaked carmine. All these are of the very best quality, and well grown are very handsome. Then of white kidneys there are Puritan, Snowdrop, Magnum Bonum, Chancellor, Reading Giant, Cosmopolitan, and The Canon, all good; and of white rounds, Sutton's Seedling, Satisfaction, Windsor Castle, Schoolmaster, London Hero, and Victory—all, too, of the very best. These would make up a first-class twenty-four varieties, so far as table quality allied to good form and colour is concerned, which could hardly be excelled. Hence it is evident that there is no need whatever why we should grow inferior varieties when so many good ones are to be had. Of course, it would be very possible largely to extend this selection, especially in the white varieties, but each grower for show doubtless has his favourites. I have written so much with respect to show Potatoes because it is now made known that the proposed Potato show at Earl's Court early next month will really come off, and growers may not only be selecting their tubers, but also be desirous of knowing what are the best varieties. Few vegetables are more amenable to soil variation than are Potatoes, and whilst some soils will produce fine crops of Peas or of Cabbages, no one can extract from them good show Potatoes. Really handsome samples can only be got from fine sandy soils that are of a soft texture. These give a brightness and cleanness to the skins which no artificial rubbing or friction can produce. On such soils many varieties that give coarse tubers, otherwise turn out the handsomest of samples. Then the grower, in addition to having good soil, must have a good eye for selection. Many a dish of otherwise excellent tubers has been spoiled because they were so uneven or so large. Size is not at all an essential feature in show Potatoes. There is a good medium form which is far better. It is very rare that large tubers have the same relative beauty as well as evenness that somewhat smaller ones have. A good deal of care should also be exercised in treating tubers when lifted. The careful grower, so fast as the crop is



being lifted—and very often he prefers to lift the roots himself—picks out the best tubers as fast as lifted, and places them carefully into a broad shallow basket in which has been placed a layer of soft hay. Before the air has hardened the soil or discoloured the skins the tubers are at once carefully washed in soft water, dried with a cloth, then well wrapped in paper, and put away in a dark place until needed for exhibition. It not unfrequently happens that when newly-lifted tubers are exposed to the light and air for a few hours before washing, or are put away in a dark place and washed when wanted for show, the skins have become brownish or discoloured, and have lost their natural gloss and freshness. It is by careful attention to these things that prizes are won, and yet with precisely the same sorts that other growers have. It is solely because of the brightness and beauty secured that critics cynically refer to handsome tubers as of only show varieties. There is hardly a variety cultivated which may not be so termed when special care is taken with cultivation and in selecting and caring for the best tubers.

A. D.

## TREES AND SHRUBS.

### AUTUMN-FLOWERING SHRUBS.

By the first week of September outdoor flowers are getting scarce, so the few that are still expanding are consequently of particular value.

*BIGNONIA RADICANS* is just now at its best, the big trumpet-shaped flowers of the brightest orange and scarlet causing quite a glow of beauty to the position in which it is planted, these being all the better shown off by the pleasing green of the Ash-like foliage. It is a handsome and distinct climbing shrub, and one that we could wish was far more common than it is. Like the Ivy, it does not seem to require any peculiarity of soil, for an unusually large specimen that I examined a day or two ago had grown in its present position—against a wall, and where the hard gravel path came almost up to its stem—for fully thirty years, and yet is fresh and healthy and bearing quantities of its conspicuous and pretty flowers. The habit is loose and graceful, the pendent twigs hanging neatly down in easy curving masses, and the flowers are produced for a long time and in quick succession.

*HIBISCUS SYRIACUS* is distinct from almost every other shrub in the size and beauty of the flowers, these being fully 2 inches across, and with the base of each petal distinctly marked with a darker coloured spot than that of the flowers. It would seem to vary very much, some plants being rosy, others purple, and others again almost pure white, except the blotch at the base of the petal. It is a plant of neat growth, with evenly toothed dark green leaves, the flowers being produced at the end of the shoot. This is the generally grown form, although the herbaceous *H. rosens* is well worthy of attention. The very large flowers of this species render it one of the most conspicuous of August-flowering plants. They are purple or pink with the usual marking at the petal base. Hibiscuses are easily grown and hardy enough for any garden, succeeding well here in light peaty loam.

*THE BUCKEYE* (*Pavia macrostachya*), now well in flower, has a use that may almost be said to be all its own. I refer to the way in which an established plant spreads about from root suckers and soon forms a clump of great size and unusual beauty, this latter being brought about by the neat distinct-like leaves and long spikes of pinkish white good-substantiated flowers. To the habit of forming a neat, but natural mass when left alone, with only plenty of room for development, we owe a great deal to this shrub, for it is not a rampant grower, nor does it become too shapely and stiff of

growth. Then it will grow in almost pure clay—clay of the stiff and unctuous nature—as I noticed with a large bush a day or two ago, and which had plenty of healthy leaves and numberless spikes of its faintly fragrant flowers. But what I wish most particularly to draw attention to is the great use that may be made of this shrub or small-growing tree as a lawn specimen, the spreading habit and not too rampant growth being all that could be desired. Flowering in autumn, too, is a great recommendation.

*HYDRANGEA PANICULATA GRANDIFLORA* has certainly few equals for wealth and beauty of flowers, and coming into bloom in late August and the early part of September is an additional point of value. This season the flowers are so heavy and borne in such numbers that the plants are suffering in consequence, many of the branches, which at the best are lithe and rather brittle, being snapped off by reason of the weight of the great panicles of flowers. It is a highly ornamental shrub, and one of the brightest occupants of the nursery border at present. Unlike not a few of the *Hydrangeas*, this plant perfects its flowers in series, the whole panicle being in full beauty at the same time. About its hardiness I feel convinced that it can stand a very severe frost without receiving harm, and that it would be able to stand without protection in almost any part of these isles. In Kent it has received no harm for the past five years, although the frost has been more intense and the winters longer than has been known for nearly fifty years. I would recommend it as one of the most beautiful of autumn-flowering shrubs, as a plant that requires no unusual soil or site, and one that can be easily propagated.

*SPIRÆA DOUGLASI* still continues to throw out spikes of its pretty pinkish flowers, although it commenced flowering nearly a couple of months ago. It is a useful shrub, inasmuch as throwing out young shoots from the base of the stem and being so hardy and free-growing, renders it of great value for mass planting along the sides of woodland drives and paths. There is a white, or nearly white, form, and it is worthy of culture, associating as it does so well with the normal pink. By lifting and dividing a plant, great numbers of stout young specimens may readily be obtained. Even for covert planting this shrubby *Spiræa* answers admirably, it soon forming good wide breadths when planted at, say, 6 feet from plant to plant.

*CLETHRA ALNIFOLIA*, if only for its spikes of deliciously sweet flowers, should be a welcome addition to every garden. Of neat, perhaps rather rigid growth and with delightfully green leaves, this autumn-flowering shrub is sure when better known to attract a good share of attention. The flowers are produced in fair quantities at the extremities of the shoots, and are of a pale yellow or dirty white colour, but fragrant to a large degree. From suckers, which are thickly produced around the stems of plants growing in light soil, it is readily increased, and as these grow away vigorously in a young state, the juvenile specimens soon attain to the height of 3 feet or 4 feet and bushy in proportion. It would appear to thrive best in light, rich soil, and also does well in that of a peaty nature if partially reclaimed.

*ULEX NANA*, one of the most brilliant-flowered of our native shrubs, I have always been inclined to favour with specific identity, and that if only for the difference in time of flowering between it and the so-called major form. Just now this pigmy Gorse is one blaze of colour, the slender, procumbent, or almost so, branches being clothed for fully three-fourths their length with their beautiful golden flowers, which are of excellent substance and remain in perfect beauty for a long time. Many of the Kentish commons are a blaze of beauty with this pretty wilding, and as a plant for covering bare patches of garden ground, few procumbent shrubs are equal to this tiny Gorse. From cuttings it is readily enough grown, and even rooted branches may be cut from the parent plants; while pegging down an old

specimen will ensure a quantity of stout young plants. It would be a decided acquisition if we had a double-flowered form of this pretty dwarf Whin.

*ROSA RUGOSA* AND *R. RUGOSA ALBA* have a double value at present in that they are both ornamental with flowers and fruit at one and the same time. The white-flowered form is a plant of great beauty, the plump buds of the purest white and folded away so neatly amongst the rough and jagged stems and leaves, being comparable at that particular stage with those of any single-flowered plant I know of. Here at least the white-flowered plant does not produce so large nor so highly-coloured fruit as does the normal type; but for all that it is well worth cultivating. The pinkish-flowered plant is at present with us not only thickly studded with its conspicuous flowers, but the big ruddy fruit renders the plant of easy distinction for a long way off. Both are distinctly beautiful and readily grown *Roses*, and from either seed or cuttings may be increased to almost any extent.

*CEANOTHUS AZUREUS* (?) is just now well in flower, and being one of the few members of this family that is hardy outdoors is worthy of note. Certainly in this respect *C. americanus* is of great value, as it has stood alone and unprotected for five years past. Both are interesting plants with neat foliage and habit, and remarkable for the abundance of unusually coloured flowers with which for fully two months the branch tips are adorned. Usually one sees the *Ceanothus* nailed to the wall, and it does well there, but I consider that a fully grown plant standing by itself in a shady corner is not to be despised.

*HAMAMELIS VIRGINICA* is remarkable in that it does not begin flowering until the leaves commence falling in autumn, but the flowers are more curious than ornamental, consisting of four long petals of a fairly bright yellow. It seems strange amongst the dying-off foliage of a shrub to see these curious flowers, but they are bright enough to attract attention, all the more so in the autumn months. The flowers being produced in quantity cause the plant to be by no means unattractive, and for this very reason it is to be found widely distributed, particularly in old-fashioned gardens. Generally one sees the *Witch Hazel*, as this curious shrub is styled, a bush of 6 feet high, not of compact habit, but rather loose and inclined to become wayward and untidy. It does well everywhere, and has been known in this country for upwards of a century and a half, and hails from North America.

*RHUS COTINUS* (the *Wig tree* or *Venetian Sumach*) is at once one of the most curious and remarkable shrubby plants that are hardy in this country. At present the transformation of the pedicels into silky, feathery awns attracts everyone's notice, it being in this respect a near ally of our equally curious *Old Man's Beard* (*Clematis Vitalba*), and which at present drapes many an English hedge on the chalky reefs. The flowers are small and of themselves not at all conspicuous. A fine example of this shrub may be seen in Darwin's garden at Downe.

A. D. W.

*Berberis vulgaris purpurea*.—In poor soil and a position fully exposed to the sun this *Berberis* has acquired a depth of colouring far superior to that which the leaves assume when the plant is growing in a partially shaded spot. Just now it is in some places heavily laden with fruit, which, though wanting in the bright colours of the common *Berberis* when ripe, is still very noticeable. The fruit is of a purplish hue, somewhat the same tint as the leaves. This *Berberis* is valuable from the fact that its ornamental features are at their best in a sandy or stony soil, for plants that thrive under such conditions are by no means particularly numerous.—T.

*Daboecia polifolia*.—From early in the summer till the present time this member of the Heath family has been continuously in bloom, and on this account, combined with the beauty of its blossoms,



it must find a place among the best of dwarf flowering shrubs. It reaches a height of a foot or a little more, with the comparatively large, bell-shaped blossoms borne in erect spikes well above the foliage. The flowers are of a pleasing shade of purple, but there is a variety in which they are pure white, and a second very singular form produces both purple and white blossoms on the same plant, occasionally arranged on different spikes, but more frequently both white, red, and parti-coloured blossoms are to be found even on the same spike. When in a flourishing state, a bed planted with this *Daboecia* will be an object of great beauty for a much longer period than if occupied by many of the tender bedding plants. —T.

### THE WESTERN SERVICE BERRY.

(*AMELANCHIER ALNIFOLIA*.)

IN the year 1804 a party of United States soldiers, under the leadership of Captains Lewis and Clarke, commenced the first overland journey from the shores of the Atlantic to those of the Pacific Ocean. On the waters of the Upper Missouri River they were able to eke out their scanty diet with the large and delicious Service Berries, which they found in great profusion along their route. This was the fruit of the western Shad Bush or Service Tree (*Amelanchier alnifolia*), which first appears in literature in the history of this famous and important expedition. The specific character of the plant, which was confounded with the species of the Eastern States, was not recognised in these early days, and although it was introduced from Oregon into English gardens by David Douglas in 1826, it was not until some years later that Thomas Nuttall, who had found it in the Northern Rocky Mountains, gave the western Shad Bush the rather inappropriate name still used to designate it.

*Amelanchier alnifolia* is usually a low shrub with spreading stems only a few feet high; sometimes it sends up from the ground a cluster of tall thin stems, or occasionally, under exceptionally favourable conditions, it forms a slender tree 30 feet to 40 feet in height, with one straight trunk 8 inches to 10 inches in diameter.

In different parts of the country *Amelanchier alnifolia* varies in a striking manner in the size and colour of the leaves and in the amount and colour of the pubescence which covers their under surface while young, as well as the shoots. The leaves vary from 1 inch to 1½ inches in length and breadth; they are rather inconspicuously veined, and are borne on short slender stalks. The flowers, like those of all the *Amelanchiers*, are produced in short erect racemes, and are smaller than those of the Shad Bush of the Eastern States, the pure white petals varying from a quarter to 1 inch in length. The fruit ripens in different parts of the country from June to September; it is dark blue, or sometimes nearly black, covered with a beautiful glaucous bloom, and very sweet and juicy.

The western Shad Bush grows over an immense territory. At the north it is found in the valley of the Yukon River in latitude 62° 45'; it extends south over nearly all the mountain ranges of Western America, ranging eastward to Colorado and Nebraska and through the Saskatchewan and Manitoba to the western shores of Lake Superior and to the northern peninsula of Michigan, where forms occur which are not always easy to distinguish from varieties of the eastern *Amelanchier canadensis*.

In the interior of the continent *Amelanchier alnifolia* is confined to high elevations, sometimes ascending to 10,000 feet above the level of the ocean, where it occurs near the borders of alpine meadows or covers dry hill-sides with

thickets not infrequently hundreds of acres in extent. It is in the valley of the Lower Columbia River in rich bottom-land often inundated, or on the small prairies which are common in Washington near the shores of Puget Sound, that the western Shad Bush grows to its greatest size. In such situations it occupies the ground to the exclusion of other shrubs, or is associated with the Oregon Crab Apple, the Hawthorn and the Choke Cherry in dense masses about the margins of the forests of larger trees.

The fruit of the western Shad Bush, like that of all the plants of the genus, is sweet and of excellent quality, as many travellers through the western wilds of North America can bear testimony. Many a party of half-starved explorers and prospectors has been kept alive by Service Berries, which have been always an important source of food-supply to the Indians of the west, who visit every year the localities where the plants are abundant, and gather the fruit for winter use, first crushing it, and then, having dried it spread out on stones or bark, pack it into sacks.—*Garden and Forest*.

### CLERODENDRON TRICHOTOMUM.

THE rather warm dry summer through which we have just passed would seem to have been favourable for this hardy species of *Clerodendron*, which is flowering very freely. Some branches of it were shown in good condition by Messrs. Veitch at the meeting of the Royal Horticultural Society on September 26, and attracted a good deal of attention, not only from the fact that it is one of the few autumn-flowered hardy shrubs that we possess, but also from its distinct character. This *Clerodendron* is of quick growth, and forms a good-sized bush clothed with heart-shaped leaves, while the flowers are borne in loose terminal panicles. The most conspicuous part of the inflorescence is, as in some of the other *Clerodendrons*, the red inflated calyx from which the white blossoms protrude but a little way. Even when out of flower the ample foliage renders it a very ornamental shrub, that is during the summer months, for it is not an Evergreen. It will grow in light sandy soils better than many subjects, but of course under such conditions its rate of growth is slower than would be the case where more favourably situated. This *Clerodendron* is said to have been introduced from Japan in the year 1800, but it must have been lost to cultivation after that time. In any case it was scarcely known till a few years ago Messrs. Veitch began to show us what a distinct shrub it was. Few hardy shrubs can be propagated without seeds as readily as this *Clerodendron* can, for root cuttings soon strike and form plants. It can also be struck from cuttings of the branches, but the roots give an opportunity for more rapid propagation. All that is needed is to take pieces of the roots at any time during the winter or early spring months, cut them up into lengths of 3 inches to 4 inches, and dibble them into some sandy compost. These root cuttings should be kept upright, and at such a depth that the upper part of the cutting is just below the surface of the soil. If they are put into a cold frame, the young shoots quickly make their appearance and grow away freely. In the case of a specimen being transplanted, an opportunity occurs for taking plenty of cuttings; indeed, if broken pieces of the roots are left in the ground, they often grow and finally form plants.

While most of the *Clerodendrons* require the temperature of a stove, or at all events of an intermediate house, there is a second species which is hardy in some districts, and will around London pass through most winters against a wall. This is *C. foetidum*, a native of China, which reaches a height of 4 feet to 5 feet, with large, cordate, pubescent leaves of a deep green tint, while the rosy red blossoms are borne in terminal clusters, which are on strong plants 6 inches or nearly so across. In the south of England it will grow and flower

well as a shrub in the open ground, though it is very seldom met with. It was first introduced into this country about seventy years ago. H. P.

### TREE AND SHRUB LIFE ON A KENTISH COMMON.

THE common or commons to which I more directly refer are those bounding the beautiful and historic estate of Holwood, one of the Kentish properties of Earl Derby. No one would expect to find trees of an unusual size or shrubs of the most vigorous growth on any of our common lands, these being for the greater part composed of land that would only come under the heading of third-rate for agricultural purposes. Where, however, will the Broom and Furze, the Heath and Clematis grow with greater freedom and more persistently, and the Birch and Scotch Fir seem more at home than on these usually gravelly and chalky commons and wastes? A treat it is at present on the rural little common of Farnborough to see the wide stretches of conspicuous golden flowers of the dwarf Gorse (*Ulex nana*), a plant that the more you cut and try to exterminate it the more persistent is it to hold on to the soil that has claimed it its own for centuries back. If we except the major species of the Gorse, no other native shrub of equal size is half so lavishly covered with flowers as this dwarf form, and the length of time occupied by a single specimen in expanding all its succeeding flowers is more readily counted by months than by weeks. The poorest, driest, and stoniest parts of the common come all alike to this pretty wilding, and it even wages war with the Heath for supremacy of certain tracts of ground. The Green-weed (*Genista tinctoria*) from July to September acts as a companion to the latter shrub, both growing in company in many instances, but in distinct patches on other occasions. Bearing some resemblance in flower to the dwarf Gorse, the Green-weed is a small-growing shrub of some interest, the pretty and showy yellow flowers being borne in great plenty. On Keston Common it occurs in great patches, and adds during the late summer quite a charm to this favoured spot. Of Heaths, three species at least are common enough, and in these dull September days they come as welcome harbingers of the pretty autumn tints and coral berries of the Rowan tree and wild Guelder Rose, both of which occur in plenty by our waysides and commons. To deal consecutively with the various shrubs and trees of one hedgerow—one of the old-fashioned 20-foot wide fences of our forefathers—on a common hard by would form quite a paper of itself, so I will content myself with the names of those as jotted down one evening last week. Thorns were abundant mixed up with the Dogwood (*Rhamnus*), Privet (*Ligustrum*), Guelder Rose (*Viburnum*), Beam tree (*Pyrus*), the Spindle tree (*Eunonymus*), Buckthorn (*Rhamnus catharticus*), Wayfaring Tree (*Viburnum Lantana*), common Honeysuckle (*Lonicera*), Elder (*Sambucus*), Holly and wild Maple, the latter with its pretty starry leaves bringing about a combination that is rarely seen far from the Southern English counties. Then the creeping Roses, the Bitter-sweet (*Solanum*), the Belladonna (*Atropa*), and Old Man's Beard (*Clematis Vitalba*) all help to lend a charm that it is hard to pass unheeded. Willows, too, are abundant, from the tiny *Salix repens* to the majestic white and fragile species *S. alba* and *S. fragilis*. But the Birches and Pines are full of beauty, and lend quite a charm to that prettiest and most frequented of spots on Keston Common—the fish ponds. The full dark green foliage of the Scotch Pine, enlivened here and there by the chocolate-coloured bark when lit up by the setting sun, and silvery tints of the pendent Birches forms a peculiarly suitable background for these capacious ponds. Occasionally one may detect a fine old Yew or unmutated Juniper hidden half away in the giant growth of scrub Oak and Beech that now and then occupies a considerable space of the common land. Seedlings, too, of the Cluster Pine (*Pinus Pinaster*) and the Weymouth Pine (*P.*



Strobus) are also to be found, the seeds having been transported from some neighbouring park tree to these more inhospitable surroundings. To distribute trees in so natural a manner as one finds them on these Kentish wilds would be a matter of almost impossibility, the easy outline of the larger masses and clumps and graceful unfettered spread of the single specimens being the envy of every lover of natural beauty. No pruning and distorting are here allowed, the specimen or clump growing upward and outward as it listeth, and thus on our commons and downs will be seen some of the most natural and unmutated of trees and shrubs. By the fence-side one often comes across fine flowering plants of the Tutsan or Sweet Amber (*Hypericum androsaemum*), a pretty shrub of 2 feet and 3 feet high, having pale green leaves and abundance of golden flowers. It is a pretty wildling, that helps to lend a charm to

for procuring water to moisten the soil around his trees, planted, as many were, by lamp-light and after a hard day's work at Westminster, on the rampions of the British camp within his grounds of Holwood. This Sycamore is now a noble tree with far-spreading branches, and is quite an ornament to that part of the common almost overshadowing the spring. A. D. W.

## STOVE AND GREENHOUSE.

### THE SCARBOROUGH LILY.

(*VALLOTA PURPUREA*.)

No more appropriate season than the present could be chosen for drawing attention to



The Scarborough Lily (*Vallota purpurea*).

the hedge-sides and open woods. Many introduced trees have taken hold of these commons, as, for instance, by Caesar's Well at the entrance to Holwood, where the False Acacia (*Acacia Pseudacacia*) has appeared as a little forest, the underground stem or roots having made their way beneath the oaken fence—the estate boundary—and shot up stout and strong on the grassy sward by the roadside. In another place and not far distant one may find a sturdy seedling of the Evergreen Oak (*Quercus Ilex*), or some other of the less common trees of our woodlands. Along the bank above the Roman villa at the extremity of Keston Common are to be found not a few rather rare representatives of our native flora, in the shrub line particularly, but the dread of extinction makes one silent about names and places. Just above the fish ponds and within sight of Caesar's Well grows a beautiful Sycamore, which in all probability was planted at the instigation of the great statesman, William Pitt, who, according to letters preserved at Holwood, used this famous well

the extreme usefulness of this Cape bulbous plant. It is not found nearly enough in our greenhouses, for where choice flowers are required from the beginning of August to the end of September it would pay to grow this plant in quantity. I have met with it, singular to say, in the best condition in somewhat out-of-the-way situations. I remember once having seen a few very fine plants in a small greenhouse, the only house apparently on the place, and that far too much crowded. In some parts, particularly along the south coast, it is grown by cottagers as a window plant, and that remarkably well. I saw it thus in a cottage window in Dorsetshire a few years ago, the plant flowering profusely. When grown under these somewhat disadvantageous conditions, surely there should not be any great difficulty in getting it to thrive well where the convenience is more extended, and in all proba-

bility better adapted to its requirements. I know, however, that many plants of it indeed, all the stock in some instances—have been lost by being attacked with the *Eucharis* mite (so-called, but which does not confine itself by any means to this valuable plant). Having been a sufferer myself from this scourge, and that severely, before it was much heard of amongst the *Eucharis*, I think that it is quite possible that others have also been the losers by the same pest. Want of attention, and that at the proper time, will also act materially against its well-being. It is a plant that will put up with a fair amount of rough treatment, but this must not be carried too far. This arises, I think, in some cases through a misconception of the plant and its requirements. It is by some authorities classed with the *Amaryllis* proper, but this is a mistake, or at any rate wants qualifying, for whereas the *Amaryllis* flowers in advance of the leaf-growth (with the exception of a few species), the *Vallota* flowers at or nearly about the completion of the same, which makes all the difference in treatment. As soon as the plants have flowered, less water is required, as nearly all active growth is then at a standstill until the following season's leaf-growth commences. Plants of the *Vallota*, methinks, often suffer from oversight when this commences, from the first signs of which until it is complete they should be kept well in view, for if this growth be not what it should be, the ill effects will be apparent in weakly flower-spikes, or probably none at all.

If the young growth be drawn up weakly through the plants standing in some out-of-the-way place, or when in bad condition at the roots, flower-spikes ought not to be expected. For my own part I have succeeded best when growing the *Vallota* upon shelves in the greenhouse, and that in one place where the old-fashioned flues were in use, subject, as a matter of course, to either over heating or escape of smoke. Why I prefer and think shelves a good place is because of the exposure to and the beneficial effects from the sun's rays. In its native country the *Vallota* would undoubtedly at certain seasons receive a considerable amount of warmth, although a few degrees of frost will not actually do any harm when at rest, as I have proved. A cool greenhouse with a shelf well exposed to the light will suit it admirably. At no time should it be kept quite dry at the roots, for being an evergreen plant there is always the need of sustenance from this direction, sufficient water being given whilst no active growth is apparent to prevent it from suffering, more being, of course, required when the new leaf growth commences and until the flower-spikes are removed.

Some plants of the *Vallota* are without doubt lost through carelessness in or non-attention to potting. Over-potting is a decided mistake, being one of the worst of evils. Rather than pursue this course, I would prefer to see the bulbs crowding one another out of the pots. Firm potting is essential, good fibrous yellow loam with a little leaf-mould or peat being the staple compost, sand of course being added, also charcoal if the soil be not of the best quality. Potting should be attended to when



there are signs of growth commencing, after which a slight amount of warmth for a week or two would be beneficial. This potting, when well done, need not by any means be a yearly operation; I would prefer to leave the plants for two or three seasons. Increase can be easily effected by removing the bulbets clustering around the base of the parent bulb when the potting is being seen to. It can also be readily performed by raising seedlings, sowing the seed as soon as it is ripe. By this latter means I have raised a clean stock in good quantity, my direct object having been the attempt to obtain a cross which did not take place, but failed, as I find others have also done. Imported bulbs are now being offered, these being sent direct from the Cape, where they are grown specially for exportation. My stock of these is just now commencing to grow. Whether I shall flower them the first season yet remains to be proved. I am watching this result with some interest.—PLANTSMAN.

—This Cape bulb is not often seen as a specimen, but when so grown it is an exceedingly handsome and showy plant, well repaying the extra trouble and patience required to reach that stage. The illustration given is not in any sense an unaccomplished fact, for only a week or two back I saw at the Brighton (New) Horticultural Society's exhibition a larger example than this which was then making a good display, yet not nearly in full flower. This size of plant can only be had by careful treatment, and it speaks well for the cultivator who can accomplish it. Those will succeed the best, and with a greater degree of certainty, who have been accustomed to cultivate specimen greenhouse plants, for the simple reason that they take every care with respect to watering and other necessary matters that are not brought out so prominently in the ordinary culture of greenhouse plants as used for decoration. Large plants must not, of course, be trifled with, for if once they become unhealthy there is trouble ahead, and with this a good plant grower is thoroughly conversant. The increased advantage in large plants lies in the fact of the larger and stronger spikes that are hereby secured upon the best bulbs.—P.

**The white Hoop-petticoat Narcissus in pots.**—It may be well to draw the attention of those who are not acquainted with this little winter-blooming gem, and who are desirous of having some choice things to bloom in the dull winter months, to its value. If the bulbs are potted by the end of September they will bloom well about Christmas, and this without putting them into a warm house. All that is necessary is to pot some eight or ten bulbs into a 4½-inch pot, using a light sandy soil and giving a good drainage. When potted, place the pots in the open air, covering them with cocoa-nut fibre or ashes till the bulbs begin to start. Then remove them into a cold pit or house where the frost can be kept from them. Here they will bloom about Christmas. The blooms are most useful, and they last a long time when cut.—J. CROOK.

**Campanula pyramidalis at Syon House.**—On visiting Syon House lately it was a pleasing surprise to find the above old favourite taking a prominent part with the temperate and tropical vegetation of most of the world in the furnishing of the magnificent conservatory. Perfect specimens, ranging from 4 feet to 6 feet or more high, were ranged in groups and lines in all directions, and neither Ferns, Palms, Camellias, Acacias nor the choicest greenhouse or stove plants suffered loss through the soft colouring and stately presence of the Campanulas. The white was well represented, as well as the blue. The plants seemed mostly grown in 10-inch or 12-inch pots, and the leaves were very healthy, the spikes of marvellous strength and length, and the individual flowers of full size. Mr. Wythes has made a speciality of his plant for some years to such good orna-

mental purpose, that one can but wonder this fine old Campanula is not more generally grown in masses, especially for large glasshouses. By carefully forwarding the earlier batches and retarding the later ones, as well as from the peculiar mode of their blooming, the plants may also be had in beauty for a long time. Mr. Wythes would confer a great favour on the readers of THE GARDEN by telling us how he manages to grow these plants so uniformly well in such enormous quantities.—D. T. F.

**Dianella aspera.**—Some two or three species of Dianella are every year very attractive at Kew; firstly when in bloom, as at that time the mass of dark green Sedge-like leaves is crowned with several large branching panicles of blossoms. The individual flowers are blue, against which the yellow anthers stand out very conspicuous. Pretty though the Dianellas may be in the flowering stage, they are more so when laden with berries, which vary somewhat in the different species, those of *D. aspera* being larger than full-sized Peas and of a beautiful violet-blue colour. They are freely borne, and from their weight cause the large panicles to partially droop. Though this Dianella has for years been very attractive in the temperate house at Kew, it is almost if not quite unknown outside of a few botanic gardens, and that not from any difficulty attending its culture, for it is easily increased by seed or division, and will grow in any ordinary potting soil. The Dianellas are all natives of Australia and New Zealand, and consequently need greenhouse treatment in this country.—H. P.

**Dipladenia boliviensis.**—Compared with the many garden hybrids of the Brearleyana class, the blooms of this Dipladenia are small, yet they are remarkably pretty; in fact, I look upon it as one of the most beautiful members of the genus, for the flowers are in colour of the purest white, relieved by a bright orange-yellow throat, while other desirable qualities possessed by it are, firstly, the fact that it is more robust in constitution than most of the bright-coloured Dipladenias, and, secondly, its blooming season extends over a considerable period during the summer and autumn months, and at times well on into the winter. The individual blooms are about a couple of inches in diameter, while they are often borne three or four in a cluster, freely distributed over the plant. It makes a good rafter plant in the stove, and may also be trained in other positions, for it grows freely. If secured to a wall that is somewhat damp, the stouter stems often push out roots and fasten themselves to the bricks after the manner of Ivy. It is easily propagated by cuttings of the growing shoots put in at any time during the spring and summer months. This Dipladenia was introduced from Bolivia in 1866.—H. P.

**Eranthemum albidiflorum.**—This is quite distinct from any of the other Eranthemums, and a pretty little species it is. It blooms freely when not more than a foot high, and in this stage the upright stems, which are clothed with deep green ovate leaves, are terminated by erect panicles of white blossoms, which remind one somewhat of a cluster of white Lilac. It flowers generally towards the end of the summer and in the autumn, but still blooms are often produced at other seasons. A second species now in bloom must on no account be omitted from any list of Eranthemums valuable for their flowering qualities. This is *E. Andersoni*, whose blooms are so beautifully marked, that did they but belong to the Orchid family, we should hear far more about them. The individual blooms are about an inch across and pure white, except the lower lobe, which is heavily blotched with a rich purple colour.—T.

**Scillas in pots.**—As this is the season when one's thoughts naturally turn to bulbs for the spring display, whether out of doors or in the greenhouse, it is a very appropriate time to call attention to the suitability of *Scilla sibirica* for growing and flowering in pots, either forced or brought on in an ordinary greenhouse temperature. They may be had in bloom soon after

Christmas, but the flowers do not open so kindly at that time as they do two or three weeks later, and little masses in pots 5 inches in diameter are by most persons much admired, more especially as at that season the Lily of the Valley is also in bloom, and its pure white bells contrast in a striking manner with the rich blue flowers of the Scilla. The length of time the Scilla remains in bloom is another point in its favour. The *Chionodoxa* will also bloom well in pots, but is not so amenable to forcing as the Scilla, one prominent reason being that the flower-stem is naturally weak, and consequently it is much more so if brought on in the forcing house.—H. P.

**Crossandra undulæfolia.**—This is a pretty free-flowering stove plant of easy culture, a prominent feature of which is the rather uncommon hue of the blossoms. In general appearance and style of flowering it bears a certain resemblance to the *Aphelandras*, and like them is most satisfactory in the shape of young plants, as older specimens run up tall and naked at the base. It is of upright growth, furnished with deep green leaves, ovate in shape, and with the edges wavy. The flowers are arranged in a terminal spike, as in the *Aphelandras*, but the individual blooms are larger than in any of the members of this last-named genus and of a bright salmon hue, suffused more or less with orange, for individual plants vary somewhat in depth of colouring. It was introduced into this country about a dozen years ago, and figured in THE GARDEN December 15, 1883. Cuttings strike readily enough, and if good shoots are taken in the spring or early in the summer they soon root, and will form effective little flowering plants by the autumn. If larger specimens are needed, several of these small plants may be grouped together in a pot or pan, and in this way they make a goodly show.—H. G.

#### SOME GOOD SALVIAS.

ALL who are acquainted with the various kinds of Salvias will agree that in the-e we have colours quite distinct from those of most other cultivated plants. I am not acquainted with a plant whose flowers are of just the same colour as those of *Salvia patens*, and yet one seldom sees it grown to any extent. A large mass of it when well placed is a distinct feature in the garden for many weeks in the summer. I have a large patch of it by my cottage door, and it is quite a picture, the blue showing off grandly against a stone wall at the back. This *Salvia* does well when grown in pots and will keep blooming well into the autumn. I find it most useful for mixing with early-blooming *Chrysanthemums* for conservatory decoration. In *Salvia splendens*, again, we have a plant that it is difficult to match in point of colour, the flowers being bright scarlet. This *Salvia* grows very freely. Cuttings rooted at any time during the spring and early summer will bloom freely through the last four months of the year. My method is to root the cuttings in April, potting them off, and when the weather is warm enough, planting them out. I give the plants liberal treatment through the summer and then take them up, potting them into a good soil. *S. splendens* Branti is an improvement on the type, being a stronger grower. Beautiful as the two foregoing kinds are, they cannot surpass *S. Pinneri*, the deep azure-blue flowers being most attractive. This is most telling arranged with groups of *Chrysanthemums*. This will stand out in the ground during the winter if a little material is used to keep the roots from severe frost. Roots have lived out here the last two years. Some years ago a discussion was raised in THE GARDEN as to whether old or young plants were the best for blooming. According to my observation, the old plants bloom infinitely better. Nor must *Salvia Betheli* be omitted. Although not quite so free-blooming, it is none the less beautiful. It naturally grows stronger, throwing up strong spikes of rosy-coloured flowers, which last a long time. *S. coccinea grandiflora* is a useful kind and very bright in colour, continuing in bloom a long time. Other good kinds either for the open garden or for



growing in pots are rutilans, the Apple-scented kind; Mons. Issanchon a striped form of splendens; gesneræfolia, Heeri, farinacea, &c. All are more or less beautiful and of easy culture.

DORSET.

## CHRYSANTHEMUMS.

### FROZEN CHRYSANTHEMUMS.

At the annual meeting of the National Chrysanthemum Society held last March I made the first announcement of Mr. J. Earland's desire to submit, frozen in blocks of ice, certain varieties of Chrysanthemums which he had raised in New Zealand from colonial saved seed. Ever since that time there has been so much curiosity aroused in this novel method of preserving Chrysanthemums, that I feel convinced a few words on the subject may be acceptable not only to those who saw them on Wednesday week, but also to those to whom the opportunity did not occur. There were in all eight flowers in six varieties, and they were frozen at the Meat-freezing Works at Wellington as far back as the month of April last, and shipped to England early in May by the s.s. *Mamari*. They reached this country the last week in July, and until the date of our early-flowering show at the Aquarium last week, the flowers were kept in the Cold Storage at Blackfriars. It will be seen therefore that they were in their ice-bound condition nearly five months, and indeed there seems to be no reason why they should not have remained in that state for as many years had it been deemed necessary. Colonial specialists in Chrysanthemum matters had very favourably pronounced upon Mr. Earland's seedlings, but it appears that before unreserved judgment could be passed upon them in New Zealand, it was felt that it would be more satisfactory to submit them to the floral committee of the National Chrysanthemum Society, and obtain by this means an authoritative decision on their merits. Of course transit in an ordinary way was out of the question, and Mr. Earland is to be congratulated upon the very unique method he selected to bring his flowers before our notice, and also to be congratulated upon the successful outcome of an idea which probably he alone thought of.

Mr. Earland's plan of preserving his seedlings was to place them in a perpendicular position in cylinders of tin filled with water, which were then placed in a refrigerator, the water in each tin being quickly converted into a solid block of ice, each containing a single bloom. The tins were then stored in a cold chamber on board the steamer that conveyed them to this country, and after their arrival placed in the company's cold storage until the time arrived for the flowers to be shown, when they were sufficiently thawed to allow of the contents being turned out. The whole experiment was unmarred by any mishap, and when on exhibition the flowers were perfectly visible in their solid cylindrical blocks of transparent ice. In one or two cases a few air bubbles were clinging to the petals, but they were of so little significance as to be almost unworthy of mention. The colours of these Antipodean Chrysanthemums seemed to suffer but little by the process, except that here and there a slight brownish tinge appeared on the outside of some of the petals, no doubt the result of their first contact with the icy temperature to which they were submitted. In form there was no fault to find at all, although I learn from the exhibitor that long-petalled flowers like Fair Maid of Guernsey are difficult to fix naturally, because when immersed in the water it causes the florets to float together in an unshapely bunch. Nearly all the blooms were incurved or Japanese incurved; they were very full and solid, and out of the six varieties two received commendations and two were awarded first-class certificates. Rimutaka, an incurved in the way of Lord Wolsley, but of a deeper purple and broader florets, would probably have received a certificate, but only one bloom was sent. Tarawera, a yellow Japanese incurved, and Zelandia of the same sec-

tion, but a silvery lilac flower, were both certificated because two blooms of each were staged. J. J. Kerslake, a large white Japanese incurved, received a commendation. Lady Bell of the same class, considered to resemble Lady Trevor Lawrence, was much admired, but the last of this interesting collection, Tongarero, a medium-sized lilac-coloured Japanese, did not find much favour in the eyes of the committee. Besides the distinctions above mentioned, it was felt that the exhibit as a whole, on account of its great novelty, was worthy of a special award, and the floral committee unanimously decided to recommend the society to grant Mr. Earland a silver-gilt medal commemorative of his interesting and instructive experiment.

The following extracts from a recent letter from Mr. Earland may usefully supplement the foregoing observations, and show something of the interest that attaches to Chrysanthemum cultivation in New Zealand:—

I am sending eight blooms. I had fourteen frozen, but thought such a number would be cumbersome. I hope the committee will not judge of the size of blooms by the home standard, as we in N. Z. are a long way behind in the cultivation of the Chrysanthemum. Another thing I should like to point out is, the flowers sent were grown in the open border without any protection whatever. . . . I find that seedlings do not show their true character the first year—at least the way I grow them, which is to put them in small pots, and any that are promising plant out in the open border the following year. . . . For the future I intend planting out the first year. I am convinced that N. Z. will produce plenty of good seedlings after a time when others go in for it. . . . Several people in N. Z. have imported seed from Europe and America, but with poor results. One man . . . got 500 seedlings from American seed, and not a good variety amongst them, but with New Zealand saved seed one is almost certain to get from 30 to 40 per cent. of double well-formed flowers.

In conclusion, it is only necessary for me to observe, as I have never failed to do with seedling raisers who correspond with me on Chrysanthemum matters, pay attention to the raising of good incurved varieties, try to import into that section some of the higher tones of colour to be found in the Japanese varieties, and you will find that Chrysanthemum raising will be a far more remunerative business than your most sanguine expectations ever led you to dream of.

C. HARMAN-PAYNE.

### CHRYSANTHEMUM NOTES.

ONE of the most remarkable features of the fancy of the day is found in the enormous number of Chrysanthemums in pots grown now in private gardens irrespective of those places where plants are grown almost exclusively to produce exhibition blooms. I found the other day at Maiden Erlegh about 1000 plants of many sorts and heights in pots, and nearly as many at Heckfield Place. In the former case they are grown for the production of blooms for cutting, for home use, and for conservatory decoration; in the other chiefly for market sale. I have no doubt but that both gardens will be able to show splendid blooms in due course. It seems, however, to be the case that whilst private persons call for the finest blooms hard thinning and pinching can produce, the market purchaser also much prefers the big flowers, and the grower finds that they pay best, fetching nearly double the money that smaller bunched flowers produce. Very soon will it be needful to house these armies of plants, and very often the grower finds that he has hardly room for one half that he has raised. Happy is he who, like Mr. Turton at Maiden Erlegh, has several hundreds of dwarf plants in 6-inch pots struck in May for giving useful material for house decoration and the furnishing of later flowers. Very fine blooms indeed will these later struck plants produce, especially when fed at the right time with some good artificial manure. Such plants as these when the large ones have been housed will stand between their often somewhat

naked stems, and thus occupy space not available for plants in large pots. A great necessity for pot Chrysanthemums is full exposure to sun and air; without such exposure good blooms are impossible. Wood must be as firm as possible ere now, even though it may seem very stout indeed. In the case of highly fed plants and coarse growth, this full exposure is all the more needful. A. D.

### CHRYSANTHEMUMS FOR THE FLOWER GARDEN.

FOR the embellishment of the flower beds in August and September, Chrysanthemums are extremely useful, providing the planter with subjects quite distinct from the ordinary run of summer bedders. Planted in a mass of one colour only, they are much more effective than when several kinds of distinct colours are employed. The sorts now obtainable are all of compact growth without being too tall. The present is the time to take note of suitable varieties for various purposes and sites, so that a stock of plants can be prepared in good time for next season. I can recommend the undermentioned as being well suited for this form of cultivation:—

**LA PETITE MARIE.**—Flowers white, of medium size, the tips of petals recurved; the habit is free and branching, not more than 1 foot high; flowers early in August, some times in July.

**MIGNON.**—Rich orange-yellow, neat round flowers, very free, growing 18 inches high.

**NANUM.**—Silvery blush, very free flowering variety, in perfection early in August.

**LA NYMPHE.**—Pure white, compact growth, free bloomer, height 1 foot.

**JARDIN DES PLANTES.**—Rich yellow, very like *Précocité*, compact habit, free flowering.

**SCARLET GEM.**—This name does not correspond with the colour of the flower, which is really orange with a deep bronze suffusion, very showy and deserving of cultivation in a mass; height about 15 inches.

**LYON.**—Deep rosy-purple, one of the best of its colour, 2 feet.

**MRS. CULLINGFORD.**—White, slightly tinted with pink in the centre, a good variety.

No list of early outdoor flowering varieties would be complete without *Mme. Desgrange* and its sports, *Mrs. Hawkins*, golden-yellow, and *G. Wernig*, primrose-yellow. E. M.

## ORCHIDS.

### ANGULOAS.

I AM asked to say a few words upon this genus by a reader of *THE GARDEN* signing himself H. Carmichael, who has but one plant house. It has plenty of sunshine, he says, but he cannot get on with Anguloas. Anguloas like plenty of shade; in fact, I used to grow them most successfully upwards of thirty years ago quite cool and in constant shade. In this position they used to make pseudo-bulbs larger than the imported ones. Anguloas are all terrestrial and natives of Colombia at considerable elevations. The genus is nearly allied to *Lycaste*, from which it differs in some few points. The first species was, I think, found by M. Linden, of Brussels, about fifty years ago, and Dr. Lindley named the species to commemorate the Rev. J. Clowes, who first flowered it. Anguloas do best in pots and require thorough drainage. Somewhat large pots are necessary for their accommodation, and they should be potted in good rough brown peat and Sphagnum Moss. During the growing season they require an abundant supply of water, but after the flowers are past and the growths finished up, less should be given, until the supply is stopped altogether, giving only just enough from time to time to keep the bulbs from shrivelling. In the winter months all the leaves fall off, and thus the plants



can be easily seen and a little water given them from time to time. The following kinds are all highly deserving the attention of Orchid growers, and the blooms last a considerable time in full beauty :—

**A. CLOWESI.**—This appears to differ considerably in the colour of its lip. The pseudo-bulbs are stout and fleshy, attaining a height of 6 inches or 7 inches, and they bear thin much-plaited leaves, which are 2 feet or more in length and bright green. It commences to grow towards the end of March. The flowers are produced from the base of the young growth soon afterwards and are fully developed in about two months. They last a long time in full beauty, and if the starting of the plants is regulated in a proper manner, a good succession of blooms can be secured. The scape is about 1 foot long and bears a single large cup-shaped flower, which is thick and fleshy in texture and of a bright, yet deep clear yellow. Its perfume I cannot recommend as being agreeable.

**A. EBURNEA.**—In this the flowers are as large as those of an ordinary form of the last-mentioned plant, but they differ in colour, being of a pure white. The plant is still rare in cultivation, as it does not appear to be plentiful in its native haunts.

**A. RUCKERI.**—This plant is nearly equal to Clowesi in stature, but yet is less robust; the flowers, which are very freely produced, are large and Tulip-shaped; sepals and petals yellow without, the ground colour on the inside brightly spotted with deep crimson, the lip itself being rich crimson. It is a beautiful flower, and destitute of the odour which renders that of Clowesi so objectionable.

**A. RUCKERI ALBA.**—This is a fine plant which I have only seen once, viz. in the collection of Mr. Dorman, of Sydenham. The flowers are as large as those of the typical plant, and of a uniform pure ivory-white throughout.

**A. RUCKERI SANGUINEA.**—This, the true variety, appears to be very rare. It is figured in the *Botanical Magazine*, t. 5384, the plant there shown having been flowered by myself. The outside of the flower is greenish and the inside of a very deep blood colour, the column being white, dotted with crimson.

**A. RUCKERI PURPUREA** is somewhat less strong in growth, but the flowers are large, the outside of the sepals and petals being tawny yellow and within of a uniform purple. This plant I have frequently seen in collections under the name of sanguinea, but the two appear to me to be quite distinct garden plants.

**A. MEDIA.**—This, which is supposed to have been raised between A. Clowesi and A. Ruckeri, I saw recently blooming with Mr. Measures from some plants imported by Mr. Sander, of St. Albans. The sepals and petals are tawny yellow on the outside, purplish within, stained with orange at the base.

**A. UNIFLORA** is smaller in growth and in the size of its flowers, which are more pointed in the sepals and petals, and in some instances pure white, and in others freely spotted on the inside with pink or dark brown. These plants are sometimes known by the names of *virginialis* and *Turneri*. A. uniflora as I know it is figured in the *Botanical Magazine*, t. 4807, and there it has flowers freely spotted with pink. WM. HUGH GOWER.

**Cypripedium philippinense.**—J. Chapman sends me a nice form of this. It has leaves 1 foot in length, leathery in texture, and with a rich glossy green surface. It has proved a good grower, and has been largely employed by hybridisers. The result has been seen in some hybrids that have flowered, amongst these being *C. selligerum*, *C. Peetersianum*, *C. burfordiense*, *C. Finetianum*, *C. priapus*, and others.—G.

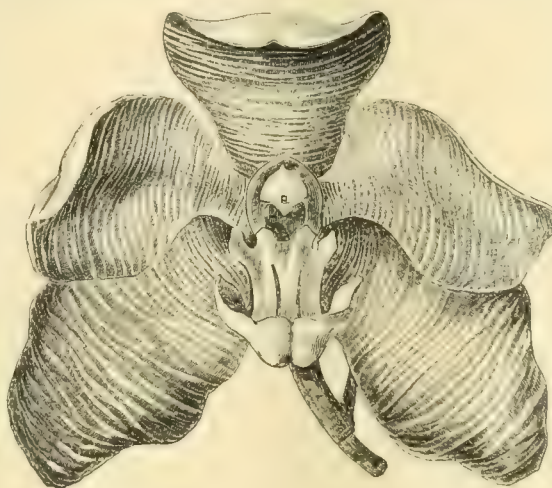
**The Swan Orchid** (*Cynoches chlorochilon*).—J. Jesmonde, Newcastle, sends me a deformed flower of this fine species, which makes me think it has been developed upon a newly-imported plant

The large flowers are greenish yellow or ivory-white; lip tinged with yellow. It lasts a considerable time in good condition if duly cared for. The plant should be grown in strong heat and a moist atmosphere, and should be kept cool and dry in the winter. Other species of this genus which used to be popular are *C. ventricosum*, *C. aureum*, *C. pentadactylon*, *C. Loddigesi*, &c.—W.

**Barkeria melanocaulon** (W. J. D.).—This is a very pretty flower and also very rare. I am glad you get on so well with the *Barkerias*. They do not do well in many places; and this, I think, is the reason why the genus is not more popular. The fact is these plants require full exposure to the sun in the daytime, a large amount of water over them and no soil to their roots, and the heat of the Cattleya house. The species in question is very similar to *B. Lindleyana*, from which it appears to differ principally in colour and the time of its flowering.—W. H. G.

#### SHORT NOTES.—ORCHIDS.

**Cattleya Gaskelliana alba.**—The pure white flowers of this beautiful gem are now to be seen in the



Flower of *Vanda Cathcarti*.

establishment of Messrs. Charlesworth and Shuttleworth, Clapham Park Nursery. The sepals and petals are broad and the lip prettily fringed.—G.

**Odontoglossum Inseleyi pantherinum** (J. B.).—This appears to be the name of your variety. It has broad sepals and petals, which are brown, becoming paler towards the edges, the whole of the yellow lip marked with reddish brown. I have seen this variety on several occasions, and consider it a very pretty flower.—G.

**Sobralia xantholeuca.**—A fine variety of this comes from Mr. Cypher, Queen's Road Nursery, Cheltenham. The plant has seven flowering shoots. A plant of this size will make a splendid show for a very long time. The flowers last fully four or five days after they expand, so that *Sobralias* should not be cast on one side so much as they have been.—W.

**Paraffin emulsion.**—Whilst in England I often had difficulty in using paraffin amongst plants from the fact of not being able to mix it with water. Since I have been here I have learnt how to thoroughly mix it so that it can be used with absolute safety both for spraying and sponging. Take one gallon of water and 1 lb. of soft soap and boil until the soap is well dissolved; then throw in about two tablespoonfuls of dry soap; stir well. After taking off the fire, add one gallon of paraffin; then take a syringe and pump it thoroughly to mix it. In about ten minutes it will be a thorough emulsion, which will keep and can be used as required. If properly mixed it will be of a consistency and much the colour of good

cream when cold. I use one gallon of this to ten gallons of water, and spray trees with young tender growth on them in a hot sun without damaging a leaf.—W. DOWNS, *Bigelow Grove, Winter Park, Florida*.

#### GARDEN FLORA.

##### PLATE 876.

##### VANDAS.

(WITH A COLOURED PLATE OF *VANDA TERES*.)

The genus *Vanda* has a wide distribution in the East Indies. Such kinds as *V. tricolor*, *V. suavis* and many others are beautiful even when not in flower, whilst they do not require so much heat in the winter as used to be imagined. I have had a large mixed collection of *Vandas* and *Aerides* flower well after being kept in a night temperature of 60°, which used to rise 5° or 8° in the daytime. In the summer-time the glass may run up to 80° or 85° with sun-heat, shading lightly during the very warmest part of the day, giving plenty of air, but no draughts, and keeping the atmosphere duly supplied with moisture. Treated in this manner, *Vandas* are easily managed. *Vandas* must have exceptional drainage, and upon this the plants should stand, having the pot filled in with good clean and living *Sphagnum*. In the spring-time this should be looked over, and any portion decayed or not in a fresh sweet condition removed, replacing it with fresh. Do not fumigate *Vandas*, as I have observed in them a tendency to cast their lower leaves after it.

**V. AMESIANA** is a free-flowering plant of small growth, native of the Southern Shan States. It grows on rocks and on trees, but the latter plants I have observed appear to be the better nourished, and these are the plants which appear to carry the most leaves. It makes strong, stout roots in great abundance. The leaves are each 1 foot in length and light green in colour; scape erect, many-flowered; the sepals and petals white, more or less flushed with rose; the lip rich rosy purple in the first plant that was flowered, but usually paler. A variety called *alba* in gardens has the flowers nearly white. It blooms in the winter months.

**V. BATEMANI.**—It is now fifty years since this noble plant was sent home in a living state by Hugh Cuming, and nearly that time has elapsed since it first flowered in Mr. Bateman's collection. For many years it remained a scarce plant, but Mr. John Veitch found it in abundance in the Philippines, since which time it has been more frequently seen. The stem is stout, and the thick fleshy leaves reach to about 2 feet in length and are pale green. The spike is 2 feet to 3 feet in length, bearing a raceme of many flowers, which are each some 3 inches across, thick and fleshy in texture, rich rosy purple at the back and tinted with violet, whilst in front they are yellow, spotted and dotted with deep red. The lip is of a purplish crimson. It blooms at the end of summer and beginning of autumn, and the flowers last for three months in good condition.

**V. BENSONI.**—This is another plant of small growth and requires an abundance of heat and moisture. The sepals and petals are yellowish green, netted with brown in front, china-white at the back; lip rosy pink, deeper coloured in front.

**V. CATHCARTI.**—This is a plant which Reichenbach moved from *Vanda*, and established a new

\* Drawn for THE GARDEN by Gertrude Hamilton in the gardens at Gunnersbury House, April 5, 1892. Lithographed and printed by Guillaume Severeys.



genus which he called *Esmeralda*. Others have removed it to the genus of *Blume* (*Arachnanthe*), and to this latter I agree. I here adopt the Lindleyan name on purpose to include it in the list of *Vandas* worth growing. The plant first flowered with Messrs. Veitch and Sons, of Chelsea, twenty-two years ago. It is a difficult plant to get home alive, as I know from experience, having imported it largely. In its native home it is always kept in a moist state the whole season, and hence arises the difficulty of getting it home alive. It is a scrambling, loose habited plant, which should not be grown in an erect manner, as it does best when allowed to hang down. The raceme is axillary, bearing several flowers, which are each about 3 inches across, the sepals and petals nearly equal, making a full round flower, the ground colour of which is soft yellow, transversely streaked with wavy bands of reddish-brown; lip large, the side lobes small, white, streaked at the base with red; middle lobe large, yellow, with the edges dentate, and the centre thick and fleshy. It comes from Assam, and requires to be kept moist the whole season.

*V. CLARKEI* (*Arachnanthe*).—This is a beautiful plant, introduced some seven years ago by Messrs. Low, of Clapton. I saw it flowering two years ago in Sir Trevor Lawrence's garden. The flowers are upwards of 3 inches across, the sepals and petals light brown with transverse bands of yellow; the lateral lobes small, erect, whitish, more or less marked and streaked with brown; middle lobe rich brown, with numerous radiating streaks of yellow. The plant appears to be a poor grower, and I think it has hitherto been kept too warm. The warm end of the *Odontoglossum* house would appear to be hot enough for it in the winter, and it might be shifted to the East India house in the growing season. It blooms during the autumn months and comes from Sikkim. It belongs to the same genus as *V. Cathcarti*.

*V. CÆRULEA*.—This is the finest variety of the genus, and the finest forms of it I have ever seen came to me last season from Mr. Woodall, of Scarborough. The scape bears seven to fourteen flowers, each about 4 inches across, the sepals and petals being soft blue, netted with a deeper blue, the small lip being of an intense deep bright blue. This blooms during the autumn, lasting a long time in perfection. It requires an abundance of air and water during the growing season.

*V. CÆRULESCENS* is a small growing kind bearing smaller flowers than *V. cærulea*; the blooms each measure from 1 inch to  $1\frac{1}{2}$  inches across, the colour being about the same as in *V. cærulea*. There are several named varieties of the plant which differ in colour. It usually flowers early in the season. Native of Burmah.

*V. CRISTATA*.—A small distinct plant, which appears to be widely distributed in Northern India. The flowers measure some 2 inches across, the sepals and petals light yellow, sometimes tinged with green, the lip large and curious, velvety, the surface yellow streaked with blackish-purple; it flowers in the spring months. Native of Sikkim, &c.

*V. DENISONIANA*.—This is a very pretty white-flowered form, but I have seen many plants which had the blooms badly tinged with green. It flowers in spring. Native of Burmah.

*V. GIGANTEA* deserves to be grown for its noble, massive appearance. It has very broad and fleshy leaves which are each some 2 feet long, and a drooping raceme bearing usually about six flowers, each about 3 inches across, thick and fleshy in texture. The flowers are rich yellow, spotted and dotted with dark brown; lip very small, white. It blooms in spring and comes from Burmah.

*V. GOWERI*.—This has only flowered upon one or two occasions. It is very slender, producing a spike about a foot in length bearing many flowers; sepals slightly broader than the petals, all pure white; lip small, white, yellow at the apex, green at the base, with a few streaks of red. It comes from Upper Assam, and should be kept in the *Odontoglossum* house, as in the winter season

it frequently has snow upon it. I believe it belongs to the genus *Arachnanthe*.

*V. HOOKERIANA*.—The flowers of this each measure some 2 inches or 3 inches across, the dorsal sepal and the petals being white, dotted with purple; the lower sepals white, usually unspotted, somewhat triangular and of a rich purple, marked with darker spots and dots. It comes from Borneo.

*V. INSIGNIS*.—This fine species was figured in THE GARDEN of March 1, 1884 (p. 168). It was introduced

one plant only having been imported. This is now in the famous collection of Baron Schröder. The flowers are of the same shape as those of the typical plant. It was found with it, and it flowers at the same time, but the sepals and petals are clear yellow and the lip is pure white. It is figured in THE GARDEN of March 1, 1884 (p. 168).

*V. KIMBALLIANA* is a fine species introduced from the Shan States. It seems to be thoroughly distinct from every other *Vanda* yet known; the leaves are narrow and deep green, scape nodding,

bearing sometimes twelve flowers. The sepals and petals are pure white, the lateral sepals much the larger, falcate. The lip is upwards of an inch across, rich bright glowing purple; it blooms in the autumn. A figure of this plant will be found in THE GARDEN of April 5, 1890 (p. 324).

*V. LAMELLATA*.—This is an old species, although not often seen. The variety known as *Boxalli*, figured in THE GARDEN of June 4, 1881 (p. 574), is much the brighter coloured. It was introduced by the Messrs. Low, of Clapton. The upper sepal and the petals are of a creamy white, the lateral sepals larger, the upper half creamy white, the lower half reddish-brown, the lip rosy purple. It is a small growing plant, found in the hot, moist valleys of the Isle of Luzon. A plant which I found flowering in Williams' nursery in January last had been in bloom since the beginning of November of the year previous.

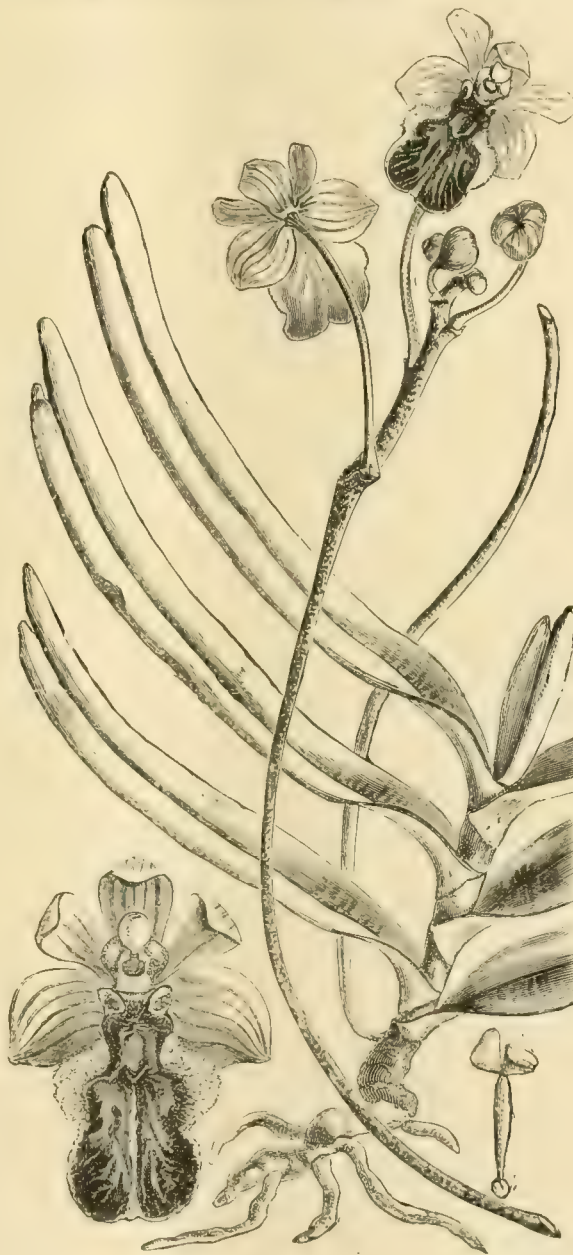
*V. LIMBATA*.—This plant is a native of Java, but it is very scarce in cultivation. The spike is erect and many-flowered. The flowers are each about 2 inches across, the sepals and petals china-white at the back, cinnamon-brown in front, with a yellow border, and netted with darker lines; lip rosy-lilac in front. It blooms in June and July.

*V. PEDUNCULARIS* (*Cottonia*).—I have seen this plant once only, in the collection of Consul Schiller at Altona in 1862. I recently saw some plants which much resembled it in Sir Trevor Lawrence's collection at Burford Lodge. The plant, although included here, differs from the true *Vandas* in several details. The flowers, although not showy, are very pretty; the sepals and petals are yellowish green, the lip deep blackish purple, with a marginal border of pale yellowish green. It comes from Ceylon.

*V. PARISHI* is a stout growing variety, having broad, short fleshy leaves; scape erect, bearing a raceme of showy flowers, which are each upwards of 2 inches across; sepals and petals greenish yellow, freely spotted with brown; lip magenta-purple, paler at the margins. This blooms in the summer months and comes from Burmah.

*V. PARISHI MARIOTTIANA*.—This is a much finer form than the typical plant. It flowered first with Sir William Marriott, Bart. The finest form of the variety I have seen was flowering in Mr. Tautz's collection when at Shepherd's Bush; the flowers were very round and wholly rich magenta, white at the base and the lip bright purplish-magenta.

*V. PARVIFLORA* is perhaps better known by the name of *Aerides Wightianum*. It appears to be a native of Madras and Bombay, and is a small growing plant. It bears an erect spike of many flowers, which are comparatively small; sepals and



*Vanda peduncularis.*

in 1866 by the Messrs. Veitch and Sons through Hutton, their collector. Although the name was common enough in our gardens years before the living plant was seen, the name was usurped by a form of *V. tricolor*. Though having the growth somewhat of *V. tricolor*, its flowers are very distinct; the sepals and petals soft brown with darker spots; the lip is white at the base, expanding into a concave limb, which is rosy-purple. It flowers during the end of summer and beginning of autumn. Native of the Maluccas.

*V. INSIGNIS SCHROEDERIANA*.—This variety appears to be exceedingly rare in its native country,



## THE WEEK'S WORK.

## ORCHIDS.

petals spreading, orange-yellow; lip bluish-purple in the middle, with a yellowish marginal border. It seems to be very scarce in cultivation. I used to find it rather difficult to grow in pots, but I succeeded well with it in small hanging baskets.

**V. ROXBURGHII.**—This plant first flowered about seventy years ago, and though looked down upon by many, it is a very beautiful species. It is a somewhat small-growing and stiff plant of a very deep green, the spike being erect, bearing less than a dozen flowers, which are each about 2 inches across; the sepals and petals china-white on the outside, the face greenish, netted with brown, and the lip bright blue with a white base. I have seen a variety with a reddish lip. It blooms in the spring months.

**V. SANDERIANA.**—This was found by one of Mr. Sander's collectors about ten years ago in the island of Mindanao. It appears to be a difficult plant to establish upon arriving home from its native country. It was named in honour of its introducer by Reichenbach, and lately I have heard of its bearing a dozen flowers upon a scape, each flower being between 4 inches and 5 inches across; the upper sepal and the petals are rosy pink, the lateral ones very much larger, tawny yellow, netted with crimson; lip small, reddish purple. It blooms during the autumn months, lasting long in perfection if kept from damp. It was figured in *THE GARDEN*, Feb. 9, 1884, p. 104.

**V. TERES** is widely distributed through Northern India, about Sylhet, Khasia, and Assam. It is an old inhabitant of our gardens, having been introduced in a living state more than sixty years ago. Some five or six years afterwards it first flowered at Syon House. *Vanda teres* remained a shy-flowering plant for many years; indeed it seemed to be a plant which every grower tried to shun. I suppose most of the plants then existing in the country had been propagated from one stock, and that not by any means a free-flowering one. The species got a bad name, and it was not until the plant came to be imported from the Burmese territories, over which it is likewise widely spread, that we began to know what a magnificent plant we had nursed so reluctantly for so many years. With the late Mr. B. S. Williams the first of these free-flowering varieties used to bloom every year. This was a plant about 18 inches or 2 feet high. Mr. Patch when in charge of the Manley Hall Gardens at Manchester used to flower this variety splendidly, but the finest plant I have ever seen was a specimen the property of Mr. Broome, then of Didsbury, but now of Llandudno, in North Wales. This gentleman had a fine plant which bore upwards of 250 flowers at one time. This has a richer colour in the individual flowers, and it bears more flowers on the raceme. Several recognised forms are now to be found in collections, the most distinct of which are *Andersoni*, *aurora*, and *candida*. This is not, like the great majority of the *Vandas*, a handsome plant when out of bloom. The leaves are some 4 inches or 5 inches long, the spike of bloom issuing from the stem opposite to the leaves and bearing from three to seven flowers, each of which is from 3 inches to 4 inches across, the broad sepals and petals being of a deep rose colour with a lighter border, the lip rose coloured, streaked with darker lines, the disc and the side lobes more or less yellow. In the variety *candida* the sepals and petals are pure white, the lip also white, faintly tinged with rose, the interior of the side lobes pale yellow. *Vanda teres* enjoys plenty of heat and moisture during the growing season. During the winter, its resting season, it may be kept cooler and drier.

**V. TRICOLOR** has a great number of colour varieties, scarcely two plants being alike. This I saw flowering freely from a fine lot of imported plants in the Orchid nurseries of Mr. Seeger at Lordship Lane, Dulwich.

The flowers of most of the species and varieties named above, in addition to being very beautiful, are also sweet scented.

WM. HUGH GOWER.

I ALWAYS feel less anxiety for the plants from the middle of September until December. They are not likely to be overshadowed, for the shading is seldom used; nor are they likely, at least during October, to be injured by cold cutting winds driving through the ventilators. It used to be a very dull period of the year; few Orchid blooms were to be had, and the interest in the plants would sink to the very lowest point. I am now speaking of from twenty to twenty-five years ago. At that time how eagerly we looked forward to the flowering of *Cattleya exoniensis* and the autumn-flowering *C. labiata*; now we have a constant succession of *Cattleyas*, and the autumn-flowering *C. labiata* is plentiful in every good collection. *Cattleyas* in flower need little attention; they may be kept rather dry at the roots, as the flowers last rather longer, or at least it is supposed they do in that condition. The *Dendrobiums* have not yet all ripened off; even the late-flowering growths of *D. nobile* have not yet become fully matured. I keep some of them very late, and could cut flowers of *D. nobile* about the end of June, and if a succession has to be kept up of this good old species from January to midsummer, there must also be late and early periods of ripening the growths, and as these are matured, place the plants in a cool house, but not in currents of air. *D. nobile* is comparatively hardy, but not so some other species that may be placed with such as *D. Wardianum*, *D. crassinode*, *D. Falconeri*, *D. Ainsworthi*, *D. Leechianum*, and any hybrids that may claim parentage with the above, *D. Pierardi*, *D. chrysotoxum*, *D. primulinum*, *D. cretaceum*, and some others. I have always been satisfied when the temperature of the house where these and kindred species are during the resting period in winter does not fall below 45°, and I have always made it a point to place them where the air did not circulate freely upon them. They can be placed in a warmer house as it is seen that they are needed for successional bloom. The best are *D. Wardianum*, *D. nobile*, and the hybrid varieties of which *D. Ainsworthi* may be named as the type. All the above have very beautiful flowers which are excellent for cutting. The great point in the culture of all these *Dendrobiums*, including the evergreen species, is to get a good strong, well-ripened growth during summer. I believe the treatment during the resting period is of the utmost importance. The handsome *Sobralia macrantha* and other new and old species, some of them even more beautiful, have a tendency to make considerable root growth at this season. I find that good yellow fibrous loam and peat are what the plants like, and if they really need repotting, this should be seen to at once. Although the plants are not making any growth above ground, it is certain that the active periodical root-action which commences at this time of the year must be of much importance to the plants, and even large-sized flower-pots soon become firmly packed with these thick fleshy roots. The old useless growths of these *Sobralias* may be cut off. We may soon expect the pretty little *Pleiones* to be showing their flowers. My plants were this year suspended near the glass roof, where they were freely supplied with water when in growth, and the bulbs being early well developed, they are now in capital condition for flowering. The dying off of the leaves should not alarm young beginners, as it is the natural habit of the plant to lose its leaves. The more common varieties are perhaps the prettiest, and the bulbs may now be purchased at a very cheap rate. We grow for flowering in the late autumn and early winter *P. maculata*, *P. lagenaria*, and *P. Wallichiana*. Because the plants have lost their leaves, some growers may take it for granted that the bulbs do not need any water. I acted upon this assumption at one time, and found that it was a mistake in culture to allow them to go without water altogether. The flowers come with the young growth, and both suffer if the bulbs are allowed to shrivel. *P. humilis*

and *P. Hookeriana* flower in the spring. They do best in the cool house; in fact I have tried *P. humilis* in the *Cattleya* house and failed with it. Evidently it does not like to be exposed to sunlight and heat, as the others do. As soon as the *Pleiones* pass out of flower they should be repotted. Some persons repot them every year, but this is not necessary; it will be sufficient to do so every second year. Remove the old decayed bulbs, and part the last-formed ones out carefully without injuring the rootlets, which also push out at this time. Fill the clean pots half full of drainage, and pot the bulbs, from nine to a dozen, in 5-inch and 6-inch pots, using good peat and Sphagnum Moss with a mixture of charcoal and drainage material. If the repotting of these plants is delayed long after the flowering period is over, the new rootlets rapidly forming will be much injured. The *Odontoglossums* and a few of the *Masdevallias* that are wintered in the *Cattleya* house, and which have been since May in the cool house, must again be placed in their winter quarters. The following are treated in that way: *Odontoglossum vexillarium*, *O. Harryanum*, *O. blandum*, *O. nevium majus*, and *O. Warscewiczii*. Amongst the *Masdevallias* may be named *M. tovarensis*, *M. bella*, *M. Backhousiana*, *M. Wallisi*, and all this type. The pretty and distinct *M. ionocharis* is also included amongst them. I do not know whether the *Masdevallias* or the *Odontoglossums* are more liable to be attacked by thrips. This troublesome pest does a great deal of mischief to all of them unless precautions are taken to keep the thrips from the leaves. They mostly appear when the plants are in growth, and thrive amazingly unnoticed well down amongst the leaves. The best plan is to dip them in tobacco and soft soapy water. We make our tobacco water by boiling a certain quantity of tobacco paper. If there is some soft soap with the water it seems to extract every trace of tobacco from the paper. It is well to take the chance of moving the plants from one house to another to give them a dip. J. DOUGLAS.

## THE KITCHEN GARDEN.

**DIGGING POTATOES.**—There will evidently be a heavy crop of Potatoes this season, the weather having been much in their favour. Now that the majority of the kinds has stopped growing and also commenced to ripen off, no time should be lost in getting them out of the ground. There is also the likelihood of our having fine weather, which is an advantage, especially on heavy soils, in getting the tubers lifted clean. By leaving the Potatoes in the ground, if a wet time should set in, the quality is apt, on clay soils especially, to deteriorate, the tubers becoming attacked by grubs. The old practice of allowing Potatoes to remain in the ground until the haulm has died down has now, it is hoped, become obsolete. With the exception of the latest, such as *Magnum Bonum*, and which is best allowed to remain until the haulm changes for ripening before being dug, all Potatoes might now be taken up. The disease has not been very rife this season, not even among the first earlies, although I lately saw a large plot completely spoiled through not taking the precaution to dig them directly the haulm had changed.

**STORING POTATOES.**—The storing of Potatoes after being dug must receive prompt attention, for even if dug in a perfectly sound state, it will depend greatly upon the storing whether the quality is maintained or not. A dry and cool shed from which light is perfectly excluded, and where they may also be effectively protected in case of frost, is the best place for storing. The tubers are also better if they can be laid in a comparatively shallow layer after being first dug—1 foot or 18 inches, for instance. At this stage freshly-dug Potatoes are apt to sweat considerably, and if means are not taken to dissipate this moisture, the quality of the tubers is liable to be affected by becoming soapy when cooked. This is very likely to happen if huddled together in large heaps; and if these should be closely covered to exclude light,



the evil is aggravated even more. If it can possibly be managed, it is best to exclude light by darkening the window, and if it should be found necessary to further cover up, this must be done afterwards. If covering is a necessity from the first, let this be done lightly by throwing an old mat or two over them so as to allow the moisture to escape. Light, of course, must be effectively excluded, this quickly greening the tubers, when of course they would be spoiled for eating. If there should be the least suspicion of disease, look them well over in the course of a week.

**SEED POTATOES.**—Unless in the case of the later kinds, it is much better at this season to look over the stock of Potatoes and note what are required for seed. This is especially necessary with the first or second earlies, or any other variety which may be short and of which it is wished to further increase the stock. By taking note now and reserving those intended for seed, there is not the likelihood of their being used up in mistake, as often happens when seed-selecting is deferred. Another advantage is that the seed tubers may be laid out thinly from the first, and by arranging them in a perfectly cool store the primary shoots are not apt to be forced before their time. Warm and close places must be avoided. With the first earlies this early seed-selecting and storing are of primary importance, these of all others being apt to start away if kept too warm and close. Darkness is not essential for seed tubers, and they are certainly the better for being slightly greened. Where there is not a proper seed store and room is not very plentiful, the tubers may be packed closely together on end in shallow cutting boxes, these having strips of wood between when stood on each other, as they often have to be to economise space. Medium-sized tubers should be selected, these being preferable to small ones.

**LEeks.**—In ordinary cases where Leeks are planted on the level, little can be done now to increase the size of the stems, although frequent surface hoeings when the soil is in fit condition are the best aid to further their progress, and should be practised not only to stimulate growth, but also to keep down weeds. Leeks which are growing in prepared trenches may, if extra size in the stems is desired, be further assisted with liquid manure, pouring it down along each side of the trenches in sufficient quantities to reach the roots. Liquid manure made from fresh cow droppings and soot is the best. Where planted with the idea of earthing as the plants advance, this may also now be done, taking care to gather up the leaves of each plant previous to drawing up the soil, so that the hearts of the plants do not become smothered up. Folds of brown paper are also often used. In these cases take care not to bind the paper too tightly, afterwards banking up with soil. The little-and-often practice of earthing up Leeks is not at all necessary, once or at the most twice being ample; this latter only where the plants were planted with the roots near the surface, as in these cases extra earthing is necessary to get a sufficient length of blanched stem.

A. YOUNG.

### FRUIT HOUSES.

**UNHEALTHY VINES.**—When the Vines give signs of failing health, this following probably a series of productive seasons, the cause is usually attributed to a defective root-action. In some instances the borders may have been too rich at the outset, and this, coupled with repeated rich top-dressings, mulchings, and heavy supplies of liquid manure, ends in the soil becoming inert and sour. No roots will long survive in such a border, and nothing short of a complete change of soil will restore the Vines to a healthy free-rooting state. The other extreme, or a completely exhausted border, is another even more frequent cause of the Vines failing to do so well as desirable. Some borders naturally support the roots very much longer than others, those largely composed of a rather strong loam, being of a more retentive character, are naturally the last to become exhausted, as well as the first

to become over-rich and sour. No rule can therefore be laid down as to how long a border will remain in a fertile state or capable of maintaining the Vines in a thoroughly healthy state, so much depending upon circumstances. In any case, if the Vines fail to produce and well ripen a good crop of medium-sized to large bunches, then the effects of a breadth of fresh soil in the place of some that is exhausted should be tried. Much may always be done towards keeping the roots in the requisite active state by means of fresh top-dressings of loam, manure, and other materials; but this in the course of time ought always where possible to be supplemented by the renewal of the fronts of the border.

**OVER-RICH BORDERS.**—It is these that require the most drastic renovating or restoring measures. Vines doubtless need plenty of moisture and a fair amount of rich food, but anything in the shape of stagnation and sourness is most repugnant to the roots, and must be corrected before a healthier state of affairs prevails. The roots will travel anywhere but in an over-rich or manure-sick border, and this is soon discovered when the latter is broken up. Now is the best time to commence this important work in the case of all early and second early Vines. After the crops are cleared off and while yet the leaves remain in a green state root-action is most brisk, and any operated upon now would have good time to form fresh roots before the foliage falls. Borders that are in a close inert state, and also any very old and nearly or quite exhausted of all fertility, contain comparatively few roots, and may well be broken up to within a yard of the stems. Unhesitatingly fork the soil away from the roots and wheel it clean away, as it is of no further value as far as the Vines are concerned. Any long naked roots come across are scarcely worth taking much care of, and they may well be freely shortened back to a length of 7 feet from the stems, the reserved parts being kept matted over and frequently moistened with a syringe. Add a width of new border about 4 feet wide, this being composed principally of turfy loam roughly chopped up, adding bone-meal, half-inch bones, old mortar rubbish and wood ashes freely. Loam being somewhat scarce, use equal parts of this and the best garden soil procurable, Vine roots delighting in this rather than otherwise. The materials ought to be well mixed and put together rather firmly, the Vine roots, after the damaged ends have been cleanly cut over, being evenly distributed throughout the soil, giving those previous deeply running a more upward tendency. In some few cases it may be necessary to examine and make good the drains and drainage, but if these were well put together in the first instance they do not readily clog. More often than not no water ever passes through them other than light drainings.

**EXHAUSTED BORDERS.**—Fresh soil invariably promotes a healthier root-action, very few active root fibres being found in stale or badly exhausted soil. It may not in very many cases be absolutely necessary or even desirable to break up the greater part of an exhausted border, as it is possible to enrich it considerably from the surface. All the same, a new width of border will greatly benefit the Vines, some of the most successful cultivators renewing the fronts of their borders every second or third year, this keeping the Vines in admirable health and vigour. A width of 3 feet may be unhesitatingly cut clean away from the front of a fairly large border, and in the case of very old borders another 3 feet, only taking care of the roots in this case, may well be forked cleanly away. If the narrower width only is removed, a similar breadth of fresh compost, such as I have already described, should replace it; but in the case of larger widths it would be a good plan to extend the addition over two or more seasons, or according as the roots take possession of the new compost. The fronts may be built up with turves, though a loose stone or brick wall would answer as well, perhaps better. It is also advisable to well bare the surface roots and to top-dress with a richer compost than that already described. Exhausted borders cannot always be treated on the lines laid down, but they ought not to be neglected. After a heavy crop of

fruit is cleared off the Vines, recuperation of strength may be greatly assisted by means of two or three good soakings of fairly strong liquid manure, drainings from mixed farmyards well diluted and the overflow of cesspools being as good or better than anything else that can be recommended.

**TREATMENT OF THE FOLIAGE.**—If the Vines are very roughly treated at the roots, they are certain to flag somewhat when the sun shines on them. They ought therefore to be shaded during the hottest part of the day and very frequently syringed overhead. For two or three weeks the house ought also to be kept rather close, a forcing temperature, however, being avoided. If the portion of reserved old border is at all dry, give this a good watering, and the fresh soil may also be watered if dry when put together. Pinch back all young shoots that form, as it is root, and not top-growth that wanted.

PRACTICAL.

### PLANT HOUSES.

**PLANTS AND SHRUBS FOR FORCING.**—Where any additions to the stock of this class of plants have to be made, it is better to set about it in good time so as to get the plants well settled in their pots before winter sets in. The advantages of early potting are obvious if note be taken of the plants. The check given to them in lifting and potting is not much when proper care is taken, but this is soon overcome by early potting, fresh root-action to a small extent taking place prior to forcing being commenced. The potting of hardy shrubs is oftentimes performed in too careless a manner. It pays to do this work well not only for the more immediate flowering stage, but for the good of the plants afterwards. For instance, when potted loosely or in an indifferent manner, there comes a pinch when the sun gains power in the spring, with watering required much more frequently. When done well with soil suitable to each particular kind, it is also much better for the plants afterwards, whether they be grown on in their pots or planted out for a season or two. *Azalea mollis* can be retained for several years in the same pots by giving the plants the average amount of care, flowering well at least every alternate year. Some growers prefer to plant them out. This is a good plan when the soil and the aspect are both suitable for securing the best of growth, so as to recuperate the plants as speedily as possible; otherwise I decidedly prefer to keep them in pots and add a few each year to the stock as may be necessary. These remarks apply with equal propriety to *A. sinensis* and the double and semi-double varieties of each. The latter are worthy of much more extended culture, being more satisfactory as cut flowers through their better keeping properties. *Azalea amena* is frequently grown in open quarters in nurseries. Plants chosen from such positions are better than those which have been a few years in pots when the latter have not had the best of treatment.

Imported Lilacs, as represented by Charles X., should be potted up immediately they are received. If allowed to remain exposed, the roots must inevitably suffer. These should be put into pots as small as possible consistent with preserving the ball intact, ramming the soil (a loamy one) quite firmly. Home-grown plants that are larger and mainly required for cutting will do very well in baskets or boxes. Old bushel baskets or boxes nearly square will suit them well. These plants are sometimes lifted and placed in heat without either of these processes, the roots being merely covered with leaves or manure. This may answer fairly well, but the plants suffer much more, the pinch coming when all the bloom is cut and the plants have to be put aside to make room for others. It is thus nothing less than a sacrifice for the sake of a little more labour at the outset. Deutzias that have been grown on in the open ground ought also to be potted up, as in the case of Lilacs, keeping to small pots as much as possible. Those that have previously flowered in pots should have a good surface dressing, fresh potting only being resorted to in cases where it is deemed abso-



lutely necessary. Guelder Roses as sold by the trade should have been in pots throughout the past season; these are much the best to secure a good crop of flower. The pots may appear small, but repotting is not at all desirable. The double-blossomed Plum (*Prunus sinensis flore-pleno*) does well under the same treatment as the Deutzias; so also does *Spiræa confusa*. Both of these if well cared for after flowering will continue to do well from year to year. If fresh stock of these is purchased to be potted up for forcing, it should be seen to without delay, keeping to small pots. In the case of Roses it is never advisable to force them the first season after potting; it really means failure as a tolerable certainty. Get them potted up as soon as possible, but let them have one season wherein to get established.

Of Evergreens, *Rhododendrons*, *Kalmias*, and *Andromeda floribunda* are the chief sources of supply; these should all be secured and potted up as soon as possible. If large sized plants are to be lifted from home sources, the same advice holds good. It is never advisable to leave this work in such cases until the plants have to be started; frosty or otherwise unfavourable weather may then ensue to render the work unpleasant as well as detrimental to the plants. In the potting of these Evergreens (also other shrubs), allow sufficient room for watering. I have seen shrubs in pots with the soil nearly level with the top of the pots. This is not rational, to say the least, as far as concerns the good of the plants, whilst it involves a deal more labour. Christmas Roses, herbaceous *Spiræas*, and similar plants (*Lilies of the Valley* included) should all be potted up in good time, still leaving them in the open.

In the case of shrubs for forcing, all the sunshine that they can now receive will be most beneficial to them. It is a mistake to let them stand in shady corners, where the wood does not become well ripened. Protection at the roots by plunging is most beneficial. All freshly potted-up stock should be plunged immediately after potting when one thorough good watering has been given. This should be done not merely to the rims of the pots, but quite over them, and in sufficient thickness to be a protection when sharp frosts ensue, litter being added in severe weather. The supply can thus be drawn upon at all times, whilst the protection is decidedly important as far as the well-being of the plants themselves is concerned. This matter of plunging in the case of hardy plants in pots for forcing is not sufficiently adopted, not only in the case of freshly potted stock, but also as it concerns older stock kept in pots from year to year for repeated forcing. JAS. HUDSON.

## FLOWER GARDEN.

### AUTUMN FLOWERS.

Is it not delightful to go into a well-planted and well-kept garden on a bright sunshiny morning in September with the air crisp and invigorating, and the autumn flowers, especially perennials, in their splendour? This is the time at which *Lilies* are most captivating; the various kinds of *auratum* are nearly over, *platyphyllum* being the latest and best. The *lancifolium* varieties are now opening their buds rapidly, and there are so many shades of colour amongst them, that if planted in groups you have masses of lovely tints, from the white frost-petalled *Krætzerei* to the carmine *Melpomene*. Of the *Tiger Lilies*, the flowers of the variety *t. splendens* are now at their best, and from the height that their stems grow, form an interesting and indeed remarkable feature, especially when grown in masses of twenty-five or fifty bulbs in one spot. The contrast between these *Lilies* and the white *Anemone japonica*, now also in full bloom, is delightful; the latter when planted around the *Lilies* forms a dark green

carpet with the foliage rising from the base of the plants, and relieves the otherwise rather monotonous and uninteresting appearance of the *Lily* stems. The numerous varieties of *Helianthus* placed here and there and interspersed in shrubberies throw a golden halo over the green, red, and white of the other plants in our gardens, the variety of *Harpalum* named *semiplenum* being just now specially effective. *Eryngiums* are now dying off, but still the lovely amethyst-blue can be seen here and there on the fading stems.

The flowers that, alas! are now becoming few and far between are *Roses*, the loveliest of all our garden favourites, but we have had a delightful harvest this year; in fact, from the first week in June. The season has been so propitious, that blooms have been of a high standard up till now; but we must be resigned to soon seeing the last *Roses* of summer and to being content with what else is left to us. *Pansies* are still plentiful, and nothing is prettier than numbers of these lovely flowers, which are of such varied hues and never seem out of bloom. *Dahlias* have been beautiful, but the frosts which have prematurely come upon us will soon destroy their beauty. The *Clematis* still lingers, and that which I consider in many ways the most effective of all the species of this plant is blooming profusely. I refer to the sweet-scented *flammula*, which when grown over old trees and shrubs, such as *Arbor-vitæ*, makes a delightful picture. I think that although in many respects the garden in autumn may be said to be at the height of its glory and is more taking to the eye than at any other time, yet there is a drawback in the reflection that we are approaching the cheerless months of October and November and winter with all its dreariness; consequently the spring-time is that which we all love best, as although the flowers of spring have not grandeur, there is no *arrière pensée* in their enjoyment; but, on the contrary, an addition to the delight of their sweetness in the knowledge that we have all the succeeding months with the hope, if not the certainty, of other lovely flowers to follow in rapid succession, each one giving pleasure in its turn. CHARLES J. GRAHAME.

Croydon.

**Zauschneria californica.**—Complaints are often heard that this does not succeed so well in gardens as could be wished. This is a surprise to me, considering that here it grows like a weed on the rockery. I have it planted in several places, in all cases where the root-run is deep, at the back of a large stone where its roots can obtain ample moisture. The soil is inclined to be heavy with plenty of old lime rubble in it. Propagation is easily effected; any piece taken off with the smallest piece of root attached grows freely. At the time I write (Sept. 6) a patch of this plant over a yard square is covered with its flaming scarlet blossoms. —SOUTH HANTS.

**Hollyhocks.**—A former neighbour of mine at Feltham, Middlesex, who grows *Hollyhocks* for the barrow trade, and really has a capital double strain of crimson, red, pink, white, yellow, and other colours, has a drastic way of dealing with his young plants which are raised from seed by thousands every year. The seed is sown in drills early in May; the seedlings are dibbled out into rows 15 inches apart when they are large enough, and by the autumn are a perfect mass of fine leafage some 14 inches to 15 inches in height. But this would cause the crowns to become weak, and perhaps start flower-stems if left; hence it is the rule to cut all the leaves off within 4 inches of the soil just about now. These are raked off and carted away where they can be burned, so that any fungoid spores on them may be destroyed. The crowns then send up new leafage, which keeps

fairly green all the winter, because, being well exposed to the light, it is well hardened. It is really a matter for wonder to find in some gardens plants so eaten up by fungus that they can hardly open a bloom, whilst in other places, and where *Hollyhocks* have been grown for years, the plants are clean, bloom finely, and produce a good crop of seed. I could very well understand the force of my friend's remarks when he said that his old plants when in full bloom had been greatly admired. Really good spikes of *Hollyhocks* are worth seeing, but single blooms shown in boxes, as sometimes seen, are poor apologies.—A. D.

### FLOWERS AT THE ZOO.

THE Zoo as a public resort has long been one of the most popular and interesting in the neighbourhood of London. It will be to many, as it was to me, a pleasant surprise to see the magnificent and varied groups of flower beds at the Zoo, all more or less of a sub-tropical character, and filled in quite a unique way with plants of various heights and habits, and selected so as to keep up a succession of bloom. Under the management of Mr. Young, the gardener there, nearly the entire place has been turned upside down, and from an uninteresting appendage to the Zoo, it has been made one of the finest summer gardens in London. With lion houses, monkey houses, bear dens, &c., the difficulty of giving anything like good landscape effects will be quite apparent, but all this is fully compensated for by the beauty of the flower beds and the interest of the mixed hardy flower borders. This latter is a phase of gardening which, I am glad to see, is being strongly taken up by other London parks, and here at the Zoo showy hardy flowers are being used with much effect and complete success, where a few years ago we would have had the inevitable *Geranium*. The terrace walk, 300 feet long, has a border of hardy flowers on each side, amongst which may be mentioned *Erigeron speciosus splendens*, one of the finest hardy flowers, *Aster Amellus*, *Helenium pumilum*, and dwarf *Chrysanthemums*, while in groups amongst the evergreen shrubs we find *Dahlias*, the giant *Nicotiana colossæa*, and other plants of a like nature. The beds in front of the saloon are very simple and beautiful, the yellow and purple *Celosias* being particularly good. One of the beds here has a groundwork of tufted *Pansies*, peeping above which are *Cockscombs* and *Ivy-leaved Geraniums*, while towering above all are well-flowered specimens of *Fuchsias*. The groups of *Nicotiana affinis* on the surrounding border with here and there bunches of *Sunflowers*, *Gladioli*, *Phloxes*, *Michaelmas Daisies*, and *Pentstemons* are very bright, while the *Cannas* and *Begonias* in close groups with dwarf edging make a brilliant display. The bedding in front of the monkey house is also very fine, the main idea being a carpet with tier upon tier of the most beautiful flowering or fine-foliaged plants. The old ribbon bedding with the *Geranium* and *Lobelia* is a thing of the past, and Mr. Young believes in *Begonias*, of which he has now many thousands. *Ageratum* The Zoo, raised here, is of a fine dark colour, dwarf and compact, and is in many of the beds used with telling effect. It is almost useless describing in detail all that is to be seen at the Zoo, and I would recommend all gardeners visiting London to spend an afternoon there. I am sure that the style of bedding, which is both lasting and effective, has a future before it, and with a judicious use of hardy perennials, as seen there, it will recommend itself to everyone. The *Lobelia*, especially a dark blue, also raised here, does extremely well, and it is largely used for edging the beds of dwarf-growing plants. An elaborate carpet bed, with grotesque succulents towering above it, shows what can be done to relieve and make effective even this stiff mode of covering beds. The *Carnations* are even yet beautiful, and the healthy grass on all the plants speaks well as to what they have been. A very effective bed is made up of the new *Begonia* *Vernon* mixed with *Acacia lophantha*,



edge with *Chamaepeuce Casabonae* and golden *Lysimachia*. It would be tedious to describe everything I saw at the Zoo in the short time I was there, and I would recommend everyone to see for himself. A VISITOR.

### EVENING PRIMROSES.

THE *Oenotheras* or Evening Primroses form a large and very important section of our summer and autumn-blooming plants. They are mostly confined to North America, the chief exception being *O. taraxacifolia*, which is Chilean. All are perfectly hardy and as a rule easily grown. From early April until the autumn frosts set in some few of the species will be found in flower, almost dazzling the eye with their masses of rich golden-yellow, white, or rose-tinted blossoms. Their fault, if fault it be, is, as their name implies, that of opening their beautiful flowers chiefly in the evening. This, however, is by no means general, and some of them will be found that open their dazzling flowers during the day. The annual species, with the exception of *O. odorata* and its varieties, may well be dispensed with from the flower garden. They are often troublesome from self-sown seeds, and none of them can be compared with the perennials and biennials for beauty of form or colour. The place for the robust growers will be the wild garden and the shrubby border. *O. Lamarckiana* is perhaps the most useful for this purpose. The only thing to guard against is the numerous seedlings, which should be thinned out regularly during late autumn or spring to 2 feet or 3 feet apart. Those like *speciosa*, *linearis*, and *fruticosa* will be found admirably adapted for the mixed borders, and those of the *marginata* section make an interesting and charming display on the rockery, for which, indeed, they are peculiarly adapted.

Amongst the species not detailed below, and which will be found valuable either for the rock garden or mixed border, the following may be noted: *O. chrysanthia*, yellow; *O. rosea*, rose; *O. pumila*, yellow; *O. riparia*, yellow; *O. sinuata*, pale yellow, turning to rose; *O. Drummondii*, white and yellow; *O. tenella* (an annual), purple; *O. densiflora* (annual), purple; *bistorta*, &c.

*O. ALBICAULIS*.—This is little more than a biennial; at any rate it has proved with us a very short-lived plant, though well worth the trouble of propagating annually by seeds. Dr. Gray says it is perennial, which we much doubt. The stems are erect, about 1 foot or 1½ feet high, branched on the upper portion of the stem, smooth, shining, and usually of a greyish-white. The leaves are narrow, entire or irregularly toothed. The flowers are produced in the axils of the upper leaves, white, becoming pink with age. It is a native of the barrens along the Platte, Saskatchewan, &c., and is a useful species for the rockery, where it flowers in early summer.

*O. BIENNIS* is not much grown as a garden plant, although few biennials are better suited for naturalising in woods and shrubberies. Its variety *grandiflora*, better known perhaps as *Lamarckiana*, is the one usually seen in flower in our borders. The whole plant is more robust, and the flowers are larger and much finer than those of the type. It is an excellent border plant, singularly beautiful in large masses, and well adapted for the wild garden or shrubbery, as it seeds itself in the greatest abundance. It is easily increased by seed, which should be sown annually to keep up the stock. Throughout North America, flowering June to August or September.

*O. CÆSPITOSA*, an illustration of which accompanies these notes, belongs to the acaulescent group. It is perfectly hardy, very easily managed, and a remarkably beautiful free-flowering spe-

cies. The flowers are large, white, turning to a delicate rose colour with age. It is found on the clayey calcareous slopes of the slate hills of Upper Platte, but rare. It is most abundant on the Missouri along with *Astragalus galeoides*, flowering in July. It is a very distinct and beautiful species nearly allied to *O. acaulis*, and about which there seems to be some confusion. It is well figured in the *Botanical Magazine*, tab. 1593, under this name. It is the *O. scapigera* of Pursh Fl. and *Pachylophus Nuttallii* of Spach. In the "Botany of California" it is described as above, but *O. marginata* (*Botanical Magazine*, tab. 5828) is given as a synonym, to us a totally distinct plant in every way, as may readily be seen by a comparison of living plants or plates.

*O. FRUTICOSA*.—This species and its two or three varieties are among the very finest of our hardy herbaceous perennials. They rarely exceed 2½ feet or 3 feet in height, and all through the summer and autumn bear a profusion of the most delightful golden yellow blossoms. *O. glauca*, often given as occurring in gardens, is said to be nearly allied to the above. It is so near that I



*Oenothera caespitosa*

have never been able to make it out. Taking the character laid down by Dr. Asa Gray, *O. fruticosa* is hairy, white, and *O. glauca* is glabrous. The variety *Fraseri* which belongs to *glauca* is represented in gardens by a taller form of *O. fruticosa*. So hardy is *O. fruticosa* and its varieties, that they go on flowering after the first frosts in autumn, and even our hardest winter leaves them untouched. It well repays cultivation, and the clumps should be divided every second year and planted into good rich soil. It may also be raised from seeds, which ripen freely. It is a native of dry barren soil throughout North America, and flowers with us from June until the frosts appear in autumn.

*O. LINEARIS*.—A slender growing perennial, found abundantly in dry, sandy places from Virginia to Florida, North Carolina, &c., flowering in our borders from April until July. It rarely exceeds a foot or so in height. The flowers, which are comparatively large, are of a soft pale yellow and fragrant, more so than in any of the other species we have grown. This will be found a useful plant for the rock garden, where in rich free soil it forms fine tufts.

*O. MARGINATA*, known also in gardens as *O. eximia*, belongs to the acaulescent section, and is admirably suited for the rockery or the front row

of the mixed border. Even when luxuriant it rarely exceeds 6 inches to 10 inches in height, and when in free, rich soil it will in one season cover a large extent of ground. It is an extremely free bloomer, the individual flowers measuring 4 inches to 5 inches in diameter, white, changing to rose or pink as they become older, and in the evening emitting a most delicious Magnolia-like scent. It increases rapidly by suckers or underground stems; these often travel a long distance and form tufts of large, toothed or jagged leaves. All through June, July, and August this plant is charming in the evening. Cuttings root readily if taken with a piece of the root. Native of the Rocky Mountains of Upper California, Missouri, &c.

*O. MISSOURIENSIS*.—A trailing or decumbent low-growing perennial from the dry hills throughout Missouri and on the Canadian River. It is quite different from the above, though resembling it in its acaulescent habit; the flowers are large and of a soft sulphur-yellow; the leaves thick and leathery, narrow, and of a light shining green. It is readily increased by division or cuttings, and rarely ripens seed in this country—at any rate it never has done so with us. It thrives best in a rich sandy soil, and if growing on the border will be all the better of a few stones buried round the neck of the plant. Its flowers, produced from June to August, although best in the evening, are often open in the daytime. *O. macrocarpa* is a synonym. There is also a broad-leaved form known as *O. m. var. latifolia*.

*O. OVATA*, a charming species, is new to cultivation, the seeds having been introduced last year by Mr. Thompson, of Ipswich. *O. ovata* is found in moist plains in the immediate vicinity of Monterey, California, and is said to flower in March. The flowers are described as each over an inch in diameter, of a rich bright yellow. The leaves are ovate or oblong, and exactly resemble those of *Viola primulaefolia*. It is an acaulescent species, and will doubtless be a very useful plant.

*O. SPECIOSA*.—A charming species, producing an abundance of large white blossoms from April until September. It is an excellent rock garden plant, where on dry sunny places it makes quite a feature. The flowers, at first white, change with age to a delicate rose. The stems are erect, growing from 1 foot to 2 feet in height. It is a native of Red River, Arkansas, Texas, &c.

*O. TANACETIFOLIA*.—A comparatively rare Californian species, belonging to the acaulescent section and perhaps most nearly allied to the Chilean *O. taraxacifolia*, which it resembles very much in habit and leafage, with the exception of the toothing being carried out to the point instead of only two-thirds, as in *O. taraxacifolia*. It rarely exceeds 4 inches in height and does not run like *O. marginata*. The flowers are golden yellow and borne profusely throughout early summer on short stems from the rosette of leaves. It is a neat species, well adapted for the rock garden.

*O. TARAXACIFOLIA* is well named, as it is readily recognised by its Dandelion-like leaves. Like the last, it belongs to the acaulescent section and makes a very effective rock plant when given a rich, free soil and where its trailing stems can overhang a ledge. The flowers are large, varying from 2 inches to 4 inches in diameter, white when first open, but becoming pink with age. It is a native of Chili, and may be readily increased by division or by cuttings. *O. acaulis* is only a variety of the above with smaller flowers.

*O. TRILOBA* is usually said to be an annual, but with us under cultivation for many years it has not only proved perennial, but perfectly hardy and one of the most free-flowering of the genus. It has a dense, caespitose habit of growth, the stems short, the rosette of leaves lying on the soil in most cases. The flowers are larger than in *O. fruticosa*, yellow, very fragrant and produced from early April until the frosts come. The flowers ex-



pand mostly in the evening, but they are often open and the plant quite attractive at midday. It is a native of Arkansas, and is readily increased by seed, which it ripens freely. D. K.

#### AUTUMN TREATMENT OF VIOLETS.

ON light soils Violets have suffered badly from red spider, the foliage being feeble and the crowns small accordingly. Where, however, the soil is of a cooler or more retentive character, abundance of sunshine and a comparatively light rainfall have not injured the plants, but, on the contrary, they are clean, vigorous, and already flowering freely. Last winter proved most destructive among Violets, those in the open being cut down to the ground in a wholesale manner, while those in frames suffered through being shut up so long at a stretch. In reality Russian Violets, including the ever-popular Czar, are very little, if any, hardier than the Neapolitan section, notably Marie Louise and Comte de Brazza's White. Those who are anxious to have both in profusion throughout the late autumn and winter months must, in the case of either section, afford some kind of protection. Nothing answers better than cold glazed pits in a light airy position, anything in the shape of fire-heat or a close, moist heat being most detrimental to them. These pits or any frames that may be substituted ought not to be at a low angle, but should have a fall from the back to the front of fully 18 inches, plenty of light as well as air being indispensable. I fail to see the necessity for affording any bottom heat, having found from experience that the plants produce flowers nearly as abundantly, and certainly over a much longer period, when no hotbed is placed under them. Properly prepared, they ought to be showing plenty of flowers early in September, and they should be transferred from the open ground to their winter quarters long before Oak or other leaves for making into hotbeds are available.

Too often the plants are coddled too much when first placed in pits and frames. A very rich compost is not suitable, this promoting the growth of leaves rather than flowers, while, on the other hand, poverty at the roots is objectionable, the flowers in this case not being so large as desirable. Any common soil, or, better still, stones, clinkers, ashes and such like, answers well for filling in the bottoms of the pits, the last 6 inches or rather more being of a fairly fresh loam with well-decayed manure to the extent of one part in four, and fine charred garden refuse added. This should be well mixed and raised to within 8 inches of the lights. The plants ought to be in a moist state at the roots when moved, and lifted with a moderately large ball of soil and roots. All straggling runners should be cut away, leaving only two or three, already rooted probably and showing flowers, close up to the old plants. These reserved runners or offsets if not already rooted should be pegged down, and in addition to flowering freely will be just what is wanted for planting out next spring. There must be no crowding of the plants, as unless they are kept perfectly clear of each other, damping off is likely to take place in a wholesale manner, especially if the ventilation is faulty. Plant them firmly and deeply, or sufficiently so to just bury the stems, but keeping the crowns well out of the soil. Make all level, and if the weather is dry give a good watering. Not till frosts are threatened should the lights be put on, early and, it may be, closely covering up Violets having a most enfeebling effect upon them. If the flowers do not come on quite so fast as desired, then may the lights be put on soon, but on no account keep them closely shut other than during frosty nights. Merely blocking up the lights at the back is not sufficient. They ought to be drawn clear off during fairly mild and dry days not only during the autumn, but throughout the winter. By all means protect them well from frosts, a good covering of mats and straw litter being sometimes needed, but though this is the case, it does not follow that Violets ought to be treated so much like delicate exotics, as they too often are. Avoid crowding and

coddling, keep the plants uniformly moist at the roots, and save them from field mice or voles, these little torments being very fond of the crowns, and the flowers will be abundantly produced till warm weather sets in. There is such a demand for the Neapolitan or double forms, that they are gathered far more closely at times than they ought to be, the blooms being scarcely half expanded when picked. Let them attain their full size, and one bloom would be equal to and give more pleasure than three of those half-open ones very often seen worn by ladies and gentlemen.

Not many gardeners are in a position to devote much pit or frame room to the Russian or single Violets, but they sometimes pay well for protection. This section is even more impatient of coddling than the Neapolitan forms, and if strong plants are moved now to where they will have the benefit of glazed lights and other covering in frosty weather, there must be no crowding, all being kept perfectly clear of each other. Only in very wintry weather should the lights be kept closed, abundance of air being given at all other times. When planted among fruit trees alongside pathways a certain amount of protection is afforded by the branches of these, or sufficient during most winters. In many instances there must be no failures, Violets perhaps being in greater and constant demand than any other flower that can be named. This being so, no risks should be run, and frames and pits being unavailable, the next best thing is to either arrange the plants in narrow beds when they are first put out or else to re-arrange a portion at least of them now. The latter proceeding does not greatly check their progress, especially if the roots are surrounded with either a little fresh or ordinary well-worked soil, and a liberal watering given. Over these beds can be fixed a temporary framework, or, if preferred, bent rods can be substituted in readiness for mats whenever it is necessary to fix these over the plants. Plants thus protected from severe frosts yield a profusion of extra fine flowers with long stems, these being far superior to any grown on the starved plants on banks or other exposed positions.

Violets generally are not well adapted for house culture, the only positions where they will do well being along the fronts of Peach houses and wall cases, plenty of light and air and little or no fire-heat reaching them when thus disposed. Nor do they often behave very satisfactorily in pots. If strong plants are placed in pots now and kept in light airy pits and only protected from severe frosts, they will flower fairly well, but in a dry heat and rather close atmosphere they cut but a sorry figure. M. H.

**Dianthus Heddewigi albus plenus.**—In this *Dianthus* we have a double white equal in beauty to Pink Mrs. Sinkins except in scent. The value of such a lovely hardy *Dianthus* cannot be over-estimated by those who want good white flowers through the autumn. It is true the flowers are not quite so double as those of Mrs. Sinkins, but this is a gain rather than otherwise, seeing this is minus the pod-splitting, a fault often seen in this Pink. It is a kind that everyone should grow either for garden decoration or for cutting from. It is most useful for wreaths and crosses.—DORSET.

**The Flame Flower (*Tropæolum speciosum*).**—Recently I noticed some remarks from "J. C. B." on this lovely climber. His experience with this in the matter of potting the roots at the beginning of winter and finding them all rotten in spring is quite the reverse of my experience. Some two years since I took up some roots and potted them, plunging them in the open air. In spring they all started, and made a good growth during the summer. I allowed them to remain in the pots plunged in the open till last April, when I removed them, turning them out of the pots into a bed of prepared soil on an east aspect. In this position they have made splendid growth, from 8 feet to 10 feet high. Again, last year a lady wishing to have some roots of it, I took some long thick ones out of some

cocoa fibre to which they had travelled from the plant. These, too, have thriven well this summer. I cannot get the seed to grow, it matters not when nor where I sow it. *Tropæolum speciosum* grows very freely in these gardens both on north and west aspects. In the former it does the best. At the present time (September) it is quite a sight—many yards of growth, and this full of bloom. I have it planted at the foot of the wall against a Pear tree, which was planted just before the *Tropæolum*. It has covered the tree and almost killed it. On the west wall it does not grow so strong.—J. CROOK, *Forde Abbey*.

#### ARRANGEMENT OF PLANTS IN BORDERS.

THERE is much truth in the remarks made by "R. D." on this subject on p. 227, for borders of hardy plants in the majority of gardens are very much mixed. The first and real cause of the evil is want of selection of proper plants. In the borders nothing that is weedy, coarse, or common should be tolerated. The place for such things is the wild garden, and if one has not that, then they should be banished altogether. With the hosts of fine hardy plants there is no difficulty in making several borders, each dissimilar, but the principle of selection must be rigidly enforced. We want fewer things, and these in quantity in fine broad groups; then the merits they possess are plainly seen. I am quite content to have *Hyacinthus candicans* coming up from a mass of thinly-planted hardy *Fuchsias* and just running into the Torch Lilies. The effect is infinitely better than would result from planting them in threes at equal distances. We should take each plant, consider it on its own merits, and plant enough of it in an informal group to be effective, and then have no more of it in that border. We may arrange it for particular seasons, or for all seasons as desired, but to do this properly one must have a thorough knowledge of the plants to be dealt with. By all means we should try and cover the ground. Upon this point I must disagree with "R. D." We should prepare our beds and borders before the plants are put into them, and then plant to produce good results. There is no need to have the bare earth continually before our eyes.

Many plants that are grown as single tufts and need tying and such attention are self-supporting to the extent that the shoots support one another when many plants go to make up a group. We can sacrifice too much to primness. The old way of growing the lovely *Starworts* that are now lighting up the garden landscape was to tie them up like faggots at the back of the border. But if we plant them in a group the shoots support one another, and if the outer ones are bent even to the ground, then they turn their flowers upwards and command admiration. I find, too, that some of the *Enocheras* if allowed to have their own way fall over, and in consequence send out lateral shoots which carry on the blooming season many weeks longer than would have been the case had they been tied up. By selection and bold grouping we can make borders really beautiful, and the more we follow natural examples the better the result. I often see a border with good things in it, as, for example, the white *Japan Anemone*, dotted at regulation distances throughout its length. I have this, about thirty tufts in a group, and not an inch of bare ground can be seen, but only a bold mass of flowers 4 feet high. This merges into that lovely *Starwort*, *Aster elegans*, which being tall and graceful is interspersed through a group of *Aster longifolius formosus*, which is dwarf and very erect in habit. Though the effect is ever so good, there is no need to keep repeating it and no lack of plants for the largest border.—A. H.

—The remarks made by "R. D." respecting the arrangement of plants in borders are very sensible, and if acted on will lead to a better state of things than what one usually sees, as people in a general way seem to try and crowd as many in as possible, with the result, as "R. D." states, of having the whole running into each other and making a jumble. To see the beauty of a



plant of whatever kind, it should show the whole of its outline, and be independent of any other. Of course, in beds or masses the case is different, but even then no undue crowding should be allowed, but plenty of room given for all to develop.—S. D.

#### SOME HARDY FLOWERS AT EDINBURGH.

I WAS much pleased with the rock garden in the Botanic Gardens, Edinburgh. By means of large raised mounds which are threaded by numerous little walks the plants in that rock garden can have any aspect required—shade or sunshine, exposure or shelter under some projecting rock. I missed some of our beautiful rock plants, notably the well-known *Ramondia pyrenaica*, which grows so well in the rock garden at Kew, nestling in a sort of broken wall. I wanted to see the white form of this plant, but neither the old purple nor the more recent white were to be found. A noble plant of *Meconopsis Wallichiana* occupied a very prominent position on the top of one of the mounds. I have never seen a finer specimen of this beautiful hardy plant. There were many other plants of the same species, but none so well grown as this. It is a great pity that such an exquisitely beautiful plant should be somewhat difficult to grow, and at all events require two, if not three years before it flowers, and then its life is over. I believe there are gardeners who are so truly enthusiastic about their hobby, that the more difficult a plant is to grow the more they love it. So alpine plants are petted and cared for with wonderful perseverance, and the more difficult some forms of Iris are to grow, the greater the efforts made to succeed with them. Alas, it is sometimes with our pet plants, as with other pets, the more they are humoured the more they seem to show their temper and to resist our efforts to please them. A blue Poppy is certainly a most beautiful object, and it is not only the flower, but the gracefulness of every part of the plant, as in so many other Poppies, which makes the whole of this *Meconopsis* so pleasing to the eye. Whenever I have come across this plant, the colour of the flower has been a fine clear blue, but I see that a writer in THE GARDEN cautions us against imported seed, as the colour of the seedlings may be a poor purple. *Gentiana septemfida cordifolia* is also a fine rock plant. It flowers profusely, and the colour is the rich gentian blue with which we are all familiar in the more common *acaulis*. This *Gentiana* (*septemfida*) abounds in the Edinburgh Gardens, where no doubt the climate suits it well. It does not seem to be particular about locality, but limestone grit suits the whole family, so far as I know them. It is evidently hard to succeed with *Gentiana verna*; I have lost mine. It looked lovely one year, and the next year it was gone. The same thing happened to my little *Soldanella alpina*, which, notwithstanding the very small size of its flowers, is a great favourite with me. It is easy to put down the loss to climatic influences, but in reality I know it is simply want of care. But care means time, and time cannot be had. An ordinary gardener can scarcely be expected to grow, or at any rate to take much pains in growing such things. Gentians are a large family, and one, the field Gentian, is not an uncommon plant on open pastures. It grows, for instance, on the downs near Alum Bay, in the Isle of Wight, but most people would pass it by, as it has no special attraction, and the flower does not exhibit that fine deep blue which is common to many members of this family. *G. lutea* was in seed when I was at the rock garden in Edinburgh in August, but it had evidently done well, and was bearing a plentiful crop of seed. This, so far as I know, is a solitary exception in the Gentian family; all the other species are either blue or purple. Among the many interesting plants which grow best and are seen best on our rockeries, *Dodecatheon integrifolium splendens*, or the large American Cowslip, certainly has a place. There is something piquant about it, the shape of the flower being Cyclamen-like and the colouring very pretty and bright. It likes a shady

or moderately shady corner, but that is chiefly because it likes to be damp. Shade and damp go together more or less. Given the damp, and many so-called shade-loving plants would do well in the sun.

At this time of the year we are once more greeted with the bright flowers of the hardy Cyclamen. It is wonderful how little known this plant is, and how many people express the greatest surprise when they see mine, which are just now in full beauty among the gnarled roots of some huge old Plane trees. They are lovely flowers certainly, and all the attention they require is plenty of water at all times. Guano water makes them strong and vigorous. These Cyclamens make pretty plants for the rockery also, and their white or pink heads coming up among green mossy stones look singularly well. The hardy white variety of this Cyclamen (*C. hederacifolium*) is not so common as the pink, and none of mine are, I am sorry to say, scented. I am not sure, but I think I once had a pink *C. hederacifolium* which was scented. No doubt many of the readers of THE GARDEN know whether there is a scented variety or not. If so, it would be valuable. *C. persicum* is, of course, often deliciously scented. Possibly this hardy species might by cultivation be increased in size of flower and depth of colouring, in which case it would become a still better ornament for the rock garden than it now is. But, as it is, there are few plants more universally admired or more valued for their beauty out of doors at this season than *Cyclamen hederacifolium*. I believe it comes from Russia; at any rate, it will stand any amount of frost and snow. The one thing it most dislikes is drought. This Cyclamen must be well watered if it is to have fine flowers and a good head of its beautiful marbled leaves in winter. On this account it will always do best on the west and south sides of the trunk of a tree, where it is sure of getting more rain than on the north and east.

The common autumn Crocus is just now in full beauty. It is extremely pretty pushing up by mossy stones. It would no doubt be much more grown than it is were it not for the large leaves, which take up so much room in spring. In this respect *C. speciosus* has a decided advantage. It is just peeping up with me, coming a month later than the wild species. Its foliage is never in the way, and so late a Crocus is, I consider, a great gain. It seems to do well and increase rapidly in good loamy soil. I like the whole family, and to me the best part of spring-time is when the Crocuses are just in full flower. An autumn yellow would be a treasure. *Sternbergia lutea* is the nearest thing to it, and is exquisitely beautiful. But can the *Sternbergia* be made to come so certainly into flower as our Crocuses? I have never tried it. I remember seeing it in full beauty a year or two ago in Cornwall in the first week of November. At that time of the year, so late in autumn, a plant in full flower out of doors and possessing great attractions on account of its fine yellow flowers is a great treasure.

A GLOUCESTERSHIRE PARSON.

**Pretty Clematises.**—*Clematis Sieboldi* is a very pretty Japanese variety. I do not know another kind that lasts so long in beauty. Its season is prolonged through several months, each flower taking a week or two to open to perfection, and when this stage is reached it remains fresh and bright for a long time. The flower consists of six broad petals, which as the bud expands are of a decided greenish hue, but ultimately become creamy-white, whilst a green band down the centre of the petals on the reverse side shows prettily when the flower is held up to the light. The centre consists of a thick cluster or tuft of small narrow petals which are of a violet-purple shade. The habit of growth is very slender, so that no position could be too choice for so charming a variety as this. *C. coccinea* is now on the wane, but it has done well. When the plants were about 2 feet high at the beginning of the summer they commenced to bloom, and have continued as they grew, reaching at least 10 feet in height.

Hundreds of flowers have appeared during the season. Most of those who see it for the first time hardly believe that it is a Clematis. Slugs are very fond of the young shoots when they come up in April. The sunnier the position chosen for the plant, the brighter the colour of the flowers. *C. Davidiana* never fails to bloom freely, and at the present time the shoots are thickly clustered with whorls of flowers. A single flower almost resembles a Hyacinth bell, but the blooms crowd one another to such an extent that they lose their individuality. A charm more delightful still is its sweet odour, which pervades the air all round the plant. This Clematis is the very thing for little window borders against the wall of the house. It dies down every winter, but the roots are quite hardy in well drained soil. *C. flammula* has tremendous vigour, and arches, arbours, and porches can be perfectly clothed with it. *C. Viticella* and its varieties, of which there are several, are free, hardy, vigorous, and continuous blooming, and merit a spot where they can have their own way to some extent.—A. H.

#### SHORT NOTES.—FLOWER.

**Begonia semperflorens atro-purpurea.**—What a great acquisition the above is during the summer months! Planted out about the middle of June, it is now one mass of flower, and stands the wet weather exceedingly well.—EAST DEVON.

**A good mixture.**—*Anemone Honorine Jobert* and *Lobelia Queen Victoria* prove a good combination if planted thinly in a large bed, both being quite hardy here.—EAST DEVON.

#### THE FRUIT CROPS.

##### NORTHERN.

**Thorpe Perrow.**—The fruit crop in the north of Yorkshire is very partial. In some places Apples escaped the frost; here and there a few trees are loaded with fruit, yet for all that the crop is thin. In some gardens there are none. Pears in most places are scarce—in fact everywhere below the average. Plums in some places are scarce, in others they are plentiful; generally in this part they are below the average. Apricots, I hear, are turning out better than was expected; here we have a fair crop. Gooseberries suffered very much from frost in the early part of June; consequently the crop was short. Black and Red Currants were abundant and very fine. Strawberries suffered much in the winter from long frost and no snow for protection. Herbaceous plants in the flower garden suffered very much from the same cause. Nuts are almost a failure.—W. CULVERWELL.

**Elmet Hall, Leeds.**—Crops as a rule are light in this neighbourhood. Apples below average. Pears very scarce. Plums below average, but Victorias in some places a nice average crop. Apricots scarce. Gooseberries, Red, White, and Black Currants very good crops, also Raspberries, the heaviest we ever had. Season late. Strawberries good.—T. BONNALL.

**Chillingham Castle, Belford.**—The fruit crops here this season, such as Apples, Pears, and Plums, are very scarce, and Apricots a complete failure. Morello Cherries very good, the others rather light. Gooseberries, some sorts very good. Red, White and Black Currants splendid crops, likewise Raspberries. I have twenty-four beds of Strawberries on a sloping bank, and in dry weather turn the water along the alleys. Some of them have been planted over twenty years, and as a rule always bear a splendid crop. *Vicomtesse Hélicart de Thury*, *President*, *Keens' Seedling*, *James Veitch*, and *Elton Pine* for a late crop do best here. I find the above have the best flavour out of all the sorts here. In March I mulch all the beds with Mushroom manure or short litter from the stables. As a rule the fruit is finer on the single plants, but the quantity is not so large. On February 19 we had a severe frost, which did a great deal of damage to trees and Roses.—R. HENDERSON.



**Harbottle Castle, Northumberland.**—The Apple crop in this neighbourhood is only a very moderate one, King of the Pippins being the only variety carrying a full crop. Keswick Codlin, Lord Suffield, Whorle Pippin and Sam Young have a fair lot on them. The last variety never fails to perfect a nice lot of fruit. Warner's King, which has hitherto carried heavy crops of fine fruit, is this year a failure. Ribston Pippin, grafted on Warner's King, succeeds well, but is this year much below the average. Pears are a complete failure. Gooseberries, Currants, Raspberries, Cherries and Plums are very heavy; Plums I have never seen more plentiful in this neighbourhood. Strawberries have been a fairly good crop, but the flavour has been very inferior, owing to so much rain and little sun-shine. The best results are obtained from two to three years after planting. I have grown them in single rows and in beds, but the former plan is preferable, especially in such a cold wet season as we have experienced in this district. Black Prince is our best early kind, and does remarkably well on our light soil. I also find this variety meets with most favour from cooks for preserving. Other kinds that do well here are Amateur, President, Garibaldi, Sir Joseph Paxton, Elton Pine and Eleanor.—ROBT. ELLIOTT.

**Abney Hall, Cheadle.**—Apples, Pears and Cherries have been very poor here. Red and Black Currants are fair crops. The same may be said of Raspberries and Gooseberries. The latter, however, in this district vary, as I hear some have but poor crops. I generally at pruning time leave a good deal of young wood on the bushes, and am seldom without plenty of fruit, except when the sparrows pick out the buds in winter. As regards Strawberries, I do not think for a private garden there is a better kind than President, considering fine fruit, flavour and cropping qualities. In this garden it is much better than Sir Joseph Paxton and others. The best kind for produce I have seen in this part is Myatt's Prolific, but it is not equal to President for fine smooth-looking fruit and flavour. Of the newer kinds, I have tried Latest of All. It gives a useful late dish, but it is not anything like equal to President as a free fruiter. To secure good crops I find it best to plant a fresh batch every year, and if good plants are put in carefully with the trowel, splendid results are realised the following year.—ROBT. MACKELLER.

**Brantingham Thorpe, Brough.**—In the spring we had an abundant show of bloom on all kinds of fruit trees, as well as wild fruits and shrubs, but the fruit crop is very poor. Apples I can report as a partial crop. Codlin and early kitchen kinds are fairly plentiful; most of the late kinds are a very light crop. Pears of all kinds are very light. Plums (Rivers' Early, Victoria, and Orleans) and Damsons have a fair sprinkling; other kinds scarce. Gooseberries, Currants, and Strawberries fairly abundant. None of the new varieties of Strawberries I have tried equal the old ones.—Sir Joseph Paxton, Dr. Hogg, President, Lucas, and Vicomtesse Héricart de Thury. Nuts are a general failure. Wild fruits are abundant. Hawthorn, Mountain Ash, Mahonia, Holly, Viburnum, Crab and Sloes are laden with fruit.—ROBT. C. KINGSTON.

**Broughton Hall, Skipton.**—Again I have to chronicle complete failure of Pears. Plums and Apples under the average. Early Cherries none; late kinds a good crop. Gooseberries suffered severely with the May frosts, that also ruined the Pear crop, &c. All kinds of fruit showed plenty of blossom. Strawberries, Black and Red Currants, and Raspberries have been most abundant. Four degrees of frost were registered the first week in August that cut hard both French Beans and Marrows. A very late spring, with frequent low night temperatures, has told much against the progress of fruit and flowers. The Strawberry crop has been the most abundant I have had for years. The weather being favourable, I had a very long season of excellent fruit.—J. RAINBOW.

**Wythenshawe, Northenden, Cheshire.**—Apples and Pears in this district are a complete

failure. Owing probably to the unfavourable conditions of the weather last autumn there were very few flower-buds, and nearly all of them failed to set their fruit. The only exceptions are Lord Grosvenor and Lord Suffield. These have a thin sprinkling of fruit, and are, in fact, the only sorts that are bearing what might reasonably be termed a crop. Cherries both sweet and Morello, have had about half a crop. Damsons and Plums are a light crop. Gooseberry bloom in exposed situations was destroyed by a sharp frost, but where sheltered there is a light crop. Red Currants have had good crops generally, but Black ones have partially failed in some instances, and in others have fruited abundantly. Raspberries were plentiful, but in situations near plantations they were devoured wholesale by birds, and the same remark applies to all kinds of fruit that was not protected by netting. Strawberries were an average crop. Owing to the heavy rainfall when the fruit was ripening, a good many of them decayed; this occurred more particularly in walled-in gardens where the air could not circulate freely amongst the plants. Vicomtesse Héricart de Thury still holds its place as one of the best flavoured and most prolific varieties that we possess. The only objection to its more extended cultivation is on account of the smallness of the later fruits, and for this reason it is not grown for market. Elton Pine and Waterloo are two of the best for affording a late supply. Myatt's Prolific and Charles I.—locally known as Geggies—are most in favour with market growers. They are good bearers and the fruit of both is firm, which enables it to be taken to market in good condition. The flavour of both varieties, however, is somewhat poor.—W. NEILD.

**Tedsmore Hall, West Felton, Oswestry.**—Speaking generally, the fruit crops in this district are fairly good. Here we have but a thin crop of Apricots, Pears and Plums. Apples a moderate crop. Gooseberries, Raspberries and Currants are exceedingly heavy crops.—J. LANGLEY.

**Tatton Park, Knutsford.**—The fruit crops with me are very scarce. Pears almost a failure with the exception of Marie Louise, Glou Morceau, Beurré Diel, and Catillac, and those only a partial crop. Apples very thin; such sorts as Pott's Seedling, Suffield, Alfriston, and Cellini have a few good fruits, but even those very thin. Plums none. Damsons a few on some trees, while others have none owing to the severe frosts and cold cutting winds about the time they were in bloom. Morello Cherries a very good even crop and good fruits. Bush fruits very good. Black Currants especially fine, even better than I have ever seen them, both as to crop and size. Strawberries La Grosse Sucrée, Sir Harry, Sir Charles Napier, President and Waterloo very good with me. Loxford Hall Seedling planted under a north wall is useful for late fruiting.—C. TERRY.

**Naworth Castle, Carlisle.**—The Apple crop varies in this district this season. Here, the crop is above the average. In some gardens within a short distance the crop is very thin. Pears are a complete failure. Plums are very poor; Green Gage and Victoria are carrying a fair crop. Cherries are also very thin. Gooseberries are an average crop. Currants, both Black and Red, are carrying enormous crops. Raspberries are an average crop. Strawberries have been very good, but owing to the dull sunless weather the flavour was poor. The best kinds for flavour and bearing in this district are James Veitch, Vicomtesse Héricart de Thury, President, Sir Joseph Paxton, Garibaldi, Elton Pine, and Eleanor.—A. E. SUTTON.

**Cholmondeley Castle, Nantwich.**—The fruit in this part of Cheshire taken as a whole is an unsatisfactory one. Apples are a light crop in most parts; although we have a fair crop of Pears on the walls, we have but very few on standard trees in the open. Apricots are under average. Plums we have none on wall or open owing to having had 15° of frost when in full bloom after a showery evening. Peaches are a fair crop and of good size. Currants, Black and Red, about an average. Gooseberries nearly a

failure. Raspberries good. Morello Cherries a little under average. Quantities of black Damsons are grown in this neighbourhood on the small holdings, and several labourers made large sums of these last year, but very few satisfactory crops are to be seen this season.—C. FLACK.

**Grimston Park, Tadcaster.**—Apricots are nearly, if not quite an average crop; trees healthy, and have not suffered so much from branch-dying as in some years. St. Ambrose is a good variety to grow here; the flavour is not up to Moorpark, but the tree is longer-lived. The fruits come fine in size and it generally bears well. Apples are a partial crop; Keswick Codlin, Warner's King, Hawthornden, and a local Apple named Cockpit are the best cropping kinds. There is a sprinkling of fruit on several other kinds, but nothing like full crops; though the individual fruits promise to be fine if we get a sunny autumn to warm up the soil around their roots. Pears are also a very partial crop; Louise Bonne of Jersey, Doyenné d'Été, Beurré d'Amanlis, Summer Franc Real, and Jargonelle have fairly good crops. The trees generally are healthy, though both last season and this we had for the first time for twenty years one or two trees attacked by the Pear sawfly, which before it was noticed had cleared off the green portion of the foliage, leaving nothing but the framework, so to speak, which turning brown was what drew attention to it. A dusting of quicklime and soot in equal portions early in the morning for two or three days soon settled the pest. Plums, too, are a partial crop. Victoria grown as a bush is with me the only variety that has a full crop. There is a fair crop of Damsons on standard trees in the orchard. In the cottage and farm orchards round about, a local dark Plum called Cobblers' Balls is very abundant; it is only of moderate quality, however. Cherries are a fair crop. I picked a quantity of fine Morellos lately from some bush-shaped trees growing in the kitchen garden borders. Singular to say, this Cherry is longer-lived and more healthy and fruitful in this shape than others grown in the usual way on north walls. Nuts of kinds are under average on the whole, though on some trees there is a full crop of Walnuts. Filberts but seldom ripen properly here. Currants of all kinds have been a splendid crop; of Black ones the heaviest for the past twenty years. I usually have good crops of these useful fruits, and attribute much of the success to giving the trees an annual dressing in the winter of charred refuse. Years ago I proved the benefit of this dressing by leaving a number of trees on the flat undressed with it. Houghton Castle is the best Red Currant I grow. Raspberries were not a heavy crop, the late severe winter appeared to have damaged the tops of the shoots, which, owing to the dull, wet autumn, were probably not so fully ripened as they might have been. Superlative promises to be a good useful kind. Gooseberries were a very heavy crop, the trees in some cases being quite borne down to the ground with the weight of the fruit. As showing the uncertainty of this crop I may mention that in a neighbouring garden about two miles away the Gooseberry crop was nearly a failure, the spring frosts having damaged the embryo fruits sadly. It is a mistake to over-prune Gooseberry trees in the winter. I never spur back the young wood, merely thin out the branches sufficiently for the hands of the pickers to get at the fruit fairly well, leaving the wood in most cases, if fully ripe, its whole length. I have a really good crop of Peaches on walls, and yet the only covering in spring was a herring net doubled, and hung from top to bottom of wall, kept therefrom by Larch poles about 8 feet apart. Condor, Royal George, Crimson Galande, Dr. Hogg, Dymond, Grosse Mignonne, and Barrington have each good crops this year. Condor is a really good early Peach for walls, and invariably crops well with me. Nectarines seldom fruit really well with me on walls; Violette Hâtive is the best in this respect.—HENRY J. CLAYTON.

**Levens, Westmoreland.**—Apples in this district are a very poor crop, worst for many years. Pears very little better. Cherries medium.



Plums very good, especially Damsons. Raspberries poor. Black Currants variable; some gardens good, others poor. Red and White good. Gooseberries generally full crop. Strawberries inferior over all. Garibaldi and President are the two leading varieties in this district, especially amongst the amateur class, and it is questionable if the selection could be better. On nearly all fruit trees bloom was abundant, but suffered from late frosts. —S. KEVAN.

**Lowther, Penrith.**—Apples very scarce indeed. Pears a failure with the exception of two or three sorts. Cherries average crop. Small fruit's average crop. Plums below average. Apricots a failure. Strawberries below average; fruit suffered very much from frost on June 14.—F. CLARKE.

**Burton Constable, Hull.**—We have a very poor Apple crop in this locality. Plums very few, and Pears scarcely any except the old Hesse. Small fruit has been a fairly good crop, especially Strawberries. President, Sir J. Paxton and British Queen are chiefly depended on for quality and main crops. Noble finds much favour for its great cropping and earliness, but lacks flavour. I prefer Eleanor for late crops. The only recent introductions that I have found deserving of special mention are John Ruskin and Victory.—T. LAMBERT.

**Wynyard Park, Stockton-on-Tees.**—With the exception of the Apple crop, which, by the way, is the worst we have had for years, I am able to give a more favourable report than for some three or four years past. The best of our Apples are Ecklinville, Tower of Glamis—two kinds that never fail here—Kerry Pippin, Scarlet Nonpareil, Dutch Mignonne, Beauty of Kent and Keswick Codlin. Pears are a very nice crop, Williams' Bon Chrétien particularly heavy, while the best of a number of others are Clapp's Favourite, Flemish Beauty, Duchesse d'Angoulême, Marie Louise, Hesse, Beurré Diel, Fondante de Cuern, Souvenir du Congrès and Beurré d'Amanlis, all of which are very good. Plums a good crop. Victoria very heavily laden, obliged to support all branches. Kirke's, Jefferson and Washington are also very fine. Apricots above a medium crop of very fine fruit; Moorpark much the best. Morello Cherries also good, especially on bush trees. Gooseberries have been good, but I cannot say as much for other bush fruits, which have not been up to the average. Raspberries have been good and plentiful, and the same with Strawberries. All trees and bushes are very clean and healthy and only require plenty of sunshine to perfect them for a good prospect another year, and also to finish and ripen the fruits now growing. We have sadly lacked this desideratum here this year, especially so of late; very little else but cold north-east winds and too much rain. —H. E. GRIBBLE.

## NOTES FROM NANCY.

LATELY when passing through France I stayed at Nancy and paid a pleasant visit to the nursery of M. Lemoine et fils. I almost wished I had been a pigmy for a short time, so that I could have walked through the miniature forests of Gladioli and looked up at their gorgeous spikes, some of intensely vivid and others of most delicately coloured bloom. One of the finest red ones was Le Grand Carnot (named after an ancestor of the present President, who also has another fine variety called after him). There were also a few of a rather new strain, a very pretty lavender. Nuée Bleue was the name of an attractive one of this tint. The now well-known rose-coloured, salmon, primrose, and chocolate Gladioli were on the whole perhaps the most attractive, and each year adds some new interesting feature to the collection. Happening to notice also an uncommon aquatic in his pond, M. Lemoine told me it had been given him only recently by his neighbour, M. Gallé.

I asked if he meant the well-known producer of some of the most artistic and original of modern French *faiences*. He replied that it was the same, and he added, Do you know that he now makes the most beautiful specimens of woodwork inlaid with flowers and foliage all taken from life, and that M. Gallé is also an ardent horticulturist? Of this furniture I had never heard, so M. Lemoine showed me specimens in his own house. Being much struck by them, he introduced me to M. Gallé's own home, where I saw many lovely artistic productions in the way of tables, cabinets, &c. All the flowers appeared to be drawn by a sincere lover of flower form, as well as by an artist. An umbelliferous plant, after the manner of Angelica, spread over a small table was charming, and the Thistle of Lorraine, which figures much in its armorial bearings, Iris, Magnolia, Sweet Peas, Tulips, Anemones, Buttercups, &c., were all truly rendered, and I feel sure many people would be delighted to possess specimens of useful articles on which in cold wintry days they would have their favourite perennials still unfaded wherewith to rejoice their eyes. I should add that the sprays are all inlaid in real coloured woods—not merely painted. A large assortment at the atelier of M. Gallé in the Rue St. Dizier at Nancy is to be seen, and I think many fond of hardy plants would not regret going to inspect them if they break their journey from the south at Nancy. Other Gladioli I noticed at M. Lemoine's were Liberté, Marceau, Charles Joli, Keteleer, Admiral Gervais, Jeanne d'Arc, Etoile d'Or, J. M. Krelage, and Kleber. M. Lemoine have also an interesting collection of uncommon shrubs. Among the latter the following arrested my attention: *Spiraea Bumalda* var. *ruberrima*, *Celastrus articulatus*, *Rhamnus grandiflorus*, *Sambucus racemosa arborescens*, a fresh variety, but M. Lemoine thought not rightly named; *Catalpa hybrida japonica*, flowers twice in the year; *Syringa*, a seedling not yet named with double white flowers and a remarkable leaf; *Symphoricarpos acutus*, S. Heyeri, *Mespilus Dzungarica*, with fine dark berries; *Hibiscus californicus* in beautiful bloom (Sept. 1), *Clematis orientalis*, *Ulmus parvifolia*. M. Lemoine also praised much a pretty *Begonia* which he finds *fleurit toujours*. The pretty and nice little Strawberry Belle de Meaux was in fruit, and refreshing in the hot days of late August and early September. M. A. R.

Liphook.

## SOCIETIES AND EXHIBITIONS.

### ROYAL HORTICULTURAL SOCIETY.

SEPTEMBER 20.

At this meeting the exhibits of fruit were the chief features of interest besides the Dahlias and a few Orchids. Some of the fruit shown was remarkably fine. The meeting was not well attended, owing no doubt to the Fellows and other supporters being still out of town. Although not a large meeting, there were many interesting things exhibited.

#### Orchid Committee.

A first-class certificate was awarded to—

**CATTLEYA STATTERIANA.**—A variety with the rich colours of the aurea type; the sepals and petals of a straw colour and somewhat reflexed; the lip very large and much expanded even into the throat, having a deep golden yellow centre, with a narrow margin of rosy purple and deep blotches at the extremity, of a deeper shade, the throat richly veined in the same colours. A superb variety. From Mr. Thos. Statter, Stand Hall, Manchester.

An award of merit was made to—

**CATTLEYA MINUCIA** (C. Loddigesi × C. labiata). —A hybrid which bears a nearer resemblance to C. Loddigesi than to C. labiata, with the colours somewhat intermediate, of a rose colour suffused with violet, the lip having the yellow markings as in C. Loddigesi, and a vinous purple blotch. From Messrs. Veitch and Sons, Chelsea.

These were the only awards made at this table on this occasion, but a few other good things were shown. That, perhaps, which created the most interest was a plant of *Catasetum Bungei* with one female blossom upon the spike, the rest being male blooms. The flowers were large, waxy-white and of great substance. It was exhibited by Mr. Foster Alcock, Berkhamsted. M. Linden, Brussels, sent two kinds of *Cyrtopodiums*, both vigorous growers, C. *macranthum* having yellowish flowers, and C. *Aliceæ* with greenish white ones spotted with a golden colour; neither kind had the spikes fully developed. Mr. T. Statter sent another remarkable plant in *Cattleya aurea* *Statteriana*, to which a first-class certificate was awarded in 1890. It is a very fine, handsome form, the sepals and petals pale citron, the labellum massive and very striking, reticulated with pure purple down the centre, with broad bands of pure gold at the sides, the margins reticulated with bright purple. Messrs. Sander and Co. had a small group, consisting of a few plants of *Dendrobium Phalaenopsis Schröderianum*, dark as well as light forms. The continuous exhibit of this Orchid clearly indicates that its season is a most prolonged one. *Odontoglossum crispum*, one plant with a long arching spike of fourteen flowers, pure white in colour with pale brown marks on the lip, the individual blooms rather small; O. *Harryanum*, one plant with a remarkably fine spike of ten flowers of extra size and deep colour; *Cypripedium Chamberlainianum* and several hybrids, and C. *hybridum* *Maynardi*, of which C. *Spicerianum* is one of the parents, the offspring possessing larger flowers, were also shown. Of *Vanda cœrulea* two plants were shown, also one of *Cattleya aurea*, with its distinct and rich markings. Messrs. B. S. Williams and Son showed *Oncidium incurvum album*, a very pretty variety of the species with white flowers, having a faint touch of yellow in the lip. Messrs. Low and Sons showed a pleasing little group chiefly of *Vandas*. *V. cœrulea* was in good form, one variety possessing a deep violet-coloured lip. *V. Kimballiana* was also shown, in which there was also marked variation. Others consisted of *Cypripedium Parishii*, *Saccolabium Blumei majus*, *Dendrobium formosum giganteum*, and *Cattleya bicolor* *Wrigleyana*, in which the lip is of an intensely deep crimson-purple. From Mr. Walker, Brettargh Holt, Kendal, came two large masses in baskets of *Saccolabium Blumei* with sixteen spikes in all, some being of extra length and well developed.

#### Floral Committee.

First-class certificates were awarded to the following:—

**ARISTOLOCHIA GIGAS** VAR. *STURTEVANTI*, of which one plant with a remarkably large flower was shown. This bloom measured fully 4 feet from the base of the flower to the extremity of the tail-like appendage. The ground colour is lighter than in the species, being reticulated with rich purple; the tube is of a dark velvety maroon colour—a most remarkable flower. From Messrs. F. Ross & Co., Merstham, Surrey.

**PTERIS NIVALIS.**—A very decided acquisition to the variegated forms, the silvery markings greatly predominating, the fronds in some instances being almost suffused with it; the bright silver variegation is much more distinct than in many kinds yet raised. The plant appears to be of a compact growth, and has apparently an affinity to *P. tremula*. From Mr. H. B. May, Edmonton.

Awards of merit were given to—

**DAHLIA TOMMY KEITH.**—A very compact flower (a true pompon), with the petals of a deep red tipped with white; as shown in bunches it was very striking.



**DAHLIA ARTHUR WEST**, the flowers of which are of fine form and full, the colour a rich dark claret. Both from Mr. Keith, Brentwood.

**DAHLIA MATCHLESS** (Cactus).—A very dark coloured variety of true Cactus type, the colour much the same as in *Empress of India*; an acquisition to its class. Messrs. Perkins, Coventry.

**DAHLIA KATHLEEN** (show).—A light-coloured seedling, pale soft lilac tipped with a darker shade of the same colour; a very striking and distinct flower. Mr. C. Turner, Slough.

**SILVER ELDER**.—A profusely variegated form of the common Elder, the tips of the shoots shown being almost devoid of any green. This should be a most effective hardy shrub in masses; as the growth progresses it evidently increases in effectiveness. From Miss Alice de Rothschild, Eythrope, Aylesbury.

The strain of French Marigolds, shown by Messrs. Dobbie and Co., Rothesay, received an award of merit, and that most deservedly; the flowers are very rich and true in colour and of fine form and size.

Messrs. Dobbie and Co. had a fine collection of Dahlias, shows, fancies, Cactus and pompons being represented in good variety. African Marigolds *Lemon Queen* and *Prince of Orange* were of fine size and pure in colour. Tufted Pansies were well represented by the best kinds, the following being the most effective: *Countess of Hopetoun*, white; *Duchess of Sutherland*, pale lilac; *Ariel*, pale blue; *W. Niel*, rosy lilac; *Max Kolb*, dark purple; and *Bridesmaid*, pale yellow. Several kinds of *Fuchsias* were also staged in a cut state, but the effect was entirely spoilt by the arrangement, all the flowers being arranged in an erect manner in bunches quite out of all character (silver-gilt *Flora* medal). Messrs. J. Laing and Sons, Forest Hill, sent a miscellaneous group of well-grown plants of a decorative character, consisting of *Caladiums*, *Palms*, *Crotons*, *Begonias* (foliage), *Ferns*, and *Dracenas*, with *Nepenthes Mastersiana*, and *Bertolonias Souvenir de Gand*, *Comte de Kerchove*, and *Mme. Auguste van Geert*, three of the best kinds. Some very fine blooms of their strain of double *Begonias* were also shown (silver Banksian medal). Messrs. B. S. Williams and Son, Upper Holloway, had a fine group of *Crotons*, the plants in the best of health and well coloured. C. Warreni, C. Countess, C. Williamsi, and C. Queen Victoria were amongst the most handsome. The plants were semi-specimens, and when thus seen so well coloured they are most effective (silver Banksian medal). Mr. A. Rawlings, Romford, staged a very fine lot of Dahlias (shows and fancies). Two of the most striking of all were *Colonist* and *Queen of the Belgians*. The flowers were not over large, but bright in colour (silver Banksian medal). Mr. S. Mortimer, Swiss Nursery, Rowledge, Farnham, also staged a fine assortment of show and fancy Dahlias. Two excellent ones here were *Maud Fellows* and *Mrs. Theobald* (bronze Banksian medal). The same award was made to a small group of decorative plants in season from Mr. Chas. Holden, Ealing, comprising well-grown examples for small houses. Messrs. Paul and Son had a showy collection in large bunches of hardy herbaceous plants in season, *Asters* being well represented by *A. Shorti* and *A. bessarabicus*, and the *Helianthus* by *H. decapetalus*, *H. multiflorus major*, and *H. latifolius* (bronze Banksian medal).

Other exhibits consisted of a fine boxful of hybrid *Streptocarpus* from Messrs. J. Veitch and Sons. These were conspicuous by the well-defined markings of the flowers, whilst a wide range in colour was afforded from the pure whites to blues and crimsons; the plants well grown and the foliage very healthy. M. H. B. May had several of his newer variegated forms of *Ferns*, as represented by *Pteris Reginæ* and *P. Reginæ cristata*, *P. Victoris* and *P. tremula variegata*, all useful and distinct decorative *Ferns*. *Adiantums* were represented by *A. diversiforme*, of light and very elegant growth, and *A. decorum varium*, quite a distinct form of this well-known *Fern*. *Nephrolepis davallioides multiceps* and *Pteris serrulata gracilis* were both shown, each being acquisitions to their respective classes. Mr. Thos. Ware

had *Helianthus Bouquet d'Or*, which has narrow petals, the flowers being almost too compact, the colour a deep golden shade. Other Dahlias were exhibited by Mr. Chas. Turner, who had several promising new kinds. *Oscar* (Cactus) is a very full flower, deep red in colour; *White Lady* (pompon) is an excellent white, pure in colour; and *Ringdove*, (another pompon), a pale salmon-red, are both acquisitions to their class. Mr. Keith, Brentwood, also staged several blooms of shows and fancies besides those certificated. *Stebbing Wheeler* (decorative class), yellow splashed with bronzy-red, is a novelty. The *Chrysanthemum* season may now be considered as commenced. Mr. Owen, Maidenhead, had two varieties. *Princess May*, a pure white seedling from *Mme. Desgrange*, with broad petals, should be a useful decorative variety; *Harvest Home*, a bronzy or chestnut shade of colour with the reverse of the petals golden, has a good appearance, assisted by the reflexed petals. Messrs. Reid and Bornemann, Sydenham, showed a variety called *George Jones*, having large flowers with the petals slightly bearded at the tips. From Mr. E. C. Smith, Silvermere, Cobham, came fifteen varieties of *Pines* in cone; they were fine vigorous examples of their kind, the soil and locality evidently suiting them well. Messrs. Laing and Sons showed cut blooms of tuberous *Begonia William Allen Richardson*, a pale apricot colour. The flowers were arranged as sprays and button-holes, being very suitable for the purpose.

#### Fruit Committee.

There was a number of exhibits before this committee, the fine collection of 120 dishes of fruit from the Royal Gardens, Windsor, including twelve magnificent *Pines*. Messrs. Rivers also contributed largely. The question of giving awards to the grower or raiser of new fruits or vegetables was discussed, Mr. Wythes contending that these awards should be given to the variety and to the person who sends the exhibit, objection having been raised to his getting a first-class certificate for *Veitch's Success* *Pea*. The chairman agreed that it was best to give the award to the things staged if worthy, but that the various exhibits when tried at Chiswick should come to Westminster for confirmation. Mr. Wilks, the hon. sec., said in future the awards would be given to both raiser and grower.

First-class certificates were awarded to the following:—

**RUNNER BEAN HILL'S PRIZE**.—A variety with a large straight dark green pod of beautiful shape. It is stated to be most prolific and of good flavour. Messrs. Bunyard & Co.

**RUNNER BEAN PRIZE-WINNER**.—A new variety of large size and good shape, and a great bearer; pod bright green, very smooth, and with peculiarly coloured seed. Sutton and Sons.

**POTATO READING GIANT**.—A kidney variety, rather large and irregular in shape, but of excellent flavour when cooked; a very heavy cropper. Messrs. Fidler, Reading.

**POTATO MARY ANDERSON**.—A medium-sized white kidney, with one end much smaller than the other; good cropper and of good flavour. Mr. Fletcher.

**POTATO QUANTITY AND QUALITY**.—A large kidney with few eyes, not deep, and of excellent flavour. It is a very heavy cropper. Messrs. Johnson, Boston.

**POTATO THE CANON**.—A beautiful looking kidney, and one that will be useful for exhibition; of fine shape and clear skin, with shallow eyes, and of good flavour; also very prolific. Mr. R. Dean, Ealing.

Awards of merit were given to—

**POTATO KING OF THE EARLIES**.—A kidney with russet skin; a good cropper. Mr. Ridgewell, Notts.

**POTATO CRAWLEY PRIZETAKER**.—A large kidney with russet skin, white flesh, and of nice shape. It is of excellent flavour, and a good cropper. Messrs. Cheal and Sons, Crawley, Sussex.

**POTATO WHITE ROUND**.—A very nice shaped white Potato, with shallow eyes, roughish skin,

heavy cropper, and good when cooked. Messrs. Paul and Son, Cheshunt.

**POTATO WHITE RUSSET**.—A white round of good shape and a heavy cropper, with first-class flavour. Mr. Harris.

**TOMATO BLENHEIM ORANGE**.—A new variety with yellow flesh and crimson markings. It is, I should say, a cross between a pale red and a yellow variety. It is of fine flavour and of medium size. Messrs. Carter, High Holborn.

**SEEDLING MELON**.—A fine looking fruit with deep scarlet flesh and of excellent flavour, the skin netted, and of a bright golden colour. Shown by Mr. Tegg, Bearwood.

From the Royal Gardens, Windsor, came 120 dishes of fruits of various kinds, including twelve grand Smooth Cayenne *Pines*, good *Lady Downe's*, *Alicante*, *Strawberry* and *Raisin de Calabre* *Grapes*, with samples from the celebrated old *Vines* at Hampton Court and Cumberland Lodge, fourteen seedling *Melons*; a great quantity of *Peaches* and *Nectarines* from open walls, the best of the *Peaches* being *Sea Eagle*, *Barrington*, *Walburton Admirable*, and *Princess of Wales*, *Crimson Galigne*, and *Dymond*, with *Spenser*, *Pine-apple*, *Prince of Wales*, *Violette Hative*, and *Victoria Nectarines*; a fine collection of *Plums*, the best being *White Magnum Bonum*, *Pond's Seedling*, *Autumn Compote*, *Archduke*, *Dymond*, *Reine Claude de Bayay*, *Goliath*, *Guthrie's Late Gage*, *Frogmore Late Gage* and several dishes of *Pears* and *Apples*, with *Mulberries*, *Medlars*, and *Quinces* (silver-gilt *Knightian* medal). A gold medal would have been a suitable award. From Messrs. Rivers and Son, Sawbridge-worth, came a very fine lot of seedling *Peaches*, also *Sea Eagle*, *Princess of Wales*, *Albatross*, *Nectarine Peach*, and *Gladstone*, all of great size, also *Monarch*, *Late Transparent*, and *Pond's Seedling* *Plums*, with some very fine *Ribston Pippin* *Apples* (silver Banksian medal). Some forty dishes of *Potatoes* that have been on trial were sent from Chiswick. Seedling *Apples* were sent by Mr. Calver, Ludlow, Messrs. Kimberley, Stoke Nursery, Coventry, Messrs. Laing and Sons, Forest Hill, and Messrs. Low, Clapton. Mr. Wilkins, Inwood, Dorset, sent a fine dish of *Mangoes*. A fine dish of *Doyenné Boussoch* *Pears* was sent by Mr. H. St. Vincent Ames, Westbury-on-Trym, Bristol. Several seedling *Tomatoes* were also shown. Mr. Leach, Albury Park, sent his *Tomato Ladybird*, a useful winter variety. Mr. Jesse Willard, Holly Lodge, Highgate, sent some very fine *Barrington* *Peaches*. Fruit of *Ribes sanguineum*, resembling *Black Currants* in colour, was sent by Mr. Mortimer, Farnham. A box of a large growing *Cress* came from Messrs. Carter. Messrs. Dobbie, Rothesay, staged a nice collection of vegetables, comprising *Leeks*, *Turnips*, *Carrots*, *Onions*, and a beautifully curled *Parsley*.

In the absence of Mr. Wolley Dod, the hon. sec. (Mr. Wilks) read the lecture on "The Variation of Hardy Plants under Cultivation." Mr. Dod stated that some kinds of flowers in the garden do not take readily to cultivation, doing best in their native habitats. In many cases free development above and below the ground did much to cause variation in these plants. If we notice closely what variations of growth take place in plants under good cultivation, a clue may be obtained as to the method of cultivation. Of late there has been rapid development in the cultivation of hardy plants, and in many of the species spontaneous hybrids closely allied to neighbouring species have been secured. It was most interesting to watch the growth, size, colour, seed-bearing, and production of double flowers in these plants, and to note their behaviour under cultivation. He would mention the great increase of late years in the *Chrysanthemum*. This was secured by culture. Again, sports in these plants were most numerous. The cultivation of some of our mountain or hardy plants did not assist in getting more colour or size into the flowers, but often the reverse. He had in his garden poor soil and little sun, and so far he had been able to detect only slight variation in colour. In such soil and position the colours were fainter or inclined to be more faded, but no dis-



tinct change took place. Twenty years ago he introduced a white Marsh Mallow into his garden. These plants bore seed, all the seedlings having white flowers till he introduced a pink form, and afterwards he had to weed out the pink flowers for years. In some cases plants revert at once. White Harebells rarely give white seedlings; the Foxglove is similar; whilst the Welsh Poppy gives abundance of yellow flowers. Many plants cross so readily, that it is almost impossible to keep them true. For instance, the Columbine rarely comes true from seed, but in its native home on the Pyrenees it is more constant; also in America. Campanulas and Linum flavum come freely from seed; indeed, are profuse seed-bearers. Scilla nutans seeds freely, as also the hardy Geraniums. Narcissi and Crocuses come in thousands, but he had never seen a hybrid Crocus. He did not think culture increased seed-bearing. He sent some nice flowers of Michaelmas Daisies to show variation in hybrids.

## NOTES OF THE WEEK.

**Zauschneria californica.**—In a garden on the west cliff at Westgate-on-Sea I lately saw several masses of this in full bloom. They were finer than any I have ever seen.—A. K.

**Autumn Crocuses.**—The last few days of bright sunshine have brought out *C. speciosus*, *C. nudiflorus*, *C. medius*, *C. iridiflorus* and *C. zonatus*. This last is by far the best autumn Crocus we have. It seems to come up everywhere in the most mysterious way, and delights in getting amongst the spring species, whether by seeds or corms we know not. We find *C. zonatus* one of the best for turf in autumn, and if the grass is kept fairly short, it soon makes a mass of its lilac flowers, which may be readily recognised by the golden zone at the base. *C. medius*, with its large deep purple flowers and deep orange styles, is a charming species and should be in every garden.

**A beautiful bed** we noticed a few days ago in the gardens of the Zoological Society at Regent's Park. The groundwork was formed of a pale bluish-flowered *Ageratum*, from which rose a profusion of spikes of *Lobelia fulgens* Queen Victoria—a delightful contrast. There is no finer late August or early September flowering perennial than this deep crimson form of *L. fulgens*, the leafage of which is almost of a chocolate colour. The edging to the bed was of tufted Pansy Skylark. Those who wish for a rich mass of colour late in the summer should make note of this arrangement. It is of no use to have a few spikes of the *Lobelia*; it must be used freely if a distinct and fine effect is sought for.

**Colchicum Sibthorpi.**—This is the most beautiful of the late autumn Colchicums we have yet seen. It is now flowering on the rockery at Kew and is very interesting, as being remarkably like a large form of *C. speciosum*, with the tessellations of *C. variegatum*. It produces large bold flowers, and was first described as *C. latifolium*, from its fine broad, bright green foliage. A native of Asia Minor and perfectly hardy, it is certain to be a favourite with lovers of hardy flowers. *C. byzantinum*, next to *C. speciosum*, we like best of the unchequered autumn species. It produces its flowers more freely and abundantly than *C. speciosum* and they last longer. The double forms of autumnale, both purple and white, are grand autumn flowers. Small groups on the rockery are delightful just now and they never disappoint one.

**The Tiger Lily at Kew.**—The Tiger Lily in variety is planted in a bold, free way in the Royal Gardens at Kew. Bulbs are planted thickly amongst dwarf shrubs, and a crowd of flower-stems rises from the base of dark green leafage. This gives a distinct and rich contrast, but it is the bold way in which the Lily is used that charms most, providing a glorious mass of brilliant colour throughout September. The dwarf shrubs give the necessary shelter to the rising shoots in spring, and the soil that suits the one is also suitable for

the other. The garden may be made as gay in September as in July by the use of the proper things. We have seldom seen a finer effect than from the Tiger Lilies at Kew, and those who have large gardens where free and bold effects are required, should plant them thus for autumn display.

**Solanum Torreyi.**—I must apologise to the Rev. H. Ewbank for shocking his sense of colour. The flowers of *Solanum Torreyi* are certainly not artist's or Tyrian purple, yet they are of that hue which in horticultural parlance is denominated purple. Deep lilac would perhaps better express it. I could see but two tiny projections on the stems of the plant, unworthy of the name of spines, and which I thought accidental, not characteristic. They certainly are not conspicuous enough for at all interfering with the free handling of it. I have over a dozen species of *Solanum*; two-thirds of these are spiny. One, whose name I do not know, has its stalks almost hidden by dark purple (purple again, this time really purple), long needle-like reflexed spines. I never trust reputed, but questionably hardy plants in the open until I have a duplicate to experiment with. Coming from Texas, the one in question can scarcely be expected to be safe unprotected. I have another from the State, *S. texanum*, which is a stove plant, and will not produce its handsome fruits except in a high temperature. *S. Torreyi* will be grown under glass, at present at any rate.—J. M., *Charmouth, Dorset*.

**Plum Jefferson.**—I think if any variety of Plum deserves special notice it is Jefferson. As is well known, there are many excellent varieties of American fruit which, although succeeding admirably in America and proving of first-class flavour, will not do so in this country. But this Plum has proved itself one of our most reliable varieties in growth and bearing, and above all is of most exquisite flavour, besides being a most handsome fruit. It also succeeds admirably as a bush in the open, as a standard, and for walls in any aspect, including north. For this latter purpose it is a most reliable variety, the trees fruiting well; in fact, I have now two trees growing in such a position and carrying good crops, the flavour also being excellent. I herewith send a few fruits. This is in answer to Mr. J. C. Tallack's adverse comments at p. 249 against growing Plums in that position. I was also called to task early in the year by a correspondent for recommending the culture of choice Plums in such positions. It is not in all gardens or soils that the old Green Gage will thrive to perfection, and in these instances I say give Jefferson a trial. In this year of scarcity of Plums on walls, Jefferson on a northern aspect is a notable exception.—Y. A. H.

**\* \* \* Handsome fruit of excellent flavour.**—Ed.

**Zinnias.**—Gardeners do not, as a rule, appear to appreciate Zinnias as showy, free-flowering subjects. My plan is to purchase seed of six distinct colours and mix all together. I lately saw a circular bed, fully 15 feet in diameter, wholly filled with Zinnias. The bed was situated in a valley, and the view from the hill above was charming. The great mistake made by cultivators is that of sowing the seed in too much heat and growing the plants afterwards in it, thereby drawing them up weakly. My plan is to sow the seeds in boxes of sandy soil the first week in March, standing the boxes in a cold frame which is kept shaded from bright sun until the seedlings appear above the soil, when plenty of air is admitted to the plants. When the plants are large enough to handle, they are pricked out into another frame in light soil. The lights are kept close for a few days until new growth commences, when the plants are gradually inured to full exposure. Before pricking them into the frame, a layer of spent Mushroom-bed manure 2 inches thick is spread on the ash bottom, over which the soil is laid. Into this the roots run, enabling the plants to be lifted with a good ball of soil at planting time. I peg the plants down once when 6 inches high.—E. M.

**Dwarf herbaceous Phloxes.**—The dwarf race of Phlox is of great use in the garden, and the beauty of the plant is not sacrificed, as in the case of the *Antirrhinum*. The newer varieties,

chiefly of French origin, are remarkable for their compactness, the growth vigorous, and the sturdy shoots forming a dense mass, just above which rise the large heads of finely-formed and vari-coloured flowers. Many of them grow only about 2½ feet in height, but it is necessary to be careful in the selection of varieties, rejecting those with mauvy-purple flowers, a colour that one sees too much of in the garden; it is dead and ineffective, very different from the bright decided shades that are essential to gain rich effects. The most noteworthy are Henri Murger, white, the centre of the flower crimson; Faust, white, excellent habit, dwarf and compact; Eugène Daugainvilliers, pinkish-white; Boule de Feu, brilliant crimson; Jeanne d'Arc, white, very dwarf; La Ville de l'Air, white, crimson eye; Bayard, a good purple colour; Pluto, crimson; Delicate, white and rose-purple; Eclairer, similar and very rich, the leafage excellent; Wm. Robinson, salmon-rose, good habit; Massenet, rose, centre deep crimson; Avalanche, white; Neptune, rose-pink; Paul Bert, lilac; and Eugène Schott, very dwarf, the flowers white, pink in the centre. These are the names of a few of the most striking. A bed of white-flowered Phlox with *Lobelia fulgens* mixed with it is very beautiful.

## PUBLIC GARDENS.

THE churchyard of All Hallows, Barking, of which church Canon A. J. Mason, D.D., is vicar, is to be laid out as a recreation ground at the estimated cost of £80 0.

**A new park for Ramsgate.**—All arrangements have now been practically completed for the purchase of the Ellington estate, extending to over 12 acres, for the purpose of a public park for Ramsgate. Lately a local government inquiry was held by Mr. Arnold Taylor, when no opposition was offered to the scheme for borrowing £13,500 for the purchase money and laying out of the park.

**Another open space for London.**—Kensington, Fulham, Hammersmith and Chelsea are arranging a conference with a view to discussing the question whether it is desirable to take steps to acquire the land now occupied by "Buffalo Bill's" Wild West Exhibition at Earl's Court as an open space or park for the benefit of the inhabitants of the district. The area is something over six acres. In 1883 it was re-purchased by the present owners for £19,252. The site of the Horticultural Exhibition adjoining has also been hit upon as a valuable spot for the same purpose, as the want of breathing space has long been felt by the large and poor population of the neighbourhood. It is estimated that the entire cost of the site and laying it out would be some £25,000. This would have to be shared by the parishes benefited, aided, it is hoped and believed, by the London County Council.

**Names of plants.**—J. H.—*Retinospora filifera*.—*Constant Reader*.—1, *Smilax aspera*.—S. E.—*Pavia rubra*.—*Allan J. J. Alth.*—*Helianthus rigidus*.—J. Riddell.—*Rhus Cotinus*.—J. Carter. *Salvia Bethelli*.—A. K.—*Rubus australis*; quite hardy in south.—J. M.—*Cestrum aurantiacum*.—R. W.—We do not name florist's flowers.—E. C.—*Chrysanthemum Madame Desgrange*; flowers very good.

**Names of fruit.**—H. May.—Apple Wellington. —J. H.—Pear Beurré de Capiaumont. We should say the roots have gone down into the subsoil.—*Anon.*—Plum not recognised.—A. Chalmers.—Plums: purple, Prince of Wales; large yellow, Washington; small yellow, Oullin's Golden. In sending fruit for name, adding numbers would much simplify matters.—F. J. Polkinghorne.—1, Claygate Pearmain; 2, Kerry Pippin; 3, Grange's Pearmain; 4, Pine Golden Pippin; 5, not recognised; 6, Calville St. Sauveur.—*Rev.*—1, Small's Admirable; 2, Cox's Pomona; 3, Manks Codlin; 4, Wadhurst Pippin; 5, and 6, King of the Pippins; 7, Emperor Alexander; 8, not known; 9, Fearn's Pippin; 10, Duncow's Seedling; 11, French Crab.—*Anon.*—1, not recognised; 2, Cox's Pomona.

## BOOK RECEIVED.

"The Gentlewoman's Book of Gardening." By Mrs. Chamberlain and Mrs. Douglas. Henry & Co. Bouverie Street, London, E.C.



## WOODS AND FORESTS.

### NATURAL WOODLANDS.

SOUTHERN ENGLAND is certainly favoured with respect to the natural reproduction of many trees and shrubs, and some of these rare and uncommon species. Whole woodlands of in some instances from 80 acres to 100 acres can be pointed out that have become self-planted by such trees as the Birch, Scotch Fir, Beech and Sycamore, the seeds having fallen in pleasant quarters, and the ground fenced in and made secure against the incursions of farm stock. When timber of no great value is wanted, or when a clothed and wooded appearance is a matter of great importance, this method of bringing about the result is worthy of every commendation. There are only two species of trees that can be relied upon with perfect safety to bring about a tree-clad state of the ground, these being the Birch and Scotch Fir, two or three other kinds being of less value in the same way and not to be solely depended on. Fence in a tract of ground (the more worthless the better if it be not a quagmire), and year after year the fact will dawn all the more clearly on you that the aspect of the country around is becoming changed by the very operation of fencing. There is a thick and pretty wood of perhaps 50 acres that I oft inspect, and which fourteen years ago was uncared-for and overrun by sheep and horses. A fence was erected around it, and gradually the Birch, Beech, and a few other trees have taken possession of the ground and converted the place into a natural woodland of exquisite beauty. Three years ago the Birches had to be thinned out, they at that date being fully 10 feet high, and so quickly are they pushing upwards and laterally, that further thinning will require to be taken in hand next winter or early spring. This is only given to show what can be done in clothing a worthless piece of ground with healthy trees, of perhaps no great value economically, and at no expense whatever except the cost of fencing. Such work could not, of course, be done everywhere, but natural reproduction goes on so steadily and quickly in Kent, Surrey, Sussex, and many of the other southern counties, that with the trees specified one has only to fence and wait.

Away down on the moors and flats by Woking, in Surrey, one may see from the railway acres of self-sown Scotch Fir trees growing healthy and strong on naught but a peaty-surfaced land of gravel or sand. By attention, well directed and at the right time, such seedling trees may be trained into fine handsome specimens that will—as they are in many instances—be a pride to the neighbourhood and assist materially towards an improved sanitary state of the district being gradually brought about. The land that does best for the Scotch and Birch is that of a sandy nature with just a few inches of vegetable matter atop, while the Sycamore and Beech want stronger and damper soil and not so wind-swept a position as the common or down.

The trees that spring naturally from seed are of more rapid growth and attain to quite as large a size as those that have been planted. The above instances are given to show that a whole tract of ground may be covered with thriving plantations in certain districts, and at no expense save that of fencing.

A. D. W.

**The Butter-nut** (*Juglans cinerea*) is a handsome Walnut from the Eastern United States with grey bark and widely spreading branches. In stature it is less than its ally the Black Walnut from the same country, the latter attaining a height of from 60 feet to 80 feet, whilst the Butter-nut or White Walnut ranges from about 30 feet to 50 feet high. The wood, too (principally employed in cabinet-making), is of a lighter brown than that of the Black Walnut; it is very durable, light, soft, easily worked and susceptible of a beautiful polish. The inner bark yields a valuable dye, and a tincture used as a cathartic is also prepared from it. The Butter-nut is quite hardy in this country, and as an ornamental tree is well worth the attention of planters. Whether it will ever pay from a strictly commercial standpoint I cannot say.—N.

**Trees for different soils.**—The Larch is not to be relied upon as a crop by itself, and in planting a tract of moorland ground that contains a variety of soils, it is advisable to plant a mixture of trees, so that should the Larch fail there will still be a crop left upon the ground, by which means there will be no risk of having the whole or any part of the ground to replant should a failure occur. Such a mixture should be regulated in a great measure by the class and texture of the soil—that is to say, Ash should be planted on good sound loam, in rather a sheltered situation; Oak upon stiff plastic clay; Alder upon damp boggy ground; Beech upon siliceous soils; Birch upon high, rocky, exposed situations, where the soil is thin and poor in texture, as well as damp peaty soils that cannot be well drained. Sallow and Poplar may likewise be planted upon the latter class of soil; Elm upon good sound loam of average depth; Sycamore on a great variety of soils if well prepared, including boggy ground thoroughly drained; Silver Fir on good sound loam well mixed with organic matter. Scotch Fir, Austrian Pine, and the common Spruce are all adapted for hill planting on exposed situations, as well as deep peat bog. On the latter class of soil they pump up the moisture and prepare the bog for the Larch, and upon the exposed situations they are invaluable in the way of affording shade and shelter to the Larch from cold cutting winds in spring, as well as the protection which they yield from late spring frosts and the burning heat of the sun after a frosty night when the buds are bursting.

**The Ash**, from the straightness of its grain and its consequent liability to split, requires a considerable amount of care in cutting, and, when cut, in the way it is seasoned. It very often happens that this tendency to split manifests itself before the wood leaves the saw-bench or the saw-pit, as the case may be. When this occurs, the rending may to some extent be prevented, either by nailing strips of wood by means of strong nails (which can be drawn out when the wood is used) across the line of rupture, or by driving short lengths of hoop iron, bent into the form of an S, edgewise into the end of the plank across the incipient rent. If a rupture of the grain does not take place, so much the better; but whether it does or not, sawn Ash should be carefully stacked under cover, where only a moderate current of air has access, immediately it leaves the saw.

**Charcoal burning.**—I am anxious for a little information as to the mode of making charcoal. I require only a small quantity as a supply during the winter. Any advice on the subject will be welcome.—D. A.

\* \* The readiest way of making charcoal is to cut up the wood into lengths of about 2 feet 6 inches or so, and if large, split it into quarters, and lay it somewhere to dry, after which it will be in a fit condition for burning. In stacking it preparatory to this, a stake should be driven into the ground, around which a heap of shavings and small sticks should be piled, and against this the wood for the charcoal should be placed close on end in a regular circle, allowing just sufficient room between each piece for the fire to travel freely. The stack may consist of one layer or two, according to the quantity

to be burned, but it is better to build it in the latter way than to have the circumference large, as it is not only easier for covering up, but can then be charred with greater regularity. As soon as the stack is formed, it should be covered in with a good thickness of straw, except just 2 feet or so of the middle left open to light it and set the fire going. The straw on, the next thing is to cover it with from 9 inches to 1 foot thick with soil or sand; when all is ready, apply the match and set the fire blazing. When once the fire gets a fair hold of the wood, the middle must be covered in, and holes pierced with a stake through the soil to let out the smoke and draw the fire to the sides till it gets hold of the mass, when smaller holes should be made and the others stopped, the object being to prevent any flame or a too rapid combustion. It often happens that the wind will drive all the fire to one side, to obviate which the holes there should be closed, and encouragement given by opening others in the opposite direction to draw it there, that the charring may be regular throughout. To prevent waste by over-burning, much watchfulness is necessary, as if the fire gets too free vent anywhere, the wood is soon consumed to ashes, instead of being simply blackened through without losing much of its bulk. When the charring is complete, the fire may easily be smothered out by patting the soil close with the back of a shovel, so as to prevent all escape of smoke, when, after a day or two, the heap may be uncovered and the charcoal withdrawn.—S.

**Quick hedges.**—When young Quicks are planted where they will be liable to injury from cattle, a paling must be put up before they are planted. One of the principal things to be kept in view is to get the young hedge on so that it will be a sufficient fence before the paling is worn out and requires renewal. A Quick hedge must be kept free from weeds, especially during the first two years, as where this is not attended to, it is useless to expect it to thrive. If, after the second year, the hedge does not make satisfactory progress, being at all weak, before growth commences in the spring, give it a good top-dressing of farmyard manure; this, unless there is something wrong with the soil through its being too wet or other local cause, will push it on.—F.

**Foliage effects in autumn.**—At the present time some valuable suggestions as to planting for foliage effect may be obtained in passing through any well-wooded part of the country. Tall Elms are changing from green to yellow, whilst giant Oaks are softening into tints of crimson and brown. Chestnuts, so beautiful in spring when studded with flowers and young foliage, are now getting rusty, and Limes will soon be denuded of foliage by chilly frosts. Forest scenery is never seen to better advantage than in the autumn, when the fresh greens blend softly into browns, crimsons, and yellows, and when the whole face of Nature seems ripening into a ruddier glow under an autumnal sky. Our foliage effects are not limited to ornamental trees alone, for just now the Virginian Creeper—one of the finest of all our hardy climbers—is hanging in wreaths of bright crimson, in some cases backed by masses of fresh green Ivy. Very pleasing effects may be obtained at this time of the year by associating gold and silver-coloured varieties of Ivy with Virginian Creepers, either over ruins, rockwork, or in front of dwellings. What effects may we not produce when we get our Negundos up to 20 feet or 30 feet high, and contrast their snowy foliage with the crimsons and purples of the waning year.

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No. 1089. SATURDAY, October 1, 1892. Vol. XLII.

"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—Shakespeare.

## ROSE GARDEN.

### HYBRID PERPETUAL ROSES.

THIS is the largest section of our Roses and to many the most desirable, their colours being the brightest, and in most cases they are delightfully scented. Most Hybrid Perpetuals are quite frost-proof; they also grow well, are usually best as dwarf plants, and their growth being strong and erect, the blooms do not suffer in wet weather so much as do those of the Teas when cultivated in this way from the weaker growth of their wood. I would not, however, wish to convey the impression that Hybrid Perpetuals are for these reasons to be grown to the exclusion of Tea Roses. I am quite of a different opinion, and think that the Tea class is the most desirable of all.

The Hybrid Perpetual Roses as we now have them are the result of much crossing, hybridising, sporting and other developments and methods of raising Roses, and originated in the first instance from the crossing of the China with Bourbon Roses. The general name "Perpetual" to all of this class I consider to be a misnomer, as many are not at all perpetual; but some varieties, more especially some of our oldest Roses, keep on blooming up to the month of November. Amongst the old H.P. kinds I may instance especially La France and Charles Lefebvre, and amongst newer varieties, Viscountess Folkestone and Victor Hugo as true perpetuals; whereas Mrs. John Laing, Margaret Dickson, Gabriel Luizet, General Jacqueminot, and many other H.P.'s do not usually bloom after the month of August—at all events, it is quite the exception when they do so. This autumn I think we have been unusually fortunate in the number of our late blooms of dark red H.P. Roses, and they have been frequently quite up to exhibition form. There is one advantage which H.P. Roses possess over their more aristocratic relatives the Teas, and that is they appear to have no marked preference for locality or position. Give them a fair start by good planting, and they will do equally well on heavy or light land, in warm or cold positions, on the side of a hill or on a dead level. Naturally, they will bloom earlier when they have every advantage, and they will be heavier in petal off heavy land, but, taking them all round, H.P.'s will do well in almost all localities and situations where the air is pure and where they have been properly planted. This is not an essay on the best modes of planting, but it is a most important point to be observed in Rose culture, as if you do not start a Rose properly, how can you expect it to grow away freely?

There is still great divergence of opinion as to what is the best stock on which to grow Hybrid Perpetual Roses, although it is usually allowed that Teas grow best on the Brier. I confess I am not learned on the question of stocks, but I will give my own practical experience (better than theory), and that is in favour of the Brier as the best of all stocks. Some consider that maidens on Briers develop their first blooms too late in the season, and therefore those rosarians who use this stock are handicapped when they grow maidens extensively for exhibition purposes. I have no personal experience of sufficient value to give

an opinion on this point, but I do know that my friend Mr. Edward Mawley, Secretary N.R.S., a successful and experienced exhibitor, who has been experimenting on stocks at Berkhamsted for some years, has finally decided that he will give up growing his Hybrid Perpetuals on the Manetti. This decision from a man of such experience, and who never arrives at conclusions in a haphazard way, or gives an opinion without thoroughly weighing both sides of the question, is, to my mind, conclusive in favour of the exclusion of the Manetti. I formed this opinion myself some years ago. Since then I have grown my Roses only on Brier stocks, and I find them quite satisfactory enough for my wants.

Now, which are the best Hybrid Perpetual Roses to grow? That is a question which might lead to controversy, as our Rose lists alter annually. Each year a few (very few) good, apparently new, Hybrid Perpetuals are brought out. Some last in favour a year or two, some even longer, but the great majority are relegated to the dust heap or given to friends who grow Roses in a casual sort of way. I am firmly of opinion that few Hybrid Perpetual Roses have been brought out of recent years which can be said to equal and none to excel our oldest favourites. No doubt many good ones have been produced, notably Mrs. John Laing, Gustave Piganeau, Jeannie Dickson, Sir Rowland Hill, Viscountess Folkestone (best of all), Her Majesty, and Margaret Dickson, most of which will permanently hold their positions, but are they better or more reliable, or will they supplant as exhibition varieties A. K. Williams, Baroness Rothschild, Charles Lefebvre, La France, Marie Baumann, Comte de Rainbaud, Mme. Gabriel Luizet, Alfred Colomb, Dupuy Jamain, and General Jacqueminot? Certainly not! But there is a marked peculiarity in regard to the new Roses brought out; we seldom see a really first-class new dark and distinct red Rose. In the year 1890, the late Henry Bennett exhibited a new red Rose called Captain Hayward. He died before he could distribute it. It was again shown this year at the Crystal Palace. I think it is one of the few good dark Roses brought out of recent years, the others being Gustave Piganeau, Lady Helen Stewart, Salamander, and Sir Rowland Hill, the last being the most distinct of all, and on its day a glorious velvety Rose of the darkest class. Previous to these we must go back to Victor Hugo, also of the highest class. There are too many new Hybrid Perpetuals of various shades of light and dark pink, and too much alike, such as Jeannie Dickson and Mrs. W. J. Grant and others exhibited at Chester, but if we really want new Roses rapidly introduced, which I doubt, we do not want them of these uncertain lighter colours, but of decided shades of red, as the brilliant scarlet of Duke of Teck or Cheshunt Scarlet, or such whites as Margaret Dickson. We already have too many pink Hybrid Perpetuals similar in shade and shape, and between which at times even experts can hardly discriminate. Another quality which of late years has not been considered a *sine qua non* in producing new Hybrid Perpetual Roses is that of scent. Surely of all qualities the Rose should not be scentless? It is the crowning point in a good Rose, and the greatest defect of two such good Hybrid Perpetuals as Baroness Rothschild and Her Majesty. Who would prefer either of these even in their greatest glory to a really good La France or Mme. Gabriel Luizet, sweetest of all Hybrid Perpetuals? I think almost without exception the dark red Hybrid Perpetual Roses are sweet-scented, the want thereof being confined principally to some

of the pink varieties, to Merveille de Lyon, Susanne Rodocanachi, and Duke of Edinburgh.

I have mentioned that Hybrid Perpetuals can be well grown as dwarf plants—in fact most rosarians who grow for exhibition have practically discarded standard Hybrid Perpetuals, but there are many varieties which do equally well on standard Briers; for instance, La France, Victor Hugo, Mme. Gabriel Luizet, A. K. Williams, Marie Baumann, Her Majesty, Charles Lefebvre, Merveille de Lyon, Le Havre, Mrs. John Laing, and several others do exceedingly well and produce blooms of exhibition standard. Some short time ago it became the fashion to decry standards, but there is a tendency to revert to them; and although the advantage to the flowers is not as great in Hybrid Perpetuals as in Teas, yet there are times and places, such as closely fenced-in gardens, where dwarf plants will not succeed as well as standards. The one point to avoid is the plan of planting them in single trees at long distances apart on the borders of walks, as they look stiff in that way. If, however, they be grown in large beds with dwarfs amongst them, the inelegant appearance of the standard stocks is hidden by the growth of the dwarfs, and when they bloom the combination is most effective.

Croydon.

CHARLES J. GRAHAM.

### LATE-FLOWERING ROSES.

NOW that the bulk of the Hybrid Perpetuals are over, and many of the plants ripe enough for transplanting, we see the exceeding value of the Tea-scented and Noisette classes for late bloom. Almost all of these are now grandly in flower, and the recent rains have evidently assisted them very much. Fortunately, these came while the bulk of the plants were making their growth for the present flowers. I am certain there are very few beds of Tea Roses but would yield grand bunches of flowers at the present time. Anna Olivier, Mme. Lambard, Marie van Houtte, Niphetos, W. Allen Richardson, and many more sterling varieties are simply one mass of bloom, and will probably continue so if hard weather does not come. The autumn show of blossom may be much improved and assisted if one would take the slight trouble of removing all stale summer blooms as soon as past their best. Another material assistance lies in affording the plants copious waterings with weak liquid manure as soon as the later growth has well started. With a little assistance in this way it is not difficult to have a few autumn Roses of superior size and form.

A close soil and one that remains cool and moist during the summer is far more conducive to a good supply of autumn Roses than a dry and warm soil, unless the latter can be frequently and copiously watered. Late-growing stocks, like the De la Grefferaie and seedling Brier, will also have a material influence over the production of late flowers. The Manetti ripens so much earlier in a natural state, that most Roses worked upon this stock are already practically over for this season. Some few of the strong-growing Teas and Noisettes also produce a good show of flowers now, although as a general rule this type of Rose is only well clothed with blooms once during the season, and that early in the summer. Mme. Bérard, for example, will sometimes bear a truss of good blooms at the end of the long growths that have been growing all the summer. This variety has far greater depth of colour in its flowers when produced late in the autumn, and is then a most distinct and superb Rose. We also find W. Allen Richardson and Gloire de Dijon producing a full crop of autumn flowers upon those long growths that were made early, and which got partially ripened late in the summer. At such times they are exceptionally valuable, and may be gathered until severe frosts set in. The first named of these varieties is sometimes styled a shy bloomer, but I



have always found that sooner or later each long shoot is covered with the orange-coloured blossoms. The secret of growing this variety is high cultivation and very little pruning, when it is one of the most profuse bloomers we have. W. Allen Richardson and Marie van Houtte are probably our two best autumn-flowering Roses. The charming beauty of the latter is beyond description. It flowers profusely all through the season, never being out of bloom from the middle of June until real winter weather is upon us. Towards autumn the blooms are most beautifully suffused with soft magenta-rose shades, which are deeper on the edges of the petals and melt away into pure and soft yellow towards the centre of the flowers. These are borne in trusses, and the buds expand in succession and with great freedom.

To obtain dark Roses it is necessary to have them on the seedling Brier. When so grown, and partly cut back as soon as their first summer flowers are over, we may often obtain a fairly good autumn crop of such good dark reds as General Jacqueminot, Duke of Wellington, Abel Carrière, Duke of Edinburgh, Charles Lefebvre, &c.

But after all the old Chinas are the best Roses for producing exceptionally late blooms, and their flowers stand for a long time at this period. I find those of the Tea-scented class that possess a taint of China blood are the best autumnal bloomers. Mme. des Tartas may be named as an example of this.

A. P.

#### PLANTING ROSES.

By the time these notes are in print it will be well to decide upon what ground you are going to plant or transplant any Roses. Deep digging and a thorough incorporation of a fair amount of manure are two great essentials in cultivating the Rose. I do not approve of a large quantity of manure being placed too near the roots of newly-planted Roses, nor do I advise the placing of any stimulating material in direct contact with the roots. Too often we find this done, and with a little thought we shall see that this is detrimental to the welfare of newly-planted Roses instead of assisting them, as was intended. Take a few plants and lay them in by their heels in a compost of strong soil or manure, and you will find they do not commence the same healthy root-action as when placed in ordinary soil, especially if this be of a light and somewhat porous character. I suppose almost all of my readers have noticed this more or less, and yet several of them would put manure close around the roots of a newly-planted Rose or other tree. It is astonishing how freely a Rose will commence fresh root-action when laid in porous and sweet soil. This is what we want to encourage. After these have gained a start they can easily find and assimilate the out-lying manures at their own will and according to their requirements, but to force them, so to speak, to live upon nothing else while under the strain of transplanting is undoubtedly the wrong way to obtain an early or healthy root-action with its attendant benefits upon the future growth and bloom.

Personally, I much prefer to have a little light loam and leaf-mould with a dash of sand when planting Rose trees; this is placed in small quantities into direct contact with the roots. New growth is quickly made into this compost, and the stronger and surrounding soil is utilised as the plants require it. When a newly-planted Rose commences fresh root-action, the young root-lets are stout, white, and of good substance. Now if the soil be too strong for them to feed upon, these young roots will turn brown at the points and soon rot away. Needless to say, this takes a lot of the recuperative powers out of a plant, and unless you can secure a free growth of new roots the plants cannot possibly thrive in a satisfactory manner. Another caution in planting dwarf Roses, whether they be on the Brier, the Manetti, or any other stock, is to take care they are planted at least a couple of inches below the junction of stock and Rose. I was lately called in to inspect a bed of dwarf Roses that had done badly. The only reason of this was that they had been

planted with quite an inch of the lower portion of the stock out of the ground. They were nice plants when purchased, and from an examination of the soil, I have no doubt would have done well if they had been properly planted. There are three distinct advantages to be derived from this deep planting of dwarf Roses. First, the stock can swell more freely to meet the growing Roseshoots, as owing to the moisture derived from the soil the bark does not become so hard and bound as when fully exposed to the light and air. Secondly, there is a far greater tendency towards the production of suckers, or the growth of what would otherwise be dormant eyes, and these are the main support of most dwarf Roses. Thirdly, you can draw a little soil up towards their base, and so protect this vital part of the plants in the easiest and most effectual manner.

It is also well to trim off all coarse roots and the jagged ends of mutilated ones. I would also recommend the slight reduction of wood upon those of the strong growers that may be carrying a quantity of growth. There will be much less strain upon the stored-up sap in the cell vessels of the plant, as there will thus be less wood to supply and keep plump and firm against drying air and winds. You may remove such wood without fear, as it would be of little or no service during the coming season, strong growers requiring that their roots should be well established to make due use of the long growths made the previous year.

Standards should not be planted so deeply in the soil as dwarfs, and should always be made firm and secured in some way until well established. There are few things so injurious to newly-planted Roses of this form as the whipping, twisting, and sagging they go through during the winter unless firmly secured against the influences of wind and rain. As fast as new roots form they are wrenched off by such swaying about. It is easy to manure the surface soil after the Roses have partially permeated it with their roots; in fact, my experience points to many advantages of such treatment. In the first place you make the soil too rich for the new roots, and also lose a great deal of the fertilising properties of your manure before the roots are able to assimilate it if added at the time of planting. Early planting if properly carried out is a great advantage, and I would strongly recommend it, as in that case you secure a plant that becomes partially established and with the soil well set around its roots before hard weather sets in.

R.

**The double Macartney Rose** does not appear to be worth much. The leaves are very ornamental, being so smooth and green. In other respects it is very disappointing, always promising a great display of bloom, and as regularly failing to bring one flower in a hundred to perfection. The buds show their creamy white colour, but let the sun shine ever so bright and hot they never expand. This happens, too, under the most favourable conditions, for the plants have the sun nearly the whole day. They are trained against a wall, and they have but a moderate root-run.—A. H.

**Moss Roses.**—It would be interesting to know if anyone has ever had many autumn blooms of these, and if so, from what kinds. In some of the Rose lists I have by me I find quite a number of Moss Roses, and they are divided into two distinct classes—summer and perpetual, that is, summer and autumn bloomers. I do not know many of the kinds, but from the descriptions they must be very much alike, and some that I have seen with dreary purple and violet tints are certainly not first-rate. Among the perpetual kinds appears the name of Blanche Moreau. This I grow, regarding it as one of the best of white Moss Roses, perhaps the best, but so far as its perpetual character is concerned, not a single secondary bloom has ever appeared, nor has it shown the slightest tendency towards that desirable end. It has always been grown on the pegging-down system, so perhaps with bush treatment and some amount of pruning different results are obtained.

In any case a truly perpetual Rose would show its character, and I imagine that we may put all the Moss Roses in one class and then proceed to reduce their numbers. With the old common pink, Blanche Moreau for a white, and Paul's Little Gem, which is crimson and all that the name implies, the majority may content themselves. One or two of the newer kinds have round or globular flowers, shaped like those of the great red Roses and approaching them in size. These are hardly wanted, because a Moss Rose to be pretty and show off its mossy characteristic must have a long pointed bud. A globular Moss Rose is a poor substitute for the good old type, which has been in our gardens longer than we can remember.—GROWER.

#### Variations of some climbing Roses.—

A few days ago my attention was called to several plants of Climbing Niphetos that were in all respects similar to the normal type of this grand white Rose. The person who purchased the plants was under the impression that the old form of this variety had been sent out under the new name. In case some others have plants of this Rose that have been somewhat disappointing during the early stages, I may inform them that no blame attaches to the growers, because all of the climbing forms of older Roses, and which originated from a sport, are more or less liable to these vagaries. Climbing Niphetos has been worked from a long and vigorous shoot, the plants were carefully marked and watched, and among them I have found several which for some time had every characteristic of the normal variety. Most of these, however, have resulted in strong climbers later on. Among a batch of plants that were budded last year I have several that have made growths of 10 feet and 15 feet, while their neighbouring plants may perhaps be no more than 2 feet high and with all the bushy habit of the old variety. This is also the case when all of the buds have been taken from the same plant. Several spring-grafted plants that were turned out in the summer have shown the same variations. Some of them are now throwing up the long growths so characteristic of the climbing type. We see the same differences in almost all new Roses or plants that are produced from sports. While one shows it in the growth, another does so in the colour of its flowers. Pride of Reigate, for example, will come more or less variegated in form, and it will also produce blooms of the exact colour of those of Countess of Oxford, the variety it sported from. The climbing forms of Jules Margottin, Captain Christy, Victor Verdier and Devouienensis will all exhibit the same peculiarities in growth as those spoken of at the beginning of this note. I am induced to record these facts because more than once these varieties have been the cause of an amateur complaining of being served with the wrong type by the grower. In the case of climbers, it is always best to choose wood that possesses the climbing characteristic in the fullest degree.—R.

**Scarcity of Roses.**—I am rather surprised to read in Mr. Grahame's article (p. 280) that the flowers that are becoming few and far between are Roses. The very opposite is true—at least, such is my experience. Such a statement is misleading, and might do harm. True, among the so-called Hybrid Perpetuals flowers are few and far between, but Mr. Grahame cannot have groups of such Roses as the Hon. Edith Gifford, Mme. Lambard, Dr. Guill, Marie van Houtte, Innocente Pirola, and others in his garden, or he would never have made such a statement. Certainly on my groups the buds are more numerous than they were in June. Although unpropitious and variable weather may lessen the number that reaches perfection, still even in the last week of September Tea Roses are among the most delightful of our autumn flowers. Souvenir de David d'Angers is a perfect glow of colour. Add to these the Monthlies and the growing family of Polyanthas and the wealth of autumn Roses is materially increased. Gloire des Rosomanes is always finer in autumn, because in the cooler shorter days its flowers last longer. I have cut this in quantity when the weather kept open until Christmas.—A. H.



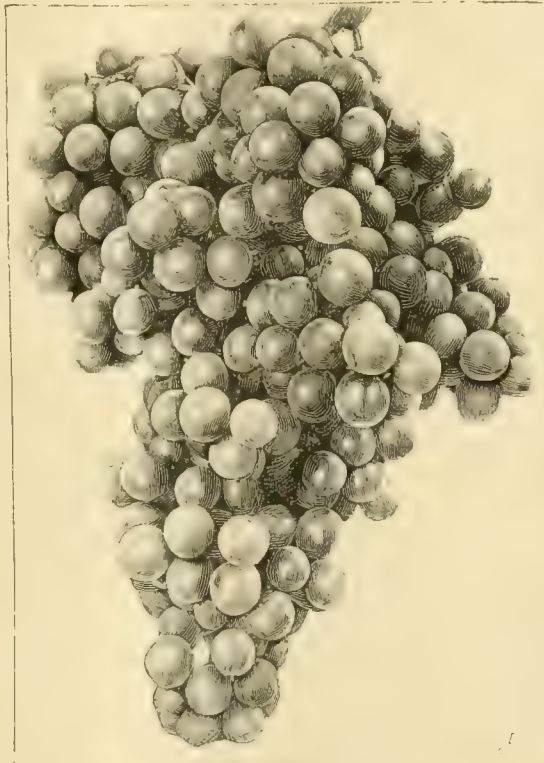
## ORCHARD AND FRUIT GARDEN

## GRAPE GROS GUILLAUME.

Not much is ever written in favour of this variety, but detractors of its merits are by no means limited in numbers. As generally seen it is poor, the bunches being so many huge skeletons, the berries being either very small or most irregular, and the colour decidedly bad. If it cannot be grown any better than that, then by all means cut out the rods, the room being better occupied by other more reliable varieties. When, however, it is seen at its best it is a noble looking Grape, and properly ripened the quality gives great satisfaction, the palate not easily being cloyed by it. Gros Guillaume I would term a mid-winter variety, though it can be had perfectly fit for the table from September onwards. It enjoys the distinction of being capable of producing heavier bunches than any other black variety, the late Mr. Roberts, of Charleville Forest, Ireland, having once shown a cluster weighing 23 lbs. 5 oz., while other very heavy bunches of this variety have also been grown in various parts of the country. The average weight is more probably nearer 4 lbs., and this is a far more serviceable size, though I see no good reason why one or two sensational bunches should not be grown where possible in most large vineries. When hanging they invariably attract much attention—in fact, are a nine days' wonder in some cases, and if too large to cut at one time, there is nothing to prevent their being sent to the table piecemeal, the shoulders in many cases resembling small bunches. I have never given the variety a fair trial on its own roots, but have met with several instances of own-root Vines of it failing miserably. With me it is worked on the Black Hamburgh stock, and not allowed to wholly monopolise the stem and roots, the Hamburgh stock thus retaining its individuality. The variety is of extra vigorous growth, and appears to require some restraining influence, or such as the Hamburgh stock with a rod or rods retained and fruited alongside the Gros Guillaume or in the next division, as with me, affords. In my case the bunches are very freely produced, or much more so than is the rule, and I can easily select them of any size, or, say, so as to eventually vary in weight from 3 lbs. to 9 lbs., and this satisfactory state of affairs I attribute to the Hamburgh stock and to starting the Vines not later than February 15. Late started Vines do not, as a rule, ripen their wood properly, and a paucity of bunches is the inevitable result. Badly matured wood also produces the ugliest and most useless bunches, and I have long since given up trying to grow the variety under notice in a late house where Gros Colman, Alicante, and such like succeed well.

Gros Guillaume has long been considered synonymous with the variety known as Barbarossa, and though at one time holding a different opinion, I am beginning to think there is no difference in them. Mr. Roberts was also supposed to have a superior form, and my cuttings were obtained indirectly from him—that is to say, they came from Mr. Ward at Longford Castle, who has long been very successful in producing fine, well-finished bunches of the variety, and his stock originally came from Charleville. During the past two years, however, I have met with instances of the same stock having failed badly, not a presentable bunch out of a dozen being seen in one noted vinery. It would really appear that it is all a matter of cultivation. If the Vines do well

and produce large well-finished bunches, then it is a "good stock" of Gros Guillaume, but if the bunches are sparingly produced, are large, ugly, badly set, and the berries when ripe as red as a fox, then it is either an inferior form or else the true Barbarossa. I cut bunches this season as compact as could be wished, and the berries resembled extra good Black Hamburgh, with this important failing, the bloom was much thinner, Gros Guillaume berries usually presenting a rather polished appearance. Before I ever heard of the Charleville stock I grew two fine handsome bunches on a double-grafted Vine in a Shropshire garden. After a rod of Lady Downe's had been well established on the Black Hamburgh stock, a graft of Gros Guillaume, or Barbarossa as it was then termed, was inserted in the bend where the Vine first reached the trellis. This graft was never allowed to extend, but from two or three spurs bunches were regularly



Grape Gros Guillaume.

produced, and the finish and quality were all that could be desired. I have read of very similar practice having answered equally as well, and I would recommend its adoption by all who failed to grow the Grape under notice to their satisfaction in any other way.

In addition to grafting or inarching Gros Guillaume on to the Hamburgh stock, there are a few other details that should be observed by those who wish to grow it properly. I have already pointed out that the wood must be well ripened, but this is not enough. Hard pruning should be avoided, bunches being more surely produced when the laterals are cut back to about the third bud, while if extra large bunches are desired, it is advisable, though not always necessary, to adopt the long-rod system of pruning, or, in other words, to prepare young rods in one season for fruiting during the next year, and then cut them out to make room for other canes. I experience no difficulty in procuring at least two fairly large

bunches annually, these weighing each about 8 lbs. The woodcut accompanying these remarks was prepared from a photograph taken of one of the clusters I grew last year, and it was a fairly typical bunch. I find two moderately large bunches and two weighing about 4 lbs. each quite crop enough for a strong rod. If more are left they do not finish satisfactorily. Large bunches being desirable, there must be no reduction of shoulders and very little thinning out of berries resorted to, but the shortened and trimmed bunches, in addition to being the most handsome, also usually produce the finest and best finished berries. In order that there shall be no mistake about the setting, I invariably fertilise the flowers with Black Hamburgh pollen, and later on thin very cautiously indeed till it is seen which berries are best furnished with stones. Where many err in thinning out early and severely, or much as they would the Black Hamburgh. Instead of taking out two-thirds of the berries, one-third, and those the smallest, are enough to remove, the bunches lengthening out surprisingly for some time after the berries are set. The large bunches must be very freely shouldered up, and then they need not be much thinned, objectionable looseness being avoided. Gros Guillaume succeeds well with moderately early Muscats, but requires more air than these usually get from the time colouring commences.

W. IGULDEN.

## AUTUMN PRUNING OF PEACH TREES.

THERE can be no two opinions in the minds of practical gardeners as to the wisdom of thinning out the branches of Peach and Nectarine trees as soon as the crops have been gathered. I have done the trees in two houses to-day (September 17), and shall continue the operation on trees in other houses and out of doors until all are done. The advantage of thinning out the shoots early instead of waiting until the trees have shed their leaves must be obvious, as by cutting out all superfluous shoots in September or early in October, the wood retained for producing next year's crop of fruit is enabled to get better ripened than if pruning were deferred till the end of November or December. Moreover, the forces of the individual trees are not wasted in maturing wood which we know will have to be cut out a couple of months later. Bearing this fact in mind we might very properly, and with every certainty of satisfactory results being secured, reduce even autumn pruning to a minimum by following a more severe, but still judicious course of disbudding the trees in spring than that hitherto practised. In writing thus, the question that naturally suggests itself to the mind is this: Is the quantity of wood—individual shoots—that is actually necessary for the production of a full crop of fruit another year quite sufficient for the due flow and circulation of the sap and the building up of a vigorous, healthy and fruitful tree? The only difference between the autumn and winter methods of pruning is that there is no shortening back in the autumn of the shoots of the current year's growth, which are retained for the production of next year's fruit. This is done, where necessary, when the trees are being re-arranged on the trellises a couple of months later. All the old growth—that made last and previous years—that can be dispensed with should be cut out, together with any superfluous shoots which the trees may have been permitted to make during the present year, thereby materially



assisting in the plumping up and ripening of the fruit-buds as well as in the building up and maintaining of the trees in a healthy and fruitful condition.  
H. W. WARD.

### PEACHES ON OPEN WALLS.

THIS season's experience with Peaches on open walls generally will evidently cause their culture to be further extended. Of course it will depend greatly upon the district whether or not they will succeed, but it is certain that in the majority of instances where they have been tried and failed, it has been more from the want of timely attention than the unsuitability of the district. There is no other class of fruit which resents indifferent treatment so much as Peaches on walls, and if they are to succeed, the closest attention is necessary, especially as regards keeping clean, timely disbudding, and securing the growing shoots to the wall. By attending to the above details of culture Peaches may be grown successfully in many gardens where during the month of September and the early part of October they are unknown. It is not so much the early varieties as the midseason or later varieties that are esteemed, as in those gardens where Peaches are grown under glass these very early kinds are not so much needed on account of the better quality varieties which are timed to come in towards the end of July and the beginning of August. These early fruits are of the greatest importance when there is no aid to further the ripening of better kinds. Even in these cases too much stress is placed upon these early-fruited varieties at the expense perhaps of later and better fruits. Coming in as these do towards the latter end of July and beginning of August, there is a period of quite another two months in which good Peaches may be enjoyed, and this of the better flavoured kinds. Earliness is a good point, but in the case of Peaches this is not combined with very good quality; hence the danger of planting too many. Another good point in these mid-season and later varieties when well grown is the readiness with which they can be sold. At this season house-grown fruit is over, and equally as good prices or even better may be obtained for outdoor fruit. Given a good site with suitable soil for them to grow in, there is no other class of fruit which pays better. The varieties to be selected for open-air culture must be above all healthy growers, for, as is well known, a few of the best flavoured kinds are not adapted for growing in the open, such, for instance, as Royal George and Noblesse, the two best flavoured varieties perhaps in cultivation. I must, however, say a good word for Noblesse this season, the fruits growing to a large size and with better colour than I have ever seen them. What few fruits I have gathered have been of excellent flavour. But still it is not constant, and cannot be relied upon to do well in successive seasons, so should only be grown under the most favourable circumstances as regards climate. I also grow the hardier Alexandra Noblesse, and although it does not quite come up to Noblesse in point of quality, yet it is one of the best for open-air culture. During the past six years it has never missed a crop. An old favourite of mine is the variety Dr. Hogg, this also being one of the most constant. This season it has again been very good, the fruit growing to a larger size and colouring splendidly, the flavour also being excellent. I consider this variety one of the hardiest. Crimson Galande has also been excellent. This is really a splendid Peach for open-air culture, the growth being

moderately strong and very healthy. It also commands a good price, the fruits taking on a very rich colour, the flavour also being excellent. Another good Peach is Dymond. To show its value, I once cleared £5 from a single tree, but the fruits were remarkably good and beautifully coloured. This is also a good grower and very constant. With Peaches in the open air, this latter trait is what is needed, and those varieties I have named, other than Royal George and Noblesse, may be relied upon. Stirling Castle will take the place of Royal George, a variety it somewhat resembles except in growth. Sea Eagle grows to an enormous size, and although in point of quality not equal to those named, it is valuable for the open air. It always realises a good price in the market. In point of quality, the best late Peach we have is Walburton Admirable. In some gardens this is said to be a shy bearer, but with me it is just the reverse, there always being abundance of fruits to select from. To get it in perfection in our elevated position, it needs a fine September. Barrington is also a good late Peach. Bellegarde, of course, should be tried, it being excellent both in flavour and appearance.

There are also a few others I have tried, but enough have been mentioned to show that there are plenty of good midseason and late Peaches suitable for growing in the open air. The essentials for success are, first, a good south wall; second, a well-drained border formed with suitable soil. After the trees are planted, give up at least 5 feet or 6 feet of space to be held sacred to the roots. The trees may be kept well supplied with water, kept free from insect attacks, and be well attended to in every way; but if the borders are allowed to be cropped up to within a foot or two of the stems, as they very often are, the trees cannot be expected to grow and bear well.—Y. A. H., *Abberley Hall, Stourport.*

— In addition to the varieties given by Mr. Ward (p. 248) I would add Early Louise to the early section. Fruit of this variety ripens between Early Alexander and Hale's Early when growing against a south wall. The fruit is not large, but of good quality, and with me in calcareous soil of excellent colour. To the second batch I would also add Royal George, a tree of which against an east wall gives us a capital crop every year. Bellegarde ripens its fruit against a south wall the second and third weeks in August—Mr. Ward recommending this for September. In any case it is a capital sort for outdoor growth, putting on an almost black-red colour here, while the flavour leaves nothing to be desired. With me Walburton Admirable is the latest, although I have full crops of Princess of Wales from an east wall. I find the former needs more attention to its roots than any other, as the wood grows too strongly if the fibreless roots are not occasionally checked by root-pruning. I look upon the outdoor Peach crop as the most certain of any of the hardy fruit crops, the trees being so much more under control. Where so many persons make a mistake in outdoor Peach cultivation is in allowing the branches and shoots to grow too thickly together, and to leave the pruning until the month of March. Directly the fruit is gathered the trees should receive whatever pruning is needed. Outdoor Peach trees do not receive nearly sufficient water at the roots while they are growing freely; the surface soil may apparently be wet enough, yet the roots 1 foot deep may be quite dry, especially close to the wall. Overhead watering of the leaves is not attended to so much as it ought to be during dry weather. The foliage very often is attacked to such an extent by red spider, as to cripple the prospect of next year's fruit crop, when timely syringings overhead of the leaves and copious supplies of water to the roots would have obviated this. Nightly syringing of the trees is also very beneficial. Referring once more to varieties, Dymond at the present

time (September 19) is ripe on a tree growing against a west wall. I like this Peach much; it has all the characteristics of a good outdoor sort. The late Mr. Wildsmith recommended it to me strongly, and no better judge of this method of Peach culture have I known. Grosse Mignonne from the same wall is not yet ripe. Some persons think that only a wall facing south will grow Peaches out of doors. This is a mistake; they grow here in both east and west situations. A variety of aspects is an advantage rather than otherwise, as thus the season is prolonged, which is a point worth consideration.—E. MOLYNEUX, *Sicamore Park, Hants.*

**Strawberry Keens' Seedling.**—At p. 137 Mr. Crook calls attention to this good old variety and fears it is being ousted by the newer kinds. I am sure that those who have the true variety will retain it, as it cannot be beaten either for cropping, flavour, or good colour. Unfortunately, there are several varieties of Keens', and those who get the inferior kinds soon condemn them, and rightly so. The true Keens' is one of the most reliable Strawberries for pot culture, and with me sets so freely, that unless thinned early the fruits come small. I have had several varieties of Keens', but the true one was raised in this neighbourhood, and is quite distinct from the ordinary type. For forcing it is all that can be desired, and the plants growing in pots at this date are distinct in habit of growth from all others. I found the stock here, and I must admit its superiority to that I had hitherto grown under the same name. Our soil is not a good one for Strawberries, but the true Keens' does remarkably well, bearing very heavy crops, whilst the other so-called Keens' runs to leaf with little fruit. This is doubtless the same variety Mr. Crook saw at Coombe, as I find it is carefully preserved in a few places, and with the system now practised of annual planting it gets the treatment required to produce heavy crops.—G. WYTHES, *Syon House.*

### CROPPING FRUIT TREE BORDERS.

WITH regard to the cropping of borders occupied by fruit trees there are different opinions, but all will agree as to the evil consequences of cropping right up to the stems of such surface-rooting subjects as Peaches, Nectarines, Apricots and such like. At a recent meeting of the Royal Horticultural Society at Westminster, Mr. Bunyard, in the course of his remarks, called attention to this close cropping, which often necessitated root pruning in consequence of the roots going down into the subsoil in search of food, which should be supplied to them from the surface. I am fully alive to the difficulties many gardeners labour under in having to provide a large supply, and with none too much ground, so that close cropping is imperative. Nothing, however, is gained, as the trees do not last long. In no case should fruit borders be cropped within 3 feet of the trees, and even then shallow-rooting crops used. I have seen Strawberries used for fruit borders, and when the plants remained on the ground for years and were heavily manured from the top, they answered admirably, but I do not advise them when grown on the yearly system, as the deep cultivation necessary would injure the trees. There are numerous subjects suitable for this work, for instance, salads, temporary crops and small seeds, but such things as Cauliflowers, Broccoli, Sprouts, and crops that draw all the nutriment from the soil and cast a heavy shade are not suitable. The best trees and most easily managed I ever had were those planted against a wall with a hard earth path within 18 inches of the wall; the roots used to force their way to the surface, and I frequently gave them soakings of liquid manure and a good mulch in the autumn. The small space near the wall was kept mulched with cow manure and well supplied with moisture in dry summers. I have great faith in giving fruit trees plenty of moisture when swelling their fruit, as in dry seasons they often suffer, especially in



light soils or on raised borders. Apricots, Cherries, Peaches, and Nectarines absorb a lot of moisture, hence the advantage of a mulch of decayed manure. I have some Cherry and Pear trees the roots of which are frequently flooded owing to high tides. These trees give us the best fruits. On the other hand, there is a free drainage, and the water does not lie stagnant at the roots. I merely mention the fact to show the amount of moisture fruit trees will absorb.

G. WYTHES.

### BLOOM ON GRAPES.

COLOUR is a desirability in the case of ripe Grapes generally, but a good bloom on the berries is equally indispensable, or even more so. When the berries present a polished appearance, much as those do that have been sent from the Grape-growing districts to our markets packed in cork or other dust, their value is depreciated 75 per cent., and that from a consumer's as well as a market salesman's point of view. There is, therefore, no disputing the value of this thin, cloudy covering, and it should be the aim of every grower to produce it as much as possible on his Grapes, and to take every care to preserve it after it is there. It is not so certain of being present on the berries as many hitherto successful cultivators may imagine, as I have this season met with failures for which those responsible would be only too glad to learn the cause. In two noteworthy instances the bunches and berries of Madresfield Court and Black Hamburg were perfect in all other respects than their want of a good coat of bloom. Some of the latter was certainly present, but it was very thin indeed, and although premier prizes were won by them at the Earl's Court show, this would not have happened had other equally good bunches only carrying more bloom been shown. Some of the latter were actually forthcoming at Bath a week later, and the contrast in favour of those bearing a good bloom was most striking. Especially was this the case with Madresfield Court, the winner of the first prize in London being only a good second at Bath, with bunches too much resembling those he had previously shown. Other really fine Madresfield Court were shown at Bath, where all the classes for Grapes, let me add, were nearly as well filled as at Earl's Court, but owing to their polished appearance no prizes were awarded them. Both cultivators are well known to me, and we fully discussed the question as to why bloom was present in some cases and nearly absent in others.

What actually causes the formation of bloom I am unable to say, and do not ever remember to have read any information bearing upon the matter. It is evidently present on the berries when these are in quite a small state, but becomes more palpable or bluer when the Grapes are ripening. On some varieties it is naturally much thinner than others, noteworthy instances of this being found in Mrs. Pearson and Gros Guillaume, while the varieties that with me carry the thickest bloom are Madresfield Court, Gros Maroc, and Black Alicante. According to my experience, what favours perfect colouring, more especially in the case of black Grapes, viz., a brisk circulation of warm, dry air, also either promotes the formation or the preservation of a good bloom. By a dry atmosphere I do not mean a constantly and extremely dry one, that being injurious to the Vines in several ways; but what I do mean is the maintenance of a constantly moist atmosphere, the walls and floors being damped down as often as they are seen to be a little on the dry side. As an

assistance I have had to damp down vineries every night and very frequently during the day-time, but never countenance the former proceeding now-a-days, and two or three times daily is considered ample. Probably if I had either a metal-roofed house or one of those modern constructions with great squares of glass and only a very small amount of wood-work to deal with, more moisture would be distributed in the house to counteract the extra amount of evaporation from the leaves and also to keep down red spider, but the chances are the Grapes produced would carry a thinner coat of bloom accordingly. It was in one of these modern houses that some of the "polished" Grapes previously alluded to were grown, and it is my belief nothing short of very lightly shading the roof and distributing less moisture will remedy the evil.

There is yet another cause of the loss of bloom, or what I believe to be such. In the Grape grower's anxiety to swell the berries to their full or more than their average size, early closing is resorted to with a view to considerably raising the temperature, plenty of atmospheric moisture being invariably created. This proceeding may easily be overdone, the excessive heat and moisture combined either greatly weakening or else preventing the formation of bloom. Any way I prefer to be content with moderate-sized berries rather than risk the loss of bloom, and believe others would do well to also avoid unduly raising the temperature of a vinery early in the afternoon. I do not object to a temperature of 85° for a short time, but if 95° and occasionally 100° are reached, harm is worked. It is surprising how cool the berries of Grapes are even during quite hot weather, and if moisture condenses on them, as it certainly does when the atmosphere is unduly heated on a sunny day, the bloom is certain to suffer. Occasional overhead syringing may do no harm, always provided clear water without a trace of lime in it is used, but if persevered in the bloom inevitably thins down. When there happens to be any dust, sulphur, or, worse than all, mealy bug on the bunches, this can be readily got rid of, the two former by dipping the bunches into clear water and drawing out quickly, while the mealy bug can be washed out under a tap and a good pressure of clear water, the bloom seldom being injured by the water in either case.

During the autumn and early winter months the weather varies greatly in a few hours. If a frost is anticipated, the houses are nearly or quite closed, but if next day they are not ventilated before the sun shines on them, condensation of moisture takes place on the berries, more especially along the highest or hottest part of the roof. Then, again, vineries with running sash ventilators may be nearly closed while it is raining, but unless opened again before the sun reaches them, it may be too late to prevent the "sweating," or, as I prefer to put it, condensation of moisture on the berries from taking place. Anything over the ventilators that will exclude wasps also effectually checks the requisite circulation of cool dry air on a muggy day, and many a house of Grapes has been spoilt from this cause alone. An injury to the bloom, and it is greatly weakened if once covered with moisture, even if the trickling down of the same is prevented, also renders the skins rotten, or what amounts to the same thing, and it is not long the berries will keep after this takes place.

There ought to be no rubbed berries in the case of the bulk of Grapes used on the place where grown, but when they have to be sent to a distance, it is scarcely possible to pack them

so as to wholly prevent rubbing. This remark applies more especially to private gardeners, who only send small quantities at a time and cannot use baskets or other contrivances of the market grower. It is not my intention to discuss the different methods of packing, and I allude to the matter now, principally with a view to repeat a most remarkable assertion made by an expert in packing at the Earl's Court fruit show. This gentleman strongly advised keeping packing material of any kind as much as possible from contact with the berries. Linings to either baskets or boxes, and whether large or small quantities of Grapes are sent, are needed; but the bunches should fix and keep each other in position. With this dictum I fully agree, but must express unqualified dissent from the opinion that the berries actually communicate their bloom to each other. According to this view of the case, it is possible to rub off the bloom from one berry to another, friction not destroying it, as I had hitherto, and still suppose does take place. Who among us would not gladly take advantage (supposing there was any truth in the assertion) of this discovery of rubbing some bloom from odd berries on to rubbed spots on the best bunches? Many a fine bunch has lost a point at a fruit show owing to prominent berries being rubbed and the bloom gone, and such will continue to be the case, as there is no possibility of restoring the damage. The berries preserve each other in the packages simply because the point of contact is necessarily minute.

W. IGGULDEN.

**Apple Cox's Orange Pippin**—My experience of this Apple both as bushes and half-standards is that it is the most sure cropper of any variety I grow, either kitchen or dessert. My method of pruning is very much on the principle mentioned (p. 247) by Mr. Iggulden, preferring to allow the branches to extend to almost any length rather than to check them by close pruning. I can get much more fruit from trees so managed than by any other means. The branches are kept thin and the young shoots kept closely pinched in summer, so as to prevent their excluding light from the inside of the tree. Perhaps the best of all ways to grow this variety is to plant wide apart half-standards and allow them to grow at will, and beyond the thinning out to ensure maturation of the branches, not to restrict them in any way until the allotted space is filled. In this way a perfect tree is obtained, the lower branches sweeping the ground. Some persons say this variety does not succeed in any soil but that which is warm and light in character, but this is not the case, as the soil here is retentive of moisture and consequently cold in the spring. The fruit sometimes cracks rather badly when about the size of Walnuts. This generally occurs after a continuation of wet and cold weather.—E. M.

\* \* The let-alone system, only thinning out the branches when too thick, is well shown in the magnificent crop of fruit of this Apple now to be seen in the Horticultural Society's Gardens at Chiswick.—Ed.

**French Apricot trees and fruits.**—Is it true that the majority of French Apricots are seedlings, also that branch-perishing is hardly known in France? Though I have been several times in France, I am not able to answer these questions, as there seem but few Apricots grown near Paris or close to the large towns. No doubt they are grown further south as standards, and this alone would explain most of the immunity from branch-perishing, assuming it to be enjoyed. There are three other mysteries about French Apricots that need explanation—their small size, delicate colour, and comparatively poor flavour. I have seen quantities in the Halles Centrales and other markets very often, and do not remember to have seen one which we should call in England a fine Apricot. This even applies to Apricots at the great exhibi-



tions in Paris. The colour is exquisite in its semi-transparent tinge of pale orange rather than gold. Baskets of these sent out with purple papers or without are most captivating, and form a delicate dish on the table, but the flavour, as a rule, is very inferior. There is hardly a suspicion of that full-mouthed, satisfying aroma of true Apricots that distinguishes British grown fruit. The colour of the French Apricot is most delicate, the flesh more or less soft and juicy. If we have to sacrifice so much to escape branch-perishing, then I for one would rather keep it and fight it, as we have done in the past. Better a thousand times lose a few branches of Apricot trees than lose the delicious aroma and matchless flavour of this queen of stone fruits. No doubt many prefer Peaches, others the Gage or Golden Drop Plum, but I place the Apricot at the head of our stone fruits for flavour. There is one other thing about it that may throw floods of light on the flavourless condition of most, if not all foreign Apricots. This luscious fruit must be finished and filled with flavour on the tree, or not at all. Gathered before it is ripe, you arrest the process of luscious maturity, which cannot be resumed afterwards. Is this early gathering the chief cause of the insipidity of French Apricots? Probably so much is certain, that we can match theirs at times with the premature Apricots that drop days or a week before finishing.—D. T. F.

## FLOWER GARDEN.

### MICHAELMAS DAISIES.

THE large collection of garden forms of these lovely autumn flowers now in bloom in the Chiswick Gardens is perhaps the finest ever brought together in one garden. Many of the old gardens, and notably Chiswick itself, have contributed to make the collection as complete as possible, and the group of wild types from America growing side by side with the productions of English gardens affords a ready means of comparison, invariably in favour of our home-raised plants. This genus, as is well known, is one of the most puzzling amongst hardy flowers to the botanist as well as the gardener. Hardly two collections are named alike, and something like uniformity is very desirable, seeing that new seedlings are being raised annually by our growers, and there is now little doubt that Asters hybridise as freely as Aquilegias. When the greater part of our autumn flowers begins to show the sere and yellow leaf, Michaelmas Daisies are looking their very best, and even long after the early frosts have blackened the Japanese Windflowers and the Dahlia, Asters stand out almost alone bright and cheerful, with their varied starry flowers and graceful arching stems. Beginning to bloom as they do early in July, they carry us well into November. It is very remarkable that comparatively little notice is taken of the rapid advance Asters are making in size and colour of flower. In many old gardens you still see the very worst and poorest of the *A. Novi-Belgii* forms, with which our later acquisitions are not to be compared. Planted in groups amongst Rhododendrons and other dwarf shrubs is no doubt the way to see Asters at their best. Under such conditions they require no stakes and little care; they take up no space that is otherwise wanted, and all through the autumn and early winter they are very refreshing. What could be better than masses of such species as *A. cordifolius*, *Shorti*, *Drummondii*, and *sagittifolius* in our woodlands, or even amongst our choice shrubs, while the stronger varieties of *Novi-Belgii*, such as *Robert Parker*, *Archer-Hind*, *Harpur Crewe*, *Apollo*, *formosissimus*, *Purity* and *floribundus*, might be grouped with

effect amongst our Rhododendrons and coarser growing shrubs? Their habits are so varied and their flowers so beautiful and changing, that there is hardly a limit to what may be done in the autumn garden with Michaelmas Daisies, while the delicately elegant branches of the varieties of *A. cordifolius* Photograph, Diana and *elegans* remind one more of a cloud than a bunch of Daisies. Amongst the Himalayan species two stand out prominently, the one an early flowerer (*A. diplostephioides*) and the other late (*A. Thomsoni*). This latter is one of the most distinct and, to me, most beautiful and useful of the Himalayan Asters in cultivation. It rarely exceeds a couple of feet in height, is of a neat compact habit, the large pale lilac flowers being produced in great abundance on strong plants. The stems are very leafy, the leaves broad and distinctly toothed, and of a pale green. It begins flowering early in August and continues until October. It is one of the few Asters that will not stand division.



*Aster elegans*.

The best way to increase it is from seeds or cuttings of the young shoots in spring. *A. diplostephioides*, re-introduced by Kew last year, is a giant amongst Asters. The flowers are solitary on long straggling stems, 4 inches in diameter, rich bright lilac-purple, with a golden disc. *A. Stracheyi* is a dwarf trailing species more suitable for the rockery, and readily increased by stolons.

Of the European species, *Amellus* and *acris* are by far the most useful in the garden. This latter species is a most variable Aster. *A. Amellus* is also variable, the varieties in the garden being called *major*, *bessarabicus*, and *amelloides*; but I confess to seeing little more varietal difference than might be readily got from a packet of seed. Be this as it may, *Amellus* is a fine Aster, and so bright and neat, that we can hardly have too much of it.

The great centre of the Michaelmas Daisies is North America, and to this group belong most of those grown in the garden. Perhaps no less than two-thirds of our cultivated Asters may be traced to *Novi-Belgii* pure and simple, or to hybrids between that species and *A. levis*, another remarkably beautiful and ex-

tremely graceful species, of which there are two or three distinct varieties. To *Novi-Belgii* belong the named varieties known as *Robert Parker*, *Andromeda*, *Harpur Crewe*, *Calliope*, *densus*, *Flora*, &c.; indeed there are no less than between forty and fifty distinct garden varieties, among which are some of our loveliest autumn flowers. *A. Novæ-Angliæ*, with its robust habit and large rose and purple flowers, stands head and shoulders above all the other species, a grand border plant and a free bloomer. *A. patens*, *patulus*, *polyphyllus*, *salicifolius*, *turbinellus*, *paniculatus*, *tataricus*, *umbellatus*, *multiflorus*, &c., are all worth a place in the garden, while amongst the dwarfier kinds, *A. acuminatus*, *ericoides*, *Lindleyanus*, *versicolor*, *vimineus*, *spectabilis*, *corymbosus*, *diffusus* var. *horizontalis*, *levigatus*, *nanus*, &c., stand out prominently. There is plenty of scope for selection, and as they are all easily grown in any good garden soil, they will be found most desirable additions to the

autumn flower garden. All the species may be raised from seed; the majority are readily divided in autumn or spring, and most of them may be increased from cuttings taken off as growth begins in spring. D. K.

**The Torch Lily.**—Among plants now in flower the *Tritoma* is one of the most showy, but it is not so much planted or cultivated as its great merits deserve, for wherever seen it is a striking object and always commands notice and excites admiration. The best way, perhaps, of growing it is on a lawn or grass plot in large single clumps, and it also looks well in the foreground of shrubs, where it produces a fine effect while it is in bloom, as it gives a glow or warmth of colouring contrasting with such things as Dahlias, Sunflowers, Enocheras, and others of this class, and helping to produce a fine and pleasing effect. Although hardy in ordinary winters, the *Tritoma* or *Kniphofia* cannot be regarded as safe in severe frosts, and should be protected before very bad weather sets in, a good way of doing this being by means of half-rotten leaves laid round the crown and kept in position there by sticking in a few branches of Evergreens to prevent the wind from blowing the leaves away and exposing the vital part of the



plant. The ordinary way of increasing the *Tristoma* is by division, the proper time for the work being the spring just as growth commences, when the plants may be taken up and have the soil got out from among the big fleshy roots, then cut through or pulled apart into small or large pieces, according to the number required. To grow *Tristomas* strong and well they require loose open ground. Deep trenching should therefore be carried out before planting, and if the soil is at all poor, it will be necessary to plant in a good dressing of rotten manure.—S. D.

#### NICOTIANA AFFINIS.

AT p. 172, Mr. Whitworth Shaw reminds me that this plant is not an annual. No doubt, strictly speaking, it will exist through two seasons, but I am of opinion the best results are secured when it is treated as a half-hardy annual. I have never been fortunate to have good plants the second year after sowing. I am well aware that the root has been kept alive and will send up numerous offsets or shoots and seedlings in abundance, but I have always got the best results when I have treated the *Nicotiana* as an annual. I now have plants a yard through sown early in the spring and planted out in June. The roots if protected will give a good return the following season, but is it advisable in these days of getting plants and flowers in the shortest time possible to winter plants like the *Nicotiana affinis* when such excellent results may be secured from seed and with so little difficulty? My note (p. 126) was intended to point out the ready way this plant may be grown and at as little cost as possible, its use as a decorative plant and for planting out. If we are to treat it like the *Dahlia*, as advised at p. 183, then we give ourselves unnecessary trouble. As Mr. Shaw states, the seed is very hardy, as often the plants come up very thickly in the summer. If plants are secured from seed sown indoors in March, they make rapid progress and form quite as good specimens as seedlings from the open ground. Those who require plants in quantity and of good size would do well to treat them as annuals. For late blooming the seedlings from the open ground often come in handy. To do the plant justice, abundance of moisture and feeding are necessary to secure large specimens, and plenty of root space when grown in pots. I am not of the same opinion as Mr. Shaw as to its utility as a plant for cutting. I have tried it for rooms, and the flowers do not stand up well. It may be useful in vases for night work for its fragrance, but there are many more subjects that do better, and where there are large masses of flowers required, the *Nicotiana* will not be used in quantity. I admit a vase filled with this alone may be good, but it is difficult to arrange the flowers quickly on account of their gummy nature. For sending a long distance when cut the flowers are of no value whatever. I do not know whether those who have grown the plant from root cuttings have observed any difference in the habit. I have noticed it is often dwarfer and more spreading, but this may not be the case always, as soils may have something to do with the habit.

G. WYTHES.

**Viola cornuta.**—The notes which have recently appeared in the pages of *THE GARDEN* in praise of this old plant are not a whit too strongly worded. Especially is it valuable in a summer like the one now closing, when the sunshine is under average and the nights generally cool—weather that suits Pansies and *Violas* exactly. No doubt *Violas*, like other plants, have a longer flowering season when the seed-pods are picked off as soon as formed, but this is apt to be neglected at times, and the plants in any case get somewhat straggling and yellow-leaved. Where it is not absolutely imperative that the bedding shall be as gay as possible all the summer, an excellent plan is to cut the plants down as soon as convenient after the advent of June; they will then make new and clean growth that will soon bloom and continue flowering throughout the autumn; the plants,

too, will be neater than those which have been growing on without a check all the summer. All the *Viola* tribe have done remarkably well this year, and I have been especially pleased with a stock of *V. Snowflake* propagated last autumn from seedling plants, which came very true. These cuttings were taken late and did not flower very early this year, but they have been very constant since, and they are now looking very well. A capital Pansy for massing, and one which comes very true from seed, is *Kaiser Wilhelm*; the colour is very effective and the plants of good habit. Another pleasing kind, also very true from seed, is *Earl of Beaconsfield*. I think it is a matter for congratulation not only in the case of Pansies, but with many hardy plants, that special attention is now paid to get the seed true and in separate colours, as this makes the plants doubly useful, and encourages the use of hardy plants in place of things which require house room in winter.—J. C. TALLACK.

**Scarlet Lobelias** (*L. cardinalis*).—The more I see of the new *Lobelia Firefly* the better I like it. For massing in beds or elsewhere it is a really grand plant. *L. Queen Victoria* has hitherto been considered the best of its class, but I feel sure that



*Aster Thomsoni.* Engraved for *THE GARDEN* from a photograph sent by Miss Wolley Dod.

*Firefly* will oust that variety from its position and take its place. Though the stems of the newer kind are red, the leaves have not the beet red colour of the other, but are more of a bronze-green; they are, however, much longer, somewhat narrower, more arching, and far more graceful in form; the foliage effect alone when massed would make it quite an attractive plant. Another great advantage it has is that side shoots are quickly and freely formed, and are now coming into full bloom, though the main spikes are not nearly over. Altogether we have no grander autumn-flowering plant than this.—J. C. TALLACK.

**Leucophyton Browni.**—This has done so well this season, that I must increase it largely for another year. The colour, a kind of silvery white, is capital for forming dividing lines when associated with such plants as *Coleus Verschaffelti*, bright-coloured *Alternantheras*, or *Iresines*. It should be encouraged to grow dense by repeatedly nipping out the points. Now is the proper time to set about preparing the stock for next year. All that is needed is to take off cuttings about 2 inches long, insert them thickly in boxes of sandy soil, and place them in a cold frame where they

may remain all winter, with some protection in the case of severe weather. By the end of March nice little plants will be available. My plan at that time is to make up a temporary frame with turf, over which some old pit-lights are laid. This is filled with sandy soil about 3 inches deep, under which is placed a layer of the materials from a spent Mushroom bed into which the roots of the *Leucophyton* run, thus enabling them to be lifted with extra good roots. Here stocky plants are obtained with little trouble.—E. M.

#### THE FLOWERING SEASON OF CARNATIONS.

WHEN "A. H." says (p. 256) that "August is evidently the outdoor Carnation season," he must refer to his own locality. "The date of the Carnation show," he says, "can hardly have been fixed in accordance with the season of the flower, taking an average of years." "A. H.'s" lot as a grower has so far been cast among late seasons, such as we have had of recent years, or he would not think the 26th July, on which the London show was held, other than a fully late date for southern exhibitors, for whom the southern section of the National Carnation

Society has to provide, and, as a matter of fact, the exhibition was a large one both of flowers cut from pot plants and from those grown in the borders. There is no difference in the time of blooming of plants grown in pots on the open stage and those grown in the borders. Often enough I have found the latter earlier. Last year, which will be remembered as a very late season, I showed at the Drill Hall on the 11th of August stands of twenty-four blooms each of the three classes of selfs, bizarres, and flakes, and Picotees all cut from pot plants, and which were just as young and as fresh as the blooms that were shown from border plants. If "A. H.'s" plants were not in full bloom this year till August, there were the exhibitions of the Carnation and Picotee Union at Oxford on the 2nd, that of the Midland Carnation Society at Birmingham on the 6th, and the National Society's (northern section) at Manchester on the 13th August, at any or all of which he would have been welcome. It would be very unjust to the exhibitors who come to the London show from southern places like Bath, Southampton, and the districts south of London to have their chance of showing in good form taken away to accommodate exhibitors from northerly localities, who, it will be seen, are amply provided for.

"A. H.," referring to the *Marguerite Carnations*, says they are "a standing protest against the rules of the florist as regards smoothness of edge and regularity of outline," from which I take it they are fringed, just as are many of the selfs and fancies raised and exhibited by florists and certificated by florists' societies, like *Florence*, *Mrs. Page*, and many others. As Mr. Dodwell once remarked in reference to this question, "No flower, self or fancy, has been refused notice because of a fringed edge; on the contrary, such a property has been regarded as an adornment, as in the case of some selfs or fancies it unquestionably is."

The florist's rule as to the fringed edge is the simple one, that while it may be an ornament in one set of conditions, it may be just as unsuitable in others, as in those exemplified by the bizarres and flakes and Picotees. If "A. H." were a grower of these, he would have no difficulty in recognising the truth of this. For the scientific reasons underlying this and other points connected with florists' flowers I would refer him to the masterly papers on the "Philosophy of Florists' Flowers," which appeared first in the *Florist* for 1849, and were reprinted two years ago in the *Gardening World*.

M. ROWAN.

**Harpalum rigidum.**—Not nearly enough of this perennial is seen in gardens. What a lovely



contrast it makes during the month of September along with some of the Michaelmas Daisies! I lately saw a fine batch of it growing at the foot of a wall which was covered with the Virginian Creeper, at the time changing colour, at Shirburn Railway Station, on the Exeter line, and thought nothing could be more seasonable and attractive. What a difference there is in the growth of this plant in gardens, owing possibly to cultivation. Here it grows fully 6 feet high, while I have seen it not more than 3 feet.—E. M., *Hants.*

**Lilium neilgherrense.**—The Neilgherry Lily may be regarded as a fitting close to the Lily season, as it continues to bloom long after the different forms of *L. speciosum* are over, and the only other one of which a flower is to be obtained is an occasional secondary bloom of *L. Harrisii*. *L. neilgherrense* will flower at any height from a foot to a yard, while the flowers are tube-shaped and of a massive character. They (as in the forms of *L. longiflorum*) vary somewhat in shape, some flowers having a much narrower tube than others. To the narrowest the name of *L. tubiflorum* has been before now applied. The flowers of *L. neilgherrense* are for the most part of a primrose hue, but occasionally specimens are met with in which they are almost white, and still more rarely slightly tinged with purple on the exterior.—H. P.

**Lilium speciosum.**—The fine weather and warm sunshine experienced during the month of September have been very favourable for the different forms of this Lily in the open ground, as the flowers have expanded beautifully without any check whatever, and remained in perfection much longer than would be the case in wet weather. With regard to the coloured forms, each recurring season shows the great superiority of those imported from Japan over the forms sent here by the Dutch, which, as a rule, whether under the name of *roseum* or *rubrum*, represent but a very pale-coloured flower. These coloured varieties from Japan mainly consist of two very distinct forms, viz., one that may be regarded as a very good type of the variety *rubrum*, and the other which is the darkest form of *L. speciosum* that I am acquainted with. It is identical or nearly so with the form figured in THE GARDEN November 9, 1889. In all stages of growth this can be identified by the leaves being much broader than in any of the others and of a far deeper green, while the stems, leaf-stalks, and exterior of the flower-buds are tinged with chocolate. There are individual differences to be found among the various members of this type, but given a good form I should be inclined to place it before any other coloured *L. speciosum*, while as a white-flowered companion my choice would be the variety *Kretzeri*, another Japanese form, though in this respect opinions differ, as among my Lily-loving friends there is one that gives the first place to the variety *album*, which is grown largely by the Dutch, and never, as far as I know, does it crop up among the importations from Japan. This variety *album* has the leaves dark coloured, and the leaf-stalks, stems, and unexpanded buds tinged with chocolate, as in the red-flowered form mentioned above, but when fully expanded the blossoms are pure white.—H. P.

**Dwarf Asters.**—So very varied and beautiful are the dwarf forms of annual Asters now, that it is a matter for surprise so few of them should be grown in gardens, the taller sorts still being preferred. Perhaps that is because they give larger stems. I have rarely ever seen a more effective show of Asters of the dwarf section than a few days since in the Messrs. Sutton and Sons' seed grounds, Reading, where in broad breadths they had been sown in drills. But after all it is only when Asters are seen in such masses as these that their real beauty is seen. Those who, trusting to tender bedding plants, have seen the destruction wrought amongst them by recent frosts may well wish they had breadths of these beautiful dwarf Asters to fall back upon. There were of one colour perhaps 10,000 plants just as sown, in very long rows, as perfect in form and colour throughout as it was possible for any one variety to be. There were rich scarlet, rose, pink, white, blue, and pale blue or mauve, and I do not know whether less beautiful

was a big breadth of all these colours intermixed, but, of course, they were not so effective in the distance. Now, if seed of these Asters were sown in spare quarters thinly about the middle of May, they would be coming into bloom finely in September, and then would transplant admirably into flower beds where early frosts had settled tender stuff. I observed at Maiden Erleigh that Mr. Turton, who grows the scarlet and white dwarf varieties for fronting his taller flowers, had lifted some of the best into pots and employed them with rare effect for church decoration at the recent local harvest festival.—A. D.

#### SHORT NOTES.—FLOWER.

**Carnation Winter Cheer.**—For bedding or for borders, this Carnation deserves extended use. It is one of the best of the self-coloured section, bright red in colour. The growth is compact and very dwarf. The flowers are produced in quantity and do not split.—E. M.

**Tritoma caulescens at Torquay.**—I lately saw a row of this growing on a raised bank in front of a fence at Torquay, the front of the mound being rocks, over which the leaves of the Tritomas hung gracefully. The bright colour of the massive flower-spikes was very much admired by the visitors to the hotel, near the entrance of which these plants were growing—quite an ideal spot for an early autumn display; but still not so good as when planted on Grass where the surroundings are all that is necessary to show off these Tritomas to perfection.—S.

### TREES AND SHRUBS.

#### TREE NOTES.

THE COLUMBIA MAPLE (*Acer macrophyllum*) has, in so far as size and beauty of leaves are concerned, only two equals in this country—*Paulownia imperialis* and *Magnolia tripetala*. It is rarely seen, although it was first brought to this country in 1826, but the big foliage may be against its spreading widely, for it is only the heart of a forest or very sheltered position that will suit its flaunting leaves and keep them preserved from every breath of wind that blows. The long racemes of yellow flowers render the tree when these are fully developed one of great beauty, especially as they are produced just about the period when the leaves are unfolding. These are succeeded by dull brown keys that have a curious appearance from the rather long hairs with which the basal half of each is thickly covered. That it is a desirable tree everyone who has seen even a half-developed specimen frankly admits.

THE LENTICUS-LEAVED ASH (*Fraxinus lentiscifolia*) is certainly the most graceful and elegant of all the Ashes. Growing in this country to fully 40 feet in height, and with a neat habit and unusually distinct and effective foliage, it is only to be wondered that it is not more commonly seen, for the specimens that I have been able to hear about or see are certainly few and scattered. The branches are long and slender, and the leaves long and composed of narrow and far-distant leaflets. It is well worthy of being introduced to any park, for at a great distance it is sure to attract attention from its peculiarly distinct appearance.

THE SHELL-BARK HICKORY (*Carya alba*) is perhaps one of the most curious of hardy trees in so far as its rough shaggy bark is concerned, this being so pronounced, that strangers seem taken aback when the tree is pointed out. The bark is in long flakes and by no means of tidy appearance, and when the stem of the tree is destitute of branches the effect produced is unusual and curious. It makes a good park specimen, that thrives, as far as I can see, in good deep loam; but I fear it is not hardy in every district, for it is one of the least common of those trees that have been introduced for an equal number of years. To those

who have a sheltered, warm corner I would say plant a specimen of this tree, if only for its rough and shaggy bark, though the general aspect of the tree is far from uninviting. It would be very interesting to know the whereabouts of specimens of the Shell-barked Hickory, but particularly whether it has been found hardy in Scotland, and under what conditions it succeeds best.

THE AMOOR YELLOW-WOOD (*Cladrastis amurensis*) must certainly be ranked with the most beautiful of our hardy flowering trees. The racemes of pretty white flowers are very conspicuous and freely produced even by young specimens of the tree, and further still they are of good quality and last well. Even the curious appearance produced by the soft fine hairs on the leaves is so distinct from that of any other tree, that this alone should be sufficient reason for its extended cultivation, being, as it is, perfectly hardy and of free and fairly quick growth. In Kent it is quite hardy, and I have little doubt that even in less favoured parts of our clime it would stand equally well.

DIMORPHANTHUS MANDSCHURICUS was spoken of a year or two ago in THE GARDEN as not doing well in many places, but in England, as a whole, it may be relied upon to stand any ordinary winter without receiving harm. It is now in full flower in the lake wood at Holwood, and has been in its present position for five years, though a larger, but not so well-shaped specimen has stood uninjured for fully fourteen years by the lawn at Holwood House. There is no great beauty about the tree, but its sub-tropical appearance causes it to be brought under notice and planted more as a curiosity than for its general beauty of either outline or flowers. Certainly the bold prickly bi-pinnate leaves render the tree distinct from every one else around, and for this reason a specimen or two in suitable places is not to be despised. The greatest drawback to the tree is the ugly habit it has of only bearing a few whorls of its conspicuous leaves at the top of the stem, and should the latter be at all crooked or deformed, the unsightly appearance is still further increased. A straight-stemmed specimen is, on the other hand, worthy of a conspicuous spot at any time. The flowers are small, but produced in great abundance, are greenish yellow or white in colour and die off almost a repulsive black. It does well in good loam.

THE SIBERIAN CRAB (*Prunus prunifolia*) certainly merits the palm as an ornamental berry-bearing tree, at least during the month of September. The fruit is of gooseberry size, beautifully red-cheeked, and with a bloom that quite equals that on our best class of Grapes. If only for these highly coloured fruit and the wealth with which they are borne, the tree is worthy of extensive culture. By a stream-side in the garden at Hollydale there is a full-grown tree, which at present is so densely covered with fruit and these of so bright a tint, that at a short distance away the appearance is quite remarkable. It would be well were there a few more specimens of this distinct Crab taking the place of some of the less useful of half-hardy conifers.

THE MONTPELIER MAPLE (*Acer monspessulanum*) for neatness of growth and distinctness of foliage is one of the very best of the extensive family to which it belongs. The shining dark green leaves have a very neat appearance, being cordate and three-lobed, and set on long foot-stalks. Fully a century and a half ago this handsome Maple was brought to this country, and yet it is not very plentiful, probably because its value in an ornamental sense is not sufficiently well known. Like many of the allied species of Maple, the flowers of that in question are produced in long drooping racemes, and are of the usual greenish yellow colour, and produced just as the leaves are unfolding. I have noticed repeatedly that Maples, more perhaps than any other trees, require plenty of room for development, they soon becoming thin of foliage and unsightly if crowded or cramped together or with other trees.

THE SMALL-LEAVED LIME (*Lilium parvifolia*) is so distinct, that at a distance away it is a matter



of some difficulty to say what family it belongs to. Planted by Loudon along the green drive at High Elms, Sir John Lubbock's lovely country seat, there is one of the neatest and prettiest specimens of this Lime that I have seen, and which might have been handsomer still did not until lately the branches of other trees interfere with its full development. But not for the foliage is this Lime distinct, as long after the flowers of our common Lime have passed away those of this distinct small-growing tree are at their best. The large and conspicuous flower-bracts are, too, of interest. In the specimen referred to the habit of growth is unusually neat, the well-rounded head and twiggy branches being neat and compact. Of the "shameful negligence" of not planting the common Lime, Evelyn long ago complained, but now-a-days I would be inclined to apply the same words to the pretty small-leaved and abundantly-flowered form, for it must be admitted that unless in a botanic garden or nursery it is rarely seen.

THE MOUNTAIN MAHOGANY (*Betula lenta*) is quite hardy in almost every part of Britain, and yet how seldom one sees it, probably because it is not well known and a stranger to most forest-tree catalogues. It may not be generally known that it is the wood of this tree that is so extensively used by furniture makers under the name of American Birchwood. Resembling the common Birch to some extent in its graceful easy outline, the Mountain Mahogany is yet sufficiently distinct, from its large, cordate, somewhat woolly leaves, to merit attention as a woodland tree of a style of beauty that is rather uncommon and almost quite its own. By the end of May or beginning of June the flowers are produced, these being not only larger than those of our native species, but distinctly and pleasantly aromatic. There are some fine old trees of it along the banks of the Menai Straits, in North Wales, and which I have often admired for their distinct aspect from the many kinds which surround them. Being prone to start rather early into growth, and before our treacherous frosts are at an end, some judgment is required as to the position in which it is to be planted.

THE MAHALEB CHERRY (*Cerasus Mahaleb*), or what I know under that name, is without question one of the most valuable of the whole Cherry family. Not only are the flowers deliciously fragrant, but even the pretty pale green leaves when pulled quite scent the hands. It is not at all common, but deserves to be, and is, I am told, used for grafting other species on so as to bring about a dwarf and neat habit. There is a very distinct weeping variety that is propagated by grafting on a stock of the wild Cherry, but the branches of any of the tribe are not sufficiently lithe and bending to look well as a weeping tree. The species I can well recommend for planting, it being both distinct and effective, and capable of growing on gravelly reefs or on rocky mounds, where it is useful for clothing with a drapery of pleasant green.

THE TANSY-LEAVED THORN (*Cratægus tanacetifolia*) shows well out from every other member of the family, the distinct leaves being the principal point of difference. These are large and much divided, covered with short hairs, and have a light grey appearance. The fruit is likewise very distinct, being larger or as large as that of any known species, of a yellowish-green colour, and with conspicuous adherent bracts. There are many fine old specimens to be found in various parts of the country, and in the Glasgow Botanic Gardens I saw lately probably one of the largest trees of this Thorn that is to be found. It deserves extensive culture, and it is generally the case that when a specimen has been brought under the notice of anyone, it attracts attention, and usually results in a plant being added to the collection.

A. D. W.

The Sea Buckthorn (*Hippophaë rhamnoides*).—Of shrubs remarkable for the beauty of their berries this is surpassed by none and equalled by few, while in the colour of its fruits it stands out conspicuous from anything else, for they are

of a beautiful bright orange tint. It is one of our common shrubs, being native of some districts of this country; still its great beauty from a fruiting point of view is not sufficiently recognised. It forms a loose growing bush, whose long slender shoots are clothed with narrow Willow-like leaves of a silvery hue. The berries, which are about the size of large peas, are borne in densely-packed clusters for a foot or more along the upper parts of the branches, while a rather singular effect is produced by the current season's shoots, which are clothed with leaves protruding beyond the clusters of berries. From its name of the Sea Buckthorn, there seems to be a wide-spread idea that proximity to the sea is necessary to its well-doing, but such is really by no means the case, as it will succeed equally well inland. Still a cool, damp soil suits it best, and in such a position on the edge of the pond at Kew a colony of it has for some years past been one of the most attractive autumn features to be there met with. The Sea Buckthorn is diocious; therefore when raised from seeds there is sure to be a certain number of males on which berries will in vain be looked for. Cuttings are, however, easily struck, so that either sex may be increased in this way. For planting near the sea where little else will thrive it is, next to the Tamarisk, one of the most useful shrubs we have, while it is also in some districts employed for covert planting.—T.

## STOVE AND GREENHOUSE.

### DAFFODILS FOR POTS AND FORCING.

THE subject is a seasonable one at the present time, so that a few remarks may be of service, more particularly perhaps to those who may be engaging in the work for the first time. If we take those intended for forcing first, the chief error is that of trying to drive them into flower early by subjecting them to an excess of artificial heat. The general result of this is blindness, and this only becomes apparent when the mischief is done and the plants beyond all hope of recovery. Another error quite as bad as that just named is want of proper preparation, that is, a sufficiently long season in the pots before being placed into heat. Timely and proper preparation is indeed one of the chief essentials to success in forcing these flowers; this accomplished, they are far better able to endure the artificial heat to which they will be presently subjected.

Narcissi intended for early forcing should be planted during the month of September. It is an excellent time, as it affords abundant opportunity for the production of a maximum of roots in due season—a most important point. Depending to some extent on the quantity intended to be grown, it will be a matter for consideration whether pots or boxes should be used. If a long season of flower is preferred to a quantity at one time, then 7-inch or 8-inch pots will be large enough. Boxes are very well in their way for growing quantities and for utilising a limited area to the best advantage. The soil need be no special mixture for these bulbs. Always carefully avoid a soil over-rich in humus. In potting the bulbs fill the pots two-thirds their depth with soil and make it firm, after which press the bulbs into it and cover in, leaving sufficient space at the surface for a plentiful supply of water later on. As regards the number of bulbs to each pot, this must be guided by circumstances, and may be few or many, but no harm will ensue should necessity arise if the bulbs nearly touch each other. When all are potted, stand them on a hard bottom of ashes and cover 3 inches deep with the same material. No water will be necessary at potting time, as the autumn rains fully

supply their needs. Under this covering the bulbs will be quite safe till nearly the end of the year, or should severe frost set in they may be transferred to a pit or frame or be deeply covered with any long litter, so as to be available at any time. Towards the end of the year, or earlier should very early blooms be needed, some may be introduced into heat, which at first should be moderate and regulated to a certain extent by the external conditions of the weather. A mean temperature of 45° to 50° will suit them well, but in the event of severe weather ensuing, it is not needful or even desirable to attempt to maintain this heat to a nicety; in fact, it is in any department under glass a serious mistake to attempt to keep up the usual temperatures during severe frost, for a great waste of fuel only results with no counterbalancing good. Once in the houses, water should be freely given and a moisture-laden atmosphere maintained.

For early work the best kinds are obvallaris; *Telamonius plenus*, or Double van Syon; Golden Spur, by far the grandest of all the trumpets for this purpose, and possessing an excellent constitution; princeps, a most graceful and useful kind; Single van Syon, which is somewhat earlier than Golden Spur, or, in other words, answers to artificial heat more quickly than that kind, and the pure white indispensable and fragrant ornatus. The last, if prepared in pits or frames with sufficient warmth to exclude frost, makes an excellent succession to some of these first named. This variety, it should be stated, is even more impatient of a high temperature at first than any others yet named, and frequently remains immovable for weeks when thrust into a warm house too suddenly. On the other hand, with proper treatment and careful preparation, with a temperature at no time exceeding 55°, it comes along the most rapidly of all, and in this way I have frequently had it in perfection in the last week of January. For later work the more valuable kinds, such as Horsfieldi, Empress, Emperor, Grandee, albicans, maximus, Santa Maria, rugilobus, Sir Watkin and many others, will make a grand display, while little harm will ensue to the bulbs. Then, again, we must not overlook the chaste and beautiful kinds which we have in Leedsi, Leedsi superbus, and amabilis. These have a beauty all their own, and while perhaps a bit too fragile and delicate to be of commercial value in a cut state, lack nothing in point of beauty when required only for home use, and for this purpose one cannot too strongly recommend them. The forms of Nelsoni are simply exquisite for this purpose, the purity of the flowers being much enhanced when grown under glass. These are rather late flowering, and would suit a cold house well. Other kinds which may be grown with advantage in pots are Stella, Cynosure, odoros and odoros rugulosus, a very richly-coloured flower; indeed, if properly treated there is quite a host of kinds suited to pot culture or where only a greenhouse temperature is aimed at, and in this way their season of flowering may be considerably extended. E. J.

*Aristolochia elegans*.—In making a selection of climbers suitable for an intermediate house or for the cool end of the stove, this *Aristolochia* must on no account be forgotten, for it possesses many desirable features, among which are its continuous blooming qualities, for a thriving specimen, and that not a particularly large one, will flower for months together. A coloured plate of it was given in THE GARDEN, June 19, 1886, and since that time it has been pretty generally distributed, so that it is now fairly well known. As a roof or



rafter plant in not too lofty a structure it is seen to very great advantage, for the peculiar glaucous green foliage is not particularly dense, and the shell-like blossoms, which hang suspended by means of slender stems, are so quaintly and delicately marked, that a close inspection is necessary in order to view their charms, and this can only be effected where the structure is at most of medium height. While many of the *Aristolochias* have a very unpleasant smell, the blooms or this are scentless, which is a very desirable feature in a flower that must be closely examined. As with many climbers, the most satisfactory way to treat this *Aristolochia* is to plant it out, for the flowers are borne on the young growing shoots, and the more freely they are produced, the greater will be the display of blossoms. Still, such treatment is not absolutely necessary for its well-doing, as it may be grown in pots; indeed, it blooms so freely, that I have had it flower well when twisted around a few sticks and in pots only 6 inches in diameter; but even then the blooms are not seen to such an advantage as when hanging suspended from the roof. Cuttings of the young shoots strike root very readily during the growing season, all that is necessary being to put them in sandy soil and keep close and shaded till rooted, which will not take long.—H. P.

#### ÆSCHYNANTHUSES IN BLOOM.

MANY beautiful flowering plants have been greatly neglected of late years, and included in the number are the different forms of *Æschynanthus*, which when in a flowering condition serve to enliven the stove with their bright-coloured blossoms at a time when plants in bloom are not particularly numerous. Not only do the individual blooms remain in perfection for a considerable time, but in many cases a succession is kept up for a lengthened period. There are several species in cultivation, through all of which runs a strong family likeness. Two good and distinct kinds are *Æ. grandiflorus* and *Æ. Lobbianus*, and where there is but space for a couple, these two will be sure to give satisfaction. *Æ. grandiflorus* is more compact in growth than most of the others, and will form quite a bushy plant from 18 inches to 2 feet in height, every branch of which bears a large cluster of peculiarly curved tubular-shaped blossoms of a bright orange-scarlet colour. The second species, *Æ. Lobbianus*, is more of a trailer than the preceding, and in this case the long slender branches are clothed in a regular manner with small deep green leaves, and terminated by clusters of bright red blossoms much darker in colour than those of the first named. All the members of the genus are first-rate subjects for growing in suspended baskets, as in this way they will both grow and flower well, while, owing to the procumbent habit of most of them, the blooms are then seen to the best advantage. When in baskets they need but little attention provided they are kept in a moist stove, for the syringe will, as a rule, keep them sufficiently damp. The roots are not numerous and need some light compost to run in, such as a mixture of fibrous peat and Sphagnum, which will suit them perfectly. This method of suspending the different species of *Æschynanthus* is not the only way they can be successfully grown, for with the aid of a few sticks they can be kept in bush form, though, of course, those in the way of *Æ. grandiflorus* are more amenable to this mode of treatment than the procumbent-habited kinds. Another method by means of which the different species form very attractive specimens is to put them in a pot with a portion of a dead Tree Fern stem 2 feet or 3 feet high, and secure the shoots thereto with a few pegs and a little live Sphagnum. In a moist stove the shoots will quickly root at the joints, and soon completely furnish the Fern stem, the whole forming, especially when in bloom, a very beautiful object. If in pots, the Fern stem must be allowed to go to the bottom, or nearly so, otherwise it is apt to be top-heavy, but the lower portion of the pot must be thoroughly drained with broken crocks, on which the compost the plants are to grow in should be placed. A liberal use of

the syringe during the growing season is of great benefit to the different kinds of *Æschynanthus*. They are all readily struck from cuttings of the young growing shoots put in at any time during the spring and summer months. All that is necessary is to put them in pots of sandy peat and to keep in a close case in the stove till rooted. T.

**Bignonias.**—There can be no question as to the usefulness of several of the Bignonias for greenhouse or conservatory decoration, as they make excellent roof climbers and are very showy when in flower. An additional recommendation is that they are not subject to insects, and therefore give little trouble in that way to keep clean. I have a fine old plant of *B. venusta* growing in the conservatory where it runs up a pillar 15 feet with a clear stem before reaching the roof, under and across which it is carried close beneath the girder, and from the main rod branches depend at regular intervals and hang down in their own natural manner, flowering freely every year, and when so doing the plant commands admiration. As it is a little cramped at the root and the house is a dry sunny one, its growth is moderate, and all it needs or has is a little annual thinning of the shoots, the long straggling ones being cut out and the small short-jointed ones left, as they produce the blossoms. I have a good specimen of *B. radicans* growing outside at the end of a shed and greenhouse, where it has been for upwards of thirty-five years. It covers a space of about 150 square feet, and would easily have spread considerably further if I could give it the room. In very hard winters it gets killed back a bit, but I never protect it further than giving a heavy mulching over the narrow border where the roots are and just round the collar of the plant. The situation where it is growing is a sheltered sunny one, the aspect being south-south-west. Bignonia *radicans* flowers on the young wood, and the way to treat it is to carry or train up a sufficient number of branches to furnish the wall, laying them in a foot or so apart, and each spring spurring all the previous summer growth back, just as one would a Pear. I started with the plant I have from seeing and admiring one at Bowood, which used to be on the front of the office used by Mr. Spencer.—J. SHEPPARD.

**Callas.**—In cases where these are planted out, and it is unquestionably, I think, by far the best way of growing them, they should be taken up earlier than is usually done, as it is not advisable to let the leaves get too forward before lifting, for when they become advanced the stems supporting them are apt to break or bend, and the plants flag more than they otherwise would. To prevent this latter happening as far as possible, the lifting should be carried out during a dull, damp time, and only a few plants got up at once in order that they may be dealt with and potted up quickly. The most suitable place for them after potting is close along the foot of a north or shady wall or fence, where they can be kept sprinkled or syringed frequently during the day till they get fresh hold of the soil, after which they may be drawn out and stood more in the open, and have liquid manure to strengthen them and help them along.—S. D.

**Notes on Camellias.**—As a constant reader of THE GARDEN, I take particular interest in your articles on Roses and Camellias, as I find that between the two I can get flowers to please myself the year through. Before obtaining my first stock of Camellias I visited the most noteworthy collections both in England and on the Continent, and as a result I made the following selection of plants:—

*Whites.*—*Alba plena*, *fimbriata*, *Mathotiana alba*, *Duchesse de Berri*. *Pinks and reds.*—*Chandleri elegans*, *Commodore*, *Betti*, *Coradino*, *Dride*, *Henri Favre*, *imbricata*, *Mme. de Strekaloff*, *Reine des Belges*, *Roi Leopold*, *Rubens*, *Staryi*, *Valtavaredo*, *Wilderi*, *Mme. A. Verschaffelt*. *Crimsons.*—*C. H. Hovey*, *C. M. Hovey*, *Mathotiana*, *Mme. Lebois*. *Striped* (I prefer self-coloured flowers).—*Fanny Bollis* and *Jubilee*. I grow them in sandy loam with plenty of leaf mould and give several applications of

Standen's manure during the period of growth. Success in cultivation, where the plants are kept in pots or tubs, is to be obtained only by perfect root drainage, by exposure in the shade in the open air during summer, by constant syringing and sponging, and by keeping the plants well supplied with water. Plants should not be put out before the end of June, and should be returned to the house by October 15. If plants in health do not flower, it is because they are too vigorous or too young. The flower buds are usually completely formed six weeks after the plant has started into fresh growth in spring. The ordinary time of flowering is from December to the end of March. Flower buds will fail if sufficient water be not given, and also if excessive variations of temperature be allowed in the plant house; 36° will be sufficient during frosty weather. Many degrees of frost will not kill the plant, but will cause the buds to drop.—H. W. P.

## GARDEN FLORA.

### PLATE 877.

#### SOFT-WOODED HEATHS.

(WITH A COLOURED PLATE OF *ERICA PROPENDENS*.)

As may be seen by the accompanying plate, this species is one of great beauty, and it brings back to my memory the days when I used to grow *Ericas* by the thousand. The growing of *Ericas* is generally considered difficult, but it is a task which the gardeners of no other country have been able to so completely master as did the English growers of the olden times. Nearly all the Heath-growing of the present day is confined to the Messrs. Low and Co., of Enfield, Mr. John Maller, of the same district, Messrs. Maller and Son, Mr. John Fraser, of Lea Bridge, and some few others in the London district. *E. propendens* is one to which the attention of growers is now given. The hard-wooded Heaths do not find favour now-a-days with anyone; at any rate they are not to be found in collections; not but that there is as much beauty in an *Erica Massoniana*, an *E. McNabiana*, *E. ampullacea*, *E. Hartwelli*, and such like as ever there was, but employers will not wait for this class of plants to grow. Indeed, the foulness of the atmosphere round London is one of the chief reasons why hard-wooded Heaths are not grown, but there is no reason why they should not be done as well in country places as ever. Soft-wooded Heaths like *E. propendens*, however, may be more readily grown. These plants require a liberal allowance of water when growing; therefore see that the pots are well and properly drained. The soil for *Ericas* should consist of good fibrous peat chopped up with a spade; the coarseness must be regulated by the size of pots which are being used. If small pots, chop the soil finer, but never use sifted peat for Heaths after they have roots. Firm potting is absolutely necessary. When the plants have done flowering they should have a judicious pruning, and the kinds under consideration should have the shoots cut back with a sharp knife below the lowest blooms, and any laterals which have not flowered should receive attention at the same time. The shoots should be allowed to grow a few inches and then have all the points taken out. After this I like to let them go, because by this system much finer spikes of bloom can be secured in the summer months. *Ericas* like to stand in the open air, but now

\* Drawn for THE GARDEN by Miss Hamilton in Messrs. Veitch's nursery at Chelsea, April 30, 1892. Lithographed and printed by Guillaume Severeys.





ERICA PROPENDENS







the time is drawing near when they are best under cover. When indoors, care should be taken that the plants stand on a cool bottom. Heaths should never stand upon a stage above hot-water pipes; neither should the pipes be warmed much in the winter months. I would much rather that the thermometer recorded a degree or two of frost. Careful watering is necessary in winter, and it should be performed in a thorough manner; giving it by dribblets should always be avoided. After the watering is finished, if any apprehension exists that too much moisture exists in the air for the welfare of the plants, light the fire and give air freely, so that the house may become dry before night. In this way mildew, the great pest of Heaths, will be avoided. Should the leaves begin to turn brown and to fall away, sulphur should at once be dusted over the affected parts. During this operation the plants should be laid upon their sides in order to prevent the sulphur falling upon the soil and thus killing the roots of the plant. If you do get a plant that has fallen a prey to this pest, and this may be easily discerned by its rusty leaves and bare stems, my advice is to burn it, for it cannot be made presentable. The following dozen kinds may be grown together, and they will make a nice display:

**E. BORGIANA.**—Free-flowering; flowers campanulate, purple.

**E. GRACILIS.** Flowers globose, of a reddish purple. This plant will show if it has been stunted with water, for the spikes of bloom come very short if that has been the case. It flowers in autumn.

**E. GRANDINOSA.**—Similar in habit to the last-named, but taller. Flowers globose and pure white. Spring.

**E. HYEMALIS.**—One of the most beautiful for winter blooming, producing long spikes of bell-shaped flowers. These are white at the mouth of the bell, reddish pink at the base.

**E. HYBRIDA.**—This plant is liable to the attacks of mildew. The flowers are tubular and of a bright red. Spring.

**E. PARMINTERIANA ROSEA.**—Flowers tubular, swollen at the base, purple in colour; a free bloomer. Summer.

**E. PERSOLUTA.**—Flowers small, globose, either pink or white, and freely produced. Spring.

**E. PROPENDENS.**—Free grower and bloomer; flowers campanulate, soft purple in colour. Spring and summer.

**E. PYRAMIDALIS** makes many free-flowering shoots, the flowers tubular, rosy-pink. Winter and spring.

**E. RUBENS.**—A small-growing plant, with an abundance of red, bell-shaped flowers. Summer.

**E. SINDRYANA.**—Very much in the way of *hyemalis*, but the flowers are somewhat shorter. Spring.

**E. SPENCERIANA.**—A free-growing plant, producing tubular flowers of a purplish lilac. Summer.

WM. HUGH GOWER.

**Ripening Peach and Nectarine wood.**—When the crop has been gathered the trees often go for a time without further attention, but much good will be done if the useless wood is removed, thus allowing that required for next season's crop to ripen and get matured before severe weather sets in. Much is gained by removing useless wood, as often insect pests are disturbed, and the heavy rains we get in the autumn are better able to cleanse the leaves. It is also time well spent, as there is less pruning early in the year. This wood, when well browned by exposure, will resist severe weather. It is the soft sappy growth that succumbs to our winters, and by free exposure later blooming is ensured, as the weak soft wood is always first to bloom and is not strong enough to stand severe cold or mature fruit. Much of the wood which has borne fruit may be removed to

give place to next year's wood. This has been a good season for Peaches and Nectarines, and abundance has been secured in most gardens, so that the removal of useless wood will go far towards next season's success.—S. H.

## THE WEEK'S WORK.

### THE KITCHEN GARDEN.

**LETTUCE.**—The season now coming on reminds us that we must take great care of all Lettuces which are likely to become available for future use, as even now the supply need not be running short if the opportunity has been taken to prick out relays of young plants, a course I have frequently advised. To a certain extent it will depend upon the weather how long good Lettuces may be cut from the open, as, of course, frosts have to be reckoned with, and, unlike smaller plants, full-hearted Lettuces are soon spoiled when once they become touched with frost, decay rapidly setting in afterwards. To guard against such emergencies is what we have to guard against, and with this in view we must act accordingly. It is astonishing how long full-hearted Lettuces will keep in good condition when efficiently stored and protected; in fact, with plants now almost fully grown, the supply may be kept up till Christmas. Not that it is advisable to lift all the plants that are in a forward stage, unless, however, they should be scarce, when it would not be wise to risk any, as a portion should be reserved for cutting as long as it is possible, so that those which are to be placed in frames may be held over. All that is necessary with full-hearted Lettuces is to select a dry day, whilst the foliage is dry, and lift each plant carefully with a ball of earth. To prevent the leaves becoming broken, each plant should be tied tightly with a piece of matting. Place the Lettuce in shallow boxes and carry direct to the frames and plant them carefully, pressing the soil well about the roots. A watering might also be given, but take care not to let the wet fall on the foliage. The frames must be kept well ventilated and also protected in case of frost. The lights should only be removed on fine days.

**SUCCESSION LETTUCE.**—Plants which are about half grown may also be lifted and planted in frames, taking care to place them well up to the light. It is very necessary that these be well watered when first planted so as to assist them in becoming established. In my own case the plants are pricked out on south raised borders, in beds the size of the frames intended to place over them. At this season the frames are placed in position, the lights being removed during the day, but replaced at night until inclement weather really sets in. When frame space is scarce, sooner than run short of Lettuces any rough protection is better than nothing. A framework of wood that can be protected with mats, and in case of severe frost also litter, will be found very useful. There is yet the latest supply to deal with and the time has now arrived for this to be taken in hand also. This should now be young plants just ready for pricking out, and should consist of the Cabbage forms. Deep frames or, what is better, brick pits are the best. The frames must be first filled up with open material, and if they are deep, a layer of faggot-wood should be placed in first, then a layer of litter, afterwards adding a foot of fairly rich and light soil. The plants should now be pricked out and the lights kept off until bad weather arrives.

**SOWING LETTUCE SEED.**—For an early supply of plants for planting out in the spring, seeds may also be sown now if desired of both the Cabbage and Cos forms. Of late years the practice of sowing in heat at the turn of the year, afterwards pricking out, is more adopted, but where room or labour is scarce the above old method is well worth trying.

**CARDOONS.**—These have grown better than usual, and the blanching of the plants must now be attended to. Little and often, or at intervals of

three times is not at all necessary, once earthing being quite sufficient. In the first place, it is very essential that the plants be thoroughly dry before commencing operations, for if at all wet or damp decay is not long in setting in. In the first place, any small leaves and suckers which may be clustering about the base should be pulled away, afterwards gathering up the leaves and making about two strong ties to keep them from bursting out. The next point is to get some well-twisted haybands, taking care to wind these closely round, commencing at the bottom, finishing about a foot from the top. The soil must now be banded around them, bringing it up sharply as if for Celery, taking particular care to make a clean, firm, and sloping surface, so as to throw off wet.

**CHARDS.**—These are the strong growths from Globe Artichokes and which have not produced heads. If these have been cleared of old leaves and superfluous sucker growth, as I have previously advised, for the purpose of being blanched, they will now be ready. Tie up the leaves and wind round with haybands, and bank up with soil as advised for Cardoons. A. YOUNG.

### HARDY FRUITS.

**ROOT-PRUNING APRICOTS.**—The wood of Apricots matures early, or considerably in advance of that of Peaches and Nectarines. If it fails to do so, the probability is the trees are either in a too rich soil, or else are rooting far more deeply than is good for them. The most profitable trees are those with abundance of surface roots, a slightly raised border and which ought to be wholly given up to them suiting Apricots well. Supposing the wood is well ripened and the buds plumped up, as a matter of course there is no necessity to wait till the leaves fall before commencing wholly raising moderately large trees, while partial root-pruning may safely be resorted to in the case of the less well-matured trees. Extra large trees should not be wholly root-pruned at one time, but one half may be done now and the other next autumn. Commence 4 feet from the front of the tree and open a deep circular trench round to the wall, cutting through any roots come across. Next undermine and bare the roots up, say, to within 18 inches of the stem, and undermine the rest so as to cut through any deep-running roots there may be immediately under the stem. Wheel away all but the very best or least exhausted of the old soil thrown out, and replace with a compost consisting principally of rather strong turfy loam, to which lime or old mortar rubbish, burnt earth and ashes from a garden "smother," and half-inch bones have been freely added. Pack this firmly under and about the roots, bringing the latter much nearer the surface than heretofore and distributing them evenly throughout the soil. In all such cases the roots where broken or bruised should have the damaged ends cut cleanly over prior to returning them to fresh soil, or otherwise they will fail to heal properly. Next autumn the other half of the roots may be safely and advantageously treated similarly, and sunken or much-buried stems should then be raised considerably. Thus treated, the trees quickly attain to a better state of health, their productiveness being greatly enhanced.

**YOUNG APRICOT TREES.**—These are apt to grow too strongly, especially if planted in a rich border. All the while rank growth takes place few fruits will form, and what do set are usually undersized when ripe. If the wood is still very green and comparatively soft, violent remedies must be deferred till the leaves have nearly all fallen, or else shrivelling of the wood is likely to take place. In favourable positions, that is to say, on slightly raised borders against the hottest walls in the garden, the wood ought now to be quite firm or ripe enough to admit of the roots being rather severely root-pruned with safety. Open a circular trench clean round and 3 feet from the stem of the tree, and then undermine and bare the roots up to within 12 inches of the stem, in particular searching out and cleanly severing deep-running roots. It will really be a case of replanting, and in very



many cases it will be advisable to raise the tree with the small and carefully preserved ball of soil about the roots several inches higher, this being most often necessary where the borders are new or deep holes were made for the trees and loosely filled in, sinking inevitably taking place under such conditions. The trees can easily be raised when properly undermined with the aid of two digging forks, and be kept up by means of fresh or old soil firmly rammed under them. Fresh soil will scarcely be needed by strong-growing young trees, though it will not be thrown away on them if the roots are kept well up to the surface. If no old mortar rubbish, burnt earth, or ashes were mixed with the original compost, add some now. Should the foliage of newly-moved or severely root-pruned trees flag badly, resort at once to frequent overhead syringing, also watering the old ball of soil and roots if at all dry when moved. In some few cases it may be necessary to shade the trees from bright sunshine, garden mats being suspended over them temporarily.

**PEARS.**—No class of fruit trees pays better for good attention at the roots than do these. If, owing to the roots being driven down to a cold subsoil, frequently digging and heavily cropping the borders soon having this effect, a rank unfruitful growth usually results. Should the subsoil be of a hungry gravelly nature, not much top-growth is made, while the quality of the fruit is very inferior. Nothing short of lifting, pruning, and relaying the roots in good loamy soil much nearer the surface will restore the trees to such a state of health and growth as to ensure productiveness and the formation of superior fruit, but in the case of large old trees the process must be gradual. Wholly lifting or very severely root-pruning all round administers a check from which they are years in recovering, some never really wholly regaining good health. Therefore lift one half of the roots and otherwise treat them much as advised in the case of large Apricot trees, and complete the operation either next autumn or in the following year. Most probably some very large deep-running roots will be found, and these should unhesitatingly be sawn through, even if they are 2 inches or more in diameter. Such do more harm than good, and the undisturbed half of the roots, or if the trees were half root-pruned in a previous season, the new roots, will support the trees next season. In very many cases trees in the open are not sufficiently matured in growth to be operated upon, the middle of October being quite soon enough to take these in hand. It is yet too early to transplant Pear trees, the better plan being to do this directly after the leaves have fallen, or any time before November is out. W. IGGULDEN.

### ORCHIDS.

It does not seem very long since I was warning readers to be careful lest the sharp frosts in the late spring months would come upon them unawares and the plants might be injured. We had our first experience of the autumn frosts on the evening of September 17. The thermometer fell to 28° Fahr., or 4° of frost—enough to considerably injure the Dahlias, Scarlet Runners, &c. The signs of a frosty night were very apparent soon after sunset, and it was easy enough to get up the heat in the hot-water pipes, and in a calm night a few degrees of frost make very little difference. It is when wind is accompanied by frost that the temperature suddenly drops, unless a good fire is kept up. I mentioned a few of the choicer Cattleyas, Cypripediums, &c., that usually flower in September in last week's calendar. We have now entered the month of October, and a few more may be added to the list. *Vanda cœrulea* is opening its lovely delicate pale blue flowers. How to maintain the vigour of this fine Orchid after the fourth or fifth year from the time of importation is a problem many good cultivators have tried to solve and have not succeeded. The plants will do admirably in the Cattleya house, but they will grow quite as freely in the warmest house until the native vigour is exhausted, and the plants either

do not flower or produce spikes not half so long as they used to do at first. I have in previous calendars recommended growing this *Vanda* in the Cattleya house, but I believe it is better in a warmer temperature. The plants seem to do best near the glass roof, and they will stand a good supply of water during the summer when making their growth. After flowering, they should be kept well on the dry side and in a lower temperature. Frost is not unknown at certain seasons where this *Vanda* is plentiful, growing at the top of isolated Oak trees. *Zygopetalum maxillare*, a very handsome free-flowering species, is generally in bloom at this season, and produces bluish or bluish-purple flowers. The drooping spikes have a distinct effect in the Orchid houses, and the flowers will with care remain in good condition for two months, which is a strong point in their favour. Give the plants plenty of pot-room and they will soon develop into large specimens. Other species will flower later and keep up the supply of bloom through the winter. All the varieties are peculiarly distinct in the colour of the flowers, the formation and growth of the plants. Some of them may be grown successfully upon the stems, or rather trunks, of Tree Ferns; indeed, this very species (*Z. maxillare*), when it was first discovered by Gardner on the Organ Mountains, was always growing upon the stems of Tree Ferns, and it is described in the *Botanical Magazine*, tab. 3686, as the Tree Fern *Zygopetalum*. The plants need water every day when established upon Tree Ferns, but if grown in pots of fibrous peat soil, once a week may be often enough. A truly useful Orchid for flowering in October is *Oncidium varicosum*; its branching panicles of large bright yellow flowers are very striking. It is one of the Orchids which blooms abundantly when the plant has not long been introduced, but the spikes of flowers have a tendency to exhaust the plants after a time, and weakly specimens might be so much debilitated by being allowed to flower annually, that the plants might die out altogether; therefore, weak plants may have the flower-spikes picked out as soon as they show. This, of course, gives the plant a chance to grow and form good flowering bulbs for the following season. It will grow well either in teak baskets or on blocks, but the rafts made of teak rods and suspended in an upright position are better than blocks. As a matter of fact, we are doing away with blocks, because of the danger the plants are in of being injured, owing to the carelessness or neglect of the cultivator to water them. It is very important, now that the season is so far advanced, to keep the leaves perfectly clean. They should always be clean, but they have more difficulty in performing their functions in winter than in summer, the want of light in the short days being much to the disadvantage of any Orchids, especially those in growth. The Cattleya house should be fumigated, the plants in this house being less liable to be injured by the fumes of tobacco than those in the other divisions. If thrips are suspected of being in the axils of the leaves well down out of the reach of the smoke, a pinch of flour of sulphur dropped into them will turn the thrips out where they are likely to be destroyed by it. After two or three fumigations, sponge the leaves over with a weak solution of soft soapy water, and this may keep them off for the winter. Dip the plants in a solution of tobacco water when they are supposed not to stand fumigation with tobacco smoke. The handsome *Miltonia vexillaria* which has just been placed in the Cattleya house must be dipped, for tobacco smoke is injurious to it. Cypripediums, Cymbidium, Dendrobiums, and such plants are not at all injured by smoke any more than Cattleyas. There are a few Dendrobiums which require special treatment. *D. formosum giganteum*, for instance, does not always lend itself to the artificial treatment it receives in the Orchid houses. I have always been successful with this species by growing it in the warmest house suspended from the roof-glass in teak baskets. When the plants are in growth they require plentiful supplies of water at the roots. When growth is completed they succeed best in the intermediate house and should not have much water. It is easy enough

to grow them well for the first two or three years after they are imported, but when decline sets in after the native vigour is exhausted they seldom recover again. It is a handsome Dendrobium; the flowers last long in good condition also. The fine varieties of Dendrobium *Phalænopsis* recently introduced promise so far to make good growth, and this when well ripened is sure to produce flowers freely. I ought to remark here that care must be taken with some Cattleyas to prevent their starting into growth again. Vigorous plants of *C. Trianae* will start a new growth from the base of the last formed pseudo-bulbs if they get too much water; keep them well on the dry side at this season. Up till now there has not been much reduction in the minimum temperatures, but there will be after this, especially when cold dull weather sets in. The cool house will drop to 45°, the Cattleya house to 55°, the warm house to 60°, but 65° sometimes. There is no need to trouble about a degree or two. I am satisfied if the temperature runs 2° or 3° below and as much above those temperatures, according to the weather. J. DOUGLAS.

### PLANT HOUSES.

**PLANT PROTECTION.**—The period of the year has now arrived when frosts may reasonably be expected; therefore to be forewarned is to be forearmed against any contingency that may happen from this source. There are, of course, great variations as to situations and localities with respect to the effects of these early frosts, but it is not advisable to risk any plants outside that are at all susceptible to its injurious effects later than the first week in October. Some plants, it is true, which are usually termed greenhouse subjects will withstand a few degrees without injury, but there is no policy in running this slight risk even if it can be avoided. For a few weeks to come, in many instances it will tax the ingenuity of the gardener to the utmost to sufficiently protect his plants. Chrysanthemums are now grown in such numbers and require so much room to accommodate them, that other plants have to be crowded together or otherwise housed in such a manner as not to be beneficial to them, but rather quite the reverse. In extreme cases the friendly shelter of a tree is better than nothing, or if stood near to a wall it is a comparatively easy matter to afford protection at night by means of stakes (long Bamboo rods in particular being very useful) with light shading material thrown over them. Skeleton structures of a light character are exceedingly useful; these where made in the form of a span-roofed house can be very easily covered with the dressed tarpulings which are now oftentimes used in the winter in place of mats. These dressed covers are extremely useful, being very readily applied in any needful case against frost. Under such covers and framework many of the hardier plants usually kept in cold houses will be quite safe against 7° or 8° of frost. Light, of course, must be given in the daytime to the fullest extent; non-attention to this is a careless omission. Under unfavourable circumstances as to housing greater caution is needful with the watering. What is needful in this way should be attended to early in the day. When plants are now, or soon will be, crowded together much too closely in houses the ventilation must be carefully attended to, whilst if a slight warmth is allowed in the pipes during the day with a free circulation of air, there will not be the same susceptibility to damping off amongst both flowers and foliage. Cold frames and pits will afford abundant shelter for several weeks longer to many plants. These places should in all cases be now used to their fullest extent, but do not close down at night unless quite necessary. The regular system of closing at nightfall just to save trouble later on in the evening when treating plants that have hitherto been freely exposed in the open is a great mistake. Even with air left on, a few degrees of frost will not do any harm provided the plants are dry overhead; in fact, I would prefer it in many instances.

**TEMPERATURES, &c.**—Due regard should be paid to these matters in all departments, although



there is sometimes a laxity at this season of the year. In the stove the night temperature about now is at times kept too low. This is a mistake, in that it makes too great a difference from what it was only a few weeks back, with little or no warmth in the pipes, being also an incentive to damping off amongst both flowers and foliage. Where the night temperature hitherto has been averaging about 70°, it may be dropped about 2°, but not more; this will suffice for another month. So much atmospheric moisture is not, of course, needed now; by the withdrawal of this to a certain extent, the ripening process will, in a great measure, be facilitated. Warmth during the day should be fairly well maintained, but closing, so as to run up the temperature as earlier in the season when growth needed all the encouragement possible, should not now be attempted. In the temperate house or coolstove the night temperature may range from 60° to 65° with less moisture, as in the other case. In many instances it is advisable to leave a little top-air on at night with a gentle heat in the pipes. This contributes to a hardening process and checks a late growth. In greenhouses it will not be necessary to use fire-heat to maintain the night temperature for some few weeks to come. The longer this can be dispensed with the better, if the thermometer does not fall below 40°. During dull weather a little warmth in the daytime is desirable; it should be applied early and be taken off again in good time. Ventilation in the case of greenhouse plants should be freely applied, particularly where the plants have been only recently housed, and it should not be taken off entirely at night unless a few degrees of frost are apprehended. Do not even in such cases leave the houses closed any longer than is absolutely necessary, ventilating again soon after day-break. During wet weather, of course, damp must be guarded against as much as possible, more particularly where the plants are overcrowded and where Chrysanthemums in quantity are being housed, these still requiring a good supply of water. As far as possible, all the watering should be attended to early in the day.

**BLINDS AND OTHER SHADING.**—In all ordinary cases the use of blinds should now be entirely dispensed with; more harm by far is done by shading now than it would be possible to accomplish from the opposite extreme. The sooner all fixed blinds are taken off when thoroughly well dried the better will it be for both plants and blinds. In cases where the glass has been shaded permanently for the summer months, that too should be cleaned off. There will be quite enough scum upon the inner side to act as shading for a little longer, but that even should be removed as soon as possible. Shading is, of course, needful, but its application in a thoughtless manner is a source of harm rather than of benefit.

J. HUDSON.

## KITCHEN GARDEN.

### SIZE VERSUS QUALITY IN VEGETABLES.

As a rule we are supposed to look to exhibitions as a guide to what should constitute the ideal in any class of horticultural product, but however this may be, a change appears to have taken place with regard to vegetables. Let anyone pay a visit to one or more of the principal exhibitions at which vegetables are made a speciality and note the size of the different exhibits staged; he will plainly see that size is the main object aimed at. All gardeners who have to keep up a supply of the best produce which the kitchen garden can afford know that size in the majority of kinds at any rate is not looked upon with favour by the cook, and still less by those who may have to partake of them. True, we may admire extraordinary productions, such as the fine Onions we some-

times see, and which show the skill which has been brought to bear upon them, but are they any the better for being so large, and as far as their keeping qualities are concerned they are of little value? But then these are grown as a means to an end. At one time this inordinate size of vegetables would have been looked upon with extreme disfavour, and this certainly should be the case now. A dozen or fifteen years ago when we used to look upon the collections as exhibited by such well-known growers as Messrs. Miles, Austin, Pragnell, and a few others, large vegetables as shown now would have been simply nowhere. Take Cauliflowers amongst others. At that time if these were shown much larger than breakfast cups they would be passed; whereas now a peck measure is nearer the mark, and even above this. But then, I suppose, these are for "show" only, and if they are not fit to go on the table, what is the use of producing them of this large size? Besides being coarse they are strong in flavour in the extreme. Autumn Giant and other selections of the same type are useful products, we must admit, but to force them on to as large a size as possible is a step in the wrong direction. The Walcheren Cauliflower, if placed in competition now-a-days with these huge productions, would be simply nowhere, but when cooked and placed upon the table, the verdict would be the other way. Walcheren has in many gardens been discarded, but where high quality is desired, no better Cauliflower can be grown for coming in during the waning summer months and the early autumn. I think it must be admitted that autumn Cauliflowers of the larger types are not much appreciated on the table, there often being complaints as to their strong flavour and so forth, medium-sized heads being much the best. Celery, too, is invariably exhibited too large. The excuse that is generally made is that these large heads are only for exhibition, just as if they were not to be eaten. If not suitable to send to table, what is the use in producing them of such large size? To make Celery grow to this large size it has to be forced on with high feeding, and the result is that the texture is coarse in the extreme, the stems being hollow and decaying quickly. If not suitable for table, it should not be for exhibition, and yet these huge heads are supposed to illustrate what we should aim to produce. Large early Onions may be used up, as the quality in itself is invariably very good, even if they do not keep very well. Although I have mentioned these large Onions as being good in quality, it does not follow that all should be the same, for, as is well known, the medium-sized are both the best keepers and most useful for every-day use.

Large Tomatoes appear to be going completely out of favour both for market as well as home use, medium-sized shapely fruits being preferred. Individual fruits of 4 oz. weight each are much to be preferred to those which range from  $\frac{1}{2}$  lb. to 1 lb. in weight each. The days of large Tomatoes for home and market use are over, and it is to be hoped some other vegetables will quickly follow suit, and amongst these Potatoes as well as Cauliflowers and Celery. I do not know whether this may be through the capriciousness of fashion, but certain it is that Potatoes are exhibited much larger than formerly, and I quite agree with the remarks on these by "M. H." (p. 229). To these, even, medium-sized shapely tubers are much to be preferred, and such as should be encouraged. Quality is what is wanted, and the larger in size the tubers are, so does their quality decrease. Medium-sized and shapely roots of

such as Beetroot, Carrots and Turnips are the most appreciated, and these we should aim to secure.

A. Y. A.

**Late-sown Carrots.**—Carrots oftener fail in old gardens than when grown in the open field. Gardeners should not despair of obtaining a fair crop if the early-sown ones fail, as Carrots are very accommodating. They grow freely at the fall of the year, and though the roots may not be large, they are sweeter and far more valuable for cooking. I find it a great advantage to sow the Early Nantes in the early autumn or late summer, and again for standing the winter. This last sowing, if made early in September, or even earlier in cold districts, and merely protected in very severe weather with litter or Bracken, will come in useful. If this practice is followed out, those who have a large demand for early spring Carrots, which must get frame protection to get them early, would find a late sowing of great advantage in eking out the earlier supply, and the quality, if protected in the beds from severe frosts, will be little inferior to that of frame Carrots. It is not necessary that only the above variety should be sown, as there are others of the Short Horn section equally good for the purpose. I find Early Nantes one of the best, so have advised it for autumn sowing. For sowing in case of failure of spring crops in the late summer, a short Carrot is preferable to the longer type. I have found Scarlet Model excellent for the purpose, being of quick growth, with roots 6 inches long, and beautifully flavoured. This variety grows in poor light soils.

—W. S. H.

**The Aubergine, or Egg Plant.**—Most English gardeners have been accustomed to grow a few white-fruited Egg Plants with a purple-fruited one or two for contrast. The enormous quantities grown and consumed in France, and the high esteem in which they are said to be held there and in other parts of the Continent for eating, may well suggest the inquiry whether it might be worth while to grow them in quantity at home. Any fostering treatment that suits ridge Cucumbers, Marrows and Tomatoes will suit Egg Plants. The plants, like other members of the Tomato family, are rather liable to the attacks of white fly and scale, but in the open air and with cool treatment under glass there is no difficulty in growing them. Few plants yield more fruit for their size than Egg Plants. The most ornamental with the closest resemblance to a pure white, smallish hen's egg is the original common white, but an immense number of varieties may be seen in Paris and in other parts of the Continent, and the rich-looking purple-coloured fruits seen in Covent Garden the other day were each over 6 inches long and 3 inches or more in circumference. They are eaten when quite or nearly ripe—stewed, fried, or baked, or used for flavouring and thickening soup. Another and original way of cooking the white is to open the fruit at one end, scoop out the pulp or floury-like substance, add bread-crumbs, forcemeat, gravy, stock, or butter; partly cook, then return to the shells, bake slightly, so as not to destroy the form, and serve hot. We were years before we took to Tomatoes, and now we eat more than any other ration. It will be singular indeed if we follow suit with the Aubergine and take to growing Egg Plants by the acre.—CALEDONICUS.

**A cure for the Turnip fly.**—Recently Mr. Samuel Barlow, of Stakehill, Manchester, stated that, having a field of Turnips badly infested with fly, he tried the experiment of dusting a few of the plants with superphosphate of lime, and found it quite destroyed the pest. He then had the whole of the field dusted with superphosphate, with the result that there was an entire annihilation of the fly. This is worth bearing in mind. In addition to getting rid of the fly, the dressing was also of great value to the plants. Encouraged by this result, Mr. Barlow also dusted with the phosphate some large plants of Pansies that were badly infested with slugs. Attempts were made at first to pick off the slugs, but with little avail, though hundreds were gathered in this way, but a



dressing around the roots and on the soil under the branches resulted in the slugs almost entirely disappearing. Mr. Barlow also tried the effect of the superphosphate on woodlice with the best results, and he recommends its application to all garden crops attacked by slugs and other garden vermin. The application is sure to be much more effective than dusting with powdered quicklime, which changes to carbonate of lime on exposure to the atmosphere for a few minutes, and is then harmless to slugs. In making some experiments Mr. Barlow found that where this superphosphate had been applied for ten hours it was still powerful enough to destroy slugs.—R. D.

#### NOTES ON TURNIPS.

THREE QUARTERS of a century ago only three or four garden varieties were known, the principal being the Early Dutch and the Garden Stone, but now we have many, and the gardener is able to make a selection from several types. Up to recent years our earliest Turnip was the Early White Dutch, which, being a quick-growing variety, was much used for an early crop in frames. It was usual to import the seed from some warm country, such as the south of France, in order to maintain its precocious character. Since then some early varieties which have been introduced from the Continent have taken the place of the Early White Dutch, and are now largely grown in this country for early crops. We now have the early purple-topped Munich and its strap-leaved variety; the Milan, purple topped, which has a deeper colour on the top than the Munich; and the Extra Early Milan, which is reported to be even quicker in turning in than those above-named. The roots grow remarkably fast, and when sown in a suitable soil will be fit for table twelve to fifteen days earlier than our ordinary garden Turnips. It is an admirable type for forcing, and is best for table when half grown, or at least when very young, as when fully grown the roots have an unpleasantly strong and bitter taste.

Of our ordinary white garden Turnips, the type known as the Mousetail is the best. It is named Mousetail because of the fine root stem which issues from the bottom; a good type of it is globular, but some selections are flatter in shape than others. Some of the best known are Snowball, Silver Ball, Improved Snowball (a selection of this known as Beck's appears to be a perfect white garden Turnip), Dobbie's New Model, Model White Globe, &c. The rivalry among seedsmen acts advantageously in keeping stocks of garden Turnips well up to the mark. With these should be included the American Strap-leaved, which has its leaves entire and not lobed, as in the case of the ordinary garden Turnips; at one time this was very popular with gardeners. Our two leading winter Turnips are the Green-top Stone and the Red American Stone, the former generally preferred, as its hardiness is undoubted. Covent Garden White Globe appears to be a globular form of the foregoing, and Stratton's Green Round seems identical with the Covent Garden White Globe. Vilmorin's Early Stone appears to be the same as the Green-top Stone. A fine form of the Red American Stone is seen in Veitch's Red Globe, which is more globular in shape, and having been well selected can be had very superior in character. In some parts of the country—in northern localities especially—yellow-fleshed Turnips are greatly esteemed. In the south the prejudice is in favour of white and against yellow-fleshed Turnips, and it is generally assumed, though not always correctly so, that the yellow-fleshed varieties are stronger in flavour. One of our best selections is that known as Golden Ball or Golden Stone. The Yellow Altringham used to be much esteemed in Lancashire years ago. Other yellow garden Turnips are the Yellow Malta, the Yellow Finland and the Yellow Dutch, the two first flat in shape, the last more globular, and all more or less coloured on the top. The long white and yellow Turnips of the French do not find favour in this country and are not grown, or if so, only to a very limited extent.

It must not be forgotten that Turnip-tops are a favourite spring or early summer vegetable with some. Turnips left in the ground all the winter throw up flowering stems in spring the following year, and if these are picked young and succulent and boiled, they make a wholesome vegetable. A mistaken idea connects vulgarity with the tops of the Turnip, but it is more a matter of prejudice than of opinion. The secret of Turnip-growing—if there is one—is rapid and good cultivation. One must not expect to rear succulent roots on poor soil. A good loam well manured will produce Turnips of high quality, provided the seed sown is of a good stock. Turnip seeds may be sown in the open from March until the end of August. Previous to March the seeds should be sown on a prepared bed in a frame. It is not easy to force good Turnips; it is a root that does not readily lend itself to this method of cultivation. Hard forcing will cause the plants to run to leaf instead of to bulbs. It is recommended that a very gentle hotbed be made up in February or March; a frame should be placed on this and the seed sown thinly. An abundance of air is necessary as soon as the young plants are well through the soil. There should be no coddling, and covering of the frame is necessary only if sharp frost should set in. The plants should be thinned out to a few inches apart, and pulled for use as soon as they are large enough. R. D.

The Potato crop in the Fen district.—The excessive rainfall of the past few days has caused serious anxiety with regard to the safety of the Potato crop in the fen districts of Lincolnshire and Cambridgeshire. The disease has already been detected in several places, though at present it has not spread to any alarming extent. Prior to the wet the crops gave promise of being the heaviest and best experienced for some years.

## ORCHIDS.

### PAPHINIAS.

THE plants which belong to this genus have by some been placed with Maxillaria, and again they have been placed under the genus Lycaste. A few species only are known, and these come from warm districts in Trinidad, Demerara, and New Grenada. I have found them succeed best in the East India house with plenty of heat and moisture. They are small-growing plants, and do not occupy much space. I have always found them do best when grown in small hanging earthenware pans nearly filled with drainage material. It is far best not to overburden the roots with soil, using just a little peat fibre and chopped Sphagnum. The plants must be elevated upon a mound of crocks, so as to allow the flower-scape to have a clear and open space to grow in a downward direction. Paphinias do not require any drying through the resting season, although, as a matter of course, less water is necessary, and a lower temperature must be maintained. The following kinds are most commonly seen in cultivation, but a few other species are known:—

P. CRISTATA is a small plant, seldom exceeding 6 inches or 8 inches in height; the pseudo-bulbs are small, the leaves strongly ribbed, thin in texture, and bright green. The scape, which proceeds from the base of the pseudo-bulb at the side, is pendent, and bears three flowers, which each measure as much as  $3\frac{1}{2}$  inches across. The sepals and petals are nearly equal, spreading, thick and fleshy in texture; ground colour creamy

white, thickly covered with transverse lines of dark chocolate; lip smaller than the petals, of a deep blackish purple; column large, yellow. This plant used to be common in the island of Trinidad, and it also occurs in British Guiana.

P. CRISTATA RANDI.—This plant resembles the type in its colour, but the streaks are not transverse, being in broad bands of purplish chocolate and cream colour, which are continued along the length of the sepals and petals. This plant appears to have been found in British Guiana.

P. GRANDIS.—Never perhaps has a specific name been better applied than to this plant. The manner of growth is similar to that of the last named, but rather more robust; the scape bears two and three flowers, each of which measures 7 inches across; the sepals and petals are not so much expanded as in cristata, but they are much broader, the upper half being wholly chocolate-purple, the lower half streaked with broad transverse lines of creamy white, the margin bordered with the same colour; the side lobes of the lip are of a reddish brown, blackish purple at the base, passing into a cream-coloured disc, and terminating in a tuft of cream-coloured hairs. From the warm parts of Brazil.

P. RUGOSA.—This is a very rare species, which sometimes bears the name of its importer, Sanderiana. It resembles P. cristata in the habit of growth; the scape bears two flowers, each about 3 inches across; the sepals and petals are rich creamy white, marked with dots arranged in longitudinal lines of reddish purple. The lip is somewhat deficient in shape, reddish purple in colour, with a white tuft of hairs at the point. It likes shade from the direct rays of the sun. It comes from Colombia. WM. HUGH GOWER.

Catasetum fimbriatum.—A fine spike of this plant comes from Mr. Davidson, Blandford. He says the plants were gathered by Lord Wolverton in Mexico, and they flower very freely on blocks of wood in the plant stove. I do not think it is quite the same plant as I used to know by the name of fimbriatum, the sepals and petals being green spotted with dull purple; the broad lip is also green tinged with pink at its base, the edge prettily fringed or toothed. I should think it comes near to the variety called fimbriatum viridulum. I have one or two other species of these plants to hand from other readers, and I am glad to find Catasetums are again exciting interest.—W. H. G.

Dendrobium Phalænopsis and its variety Schroederianum.—A magnificent display of these flowers comes from Mr. Cypher, of Cheltenham. This is really a very grand Orchid, some of the rich deeply coloured flowers measuring upwards of 3 inches across, the sepals and petals being broad, the lip large and very dark. Among the flowers sent are some quite pale forms, some appearing to be the typical plant, and others much paler. I do not find the fine form shown by Mr. Sander this season under the name of dellense. This fine plant has fulfilled everything its introducer claimed for it, but I do not think that even he dreamt it could be either so easily grown or flowered so freely.—G.

Phalænopsis Luddemanniana.—C. Jamieson sends me a flower of a very fine variety of this plant, which was introduced by the Messrs. Low nearly thirty years ago from the island of Luzon, where it was found growing very abundantly. There are many varieties, but they differ only in the colours and markings. The flower now before me is nearly 3 inches across, thick and fleshy in texture, the petals slightly smaller than the sepals, the ground colour white, tinged with purple, but becoming quite white at the margin, with numerous dark wine-coloured transverse bars and blotches. The lip is very dark violet.—W. H. G.

Catasetum Gnomus (E. Bishop).—The two flowers you send of this species are quite enough for me to identify it, and I by no means require



the spike. It is a very curious and exceedingly pretty kind, the flowers being reversed on the spike; the petals, which are of a dull brown, spread out like wings, the sepals all standing parallel with the column which points downwards; these are green with transverse blotches and spots of dull brown; the column is green and the lip is helmet-shaped, yellowish-white, dotted with red, the outer lobe pure white, fringed. It is a very weird-like plant. My friend says his plant has two spikes, each bearing a dozen flowers. The treatment has been quite right—W. H. G.

## FERNS.

### CHOICE DAVALLIAS.

DAVALLIAS have always been great favourites of mine. The species comprising this genus are widely distributed; consequently there are many that are very ornamental in the warm fernery as well as in the temperate house. All are beautiful whether treated as basket plants, or as pot specimens, or when planted out on the rockwork of a naturally arranged fernery. The rhizomes must always be on the surface of the soil. I call attention to this, which I should have thought unnecessary, through having visited a place a week or two ago where the gardener had potted two plants of *D. canariensis*, covering up the chaffy rhizomes with soil. He said they caused him a lot of trouble because they had been left so long out of the soil. Davallias may also be used for the ornamentation of a Wardian case for room decoration, and in this position form beautiful objects if properly attended to during their growing season. The fronds of many of the Davallias are also very useful for cutting. To grow these plants into specimens is a matter of the greatest ease, provided the pots or pans are well drained and the plants raised up a little above the pot's rim. The soil should consist of turfy loam and fibrous peat broken or chopped up roughly, giving an abundance of water when growing and keeping the atmosphere tolerably moist, with an abundance of fresh air. The following are some of the most beautiful kinds:—

*D. BULLATA*.—When planted at the base of a branching stump this makes a beautiful object. Its slender rhizomes climb over and about it, and during the spring and summer season clothe it with beauty. The numerous fronds are each some 18 inches or 2 feet long, 6 inches or 7 inches broad at the base, and bright green in colour. These may be used for cutting. This species is deciduous, losing all its fronds in winter. During the time it is at rest it should be kept moist. It is a native of the East Indies.

*D. CANARIENSIS*.—This has been in our gardens nearly 200 years, its bright green fronds finding admirers even in these days. It makes an admirable plant for planting in a rockery in the conservatory, while it also does well in a basket. The fronds are finely divided, about 18 inches in length and some 8 inches or 9 inches wide, deep green on the upper side, the lower covered with dark red sori. Native of Spain, Portugal, the island of Madeira, the Canaries, &c.

*D. DISSECTA*.—A plant that would appear to be very near to *D. bullata*, which it resembles in general habit. It is not, however, a deciduous plant; the scales on the rhizomes, too, are different, being of an ashy grey. The fronds are usually longer and not of such a lively green as those of *bullata*. The fronds of the form of this plant known as *decora* are broader and the stem is shorter. This useful and ornamental plant is a native of Java.

*D. DIVARICATA*.—This is a large-growing, handsome species, making fronds from 2 feet to 5 feet in

length; these in the young state are deep purplish-red, changing as they get older to bright shining green. It has a stout scaly rhizome, and presents a beautiful appearance when growing. It comes from Java, &c.

*D. LINDLEYI* is a beautiful Fern seldom seen in our gardens. It is a strong-growing plant, making rich shining green fronds each about 3 feet in length; these are smooth and shining. The creeping rhizome is stout and densely scaly. It is a beautiful and ornamental plant, which has been much misunderstood. Native of the Fiji Islands.

*D. FIJIENSIS*.—Some few years ago we were indebted to Mr. Bull, of Chelsea, for the introduction into cultivation of this fine Fern and the variety *plumosa*. Dried specimens of both these plants, collected by my friend Milne, had been in my possession for many years. They certainly are amongst the most handsome Ferns at the present moment. The fronds attain a length of some 18 inches or 2 feet, and are very finely divided. Fiji Islands.

*D. ORNATA*.—The fronds of this are bright shining green in colour, varying from 18 inches



*Davallia fijiensis*.

to 2 feet in length. The lower pinnæ each measure upwards of a foot long, whilst the ultimate pinnules are about 2 inches in length and about three-quarters of an inch in width. This is a noble and majestic form, a great ornament to the stove fernery. It comes from Borneo and Singapore.

*D. PYXIDATA*.—This plant is a special favourite of mine. Its rhizomes, which are stout and erect, so that the plant has quite a shrubby habit, are very scaly, and rise to the height of some 3 feet or more. The fronds are smooth, of a light green colour. It is one of the most distinct of the family. Native of New South Wales.

*D. PENTAPHYLLA*.—This plant was introduced about forty years ago by my late employers, the Messrs. Rollisson, of Tooting, from Java, through Henshall, who was then collecting for them. It is a very distinct and pretty Fern, growing about a foot high. Usually two pairs of pinnæ and a terminal one are developed, but I have seen an occasional frond with three pairs. These pinnæ are each some 4 inches or 5 inches long, the colour very dark green above, pale green beneath.

*D. SOLIDA* is said to merge into *D. ornata*. Its fronds are each from 1 foot to 1½ feet long, varying much in width, colour dark green. It seems to be widely distributed in the Malay Archipelago.

W. H. GOWER

## CHRYSANTHEMUMS.

### CULTURAL NOTES.

BUSH plants intended to produce a quantity of bloom in preference to individual quality are now growing apace. In the case of Lady Selborne, one of the best varieties for the purpose, buds are now forming at the points of the shoots. The plants, having been topped twice from the cutting stage, now average a yard in height. The flower-buds should be promptly removed, allowing the growths which are now pushing from the nodes below the buds to extend at will. These in time on each shoot will give numerous flowers, which are extremely useful for cutting and filling vases. The long stems come in so handy, that a much

better effect in arrangement is obtained than where the stems are so short, as is the case when the shoots are continually topped to induce a dwarf habit combined with a quantity of flowers. Where the bushes have from ten to twenty shoots each, some support will be necessary to prevent the branches breaking off at their axils. Four stakes thrust into each pot, leaning them outwards and fastening bast around them, is the easiest method of supporting the branches. Pompons, Anemone pompons, and single varieties growing in 7-inch and 8-inch pots intended to produce both a quantity of flowers and some few for quality only, the whole having been allowed to grow with one stem from the cutting until the first natural break occurred, have now made their second break, the plants averaging 4 feet high, and promising an abundant display later on. This is one of the best methods of cultivating Chrysanthemums to produce a full display of useful flowers either for cutting or the decoration of the greenhouse or conservatory. Growing in such small pots, the plants are easily arranged in a mass, which is perhaps the best way of disposing of them when in bloom. Where such small pots are employed it is necessary to pay rather more attention to watering and feeding than where larger pots are used.

Plants on walls are now growing freely and need attention in securing the shoots before they become crooked, in which state they never look so well afterwards. Many sorts are now forming their crown buds. Quantity rather than quality should always be considered in those plants grown against a wall, not only because they make a brighter display, but because small flowers are not affected nearly so much by the weather as are larger ones. The recent dry weather is now having its effect on plants which did not receive a free supply of water. Mildew on the leaves is now apparent as the result of dryness. If those affected are promptly dealt with by the aid of the mildew mixture described frequently by me, they will not suffer much from the attack of this parasite.

In many collections of plants grown mainly for large blooms I notice a good many plants are already unfolding their flowers much too early if they are needed for exhibition at any date in November. No doubt the extra dry and warm weather experienced at various times during the year is answerable for this premature development more than any defect in culture. It is perfectly useless to attempt to retard such flowers as these by leaving the plants out of doors longer without some protection from night dews or rains; much better place all such plants under cover in the greenhouse or vinery and encourage the blooms



to develop in the natural manner. As I previously stated, directly the florets commence to unfold, the plants should be taken inside. To retard any before they reach that stage a good plan is to procure strips of stiff brown paper 2 inches wide and 9 inches long. Bend these paper protections over the expanding buds in the form of a loop, securing both ends to the stake which supports the peduncle. The south-westerly gales experienced last week have wrought sad havoc with the points of many plants grown to give large blooms. Especially has the Princess of Wales family suffered in this respect. One gardener of my acquaintance complains of having lost over sixty points from this family alone. This must be very serious to an exhibitor, because every point means the loss of a flower-bud. I cannot but say much of this loss is due to neglect in securing the points to their supports as fast as growth is made. I know that some growers are averse to so tightly fastening the points; they prefer to have them loose 6 inches or 9 inches. Now surely this is an error, as the leaves when hanging downwards not only collect a weight of water, but are easily blown about, the extra weight very often proving too much for the succulent state of the stem. My plan is to make them fast to the stakes as they grow, and as a result from the 800 plants I am growing, I have not lost ten shoots from the effects of the gales as compared with that unfortunate man who lost sixty from one family.

In the case of any of the Princess of Wales family, which have longer peduncles than any other sort in the incured section that I am acquainted with, I advise that when the flower-buds are of the size of small Hazel nuts, a piece of builders' lath a quarter of an inch wide and 6 inches long be used as a support to the peduncle; secure one end to the branch, the other being made fast immediately under the flower-bud. In this way every one thus treated will be saved from the fury of any gale of wind which, if it did not actually snap off the shoots, might injure the peduncle or the bud by chafing the bark in such a manner as to check the swelling of the buds. To some this may appear of little moment, but having gained experience in this particular phase of culture, I have no hesitation in advising others how to avoid such casualties. Some kinds are not yet showing their crown buds, owing to the plants being in a somewhat backward state. With a view to push them on a little, a few doses of sulphate of ammonia would be a gain. Dissolve one tablespoonful in four gallons of liquid manure, and apply it to the plants once a week.

In the case of new or scarce varieties, it is very often a difficult matter to procure stock enough from cuttings at the ordinary time—December. Anything that can be done at this period to lessen the difficulty will be time well spent. Many of the new kinds are now throwing up stout suckers from the base of the plant; from these if taken off and rooted, afterwards shifted into 4-inch pots, restricting the growth to one stem, many extra cuttings would be available. Take that new incured variety Mrs. Robinson King, for instance. There is certain to be a run on this in the coming season, and so there will be on Mlle. Marie Hoste and J. Stanborough Dibbens, two most promising Japanese varieties for the coming season. Any preparation made in this way would be of advantage. Pay attention to the correct naming of the new varieties, especially to avoid confusion in nomenclature, as if any sort is wrongly named on the exhibition table, the name is copied and plants are ordered from the description; but when they flower in the following year, the error is detected, but not early enough to avoid disappointment. The correct naming of the plants is of more importance than many seem to think it is.

E. MOLYNEUX.

**Bush Chrysanthemums.**—In these days when one needs a ladder to get up to disbud these plants in the open, and a platform to see them in flower in November, it is pleasing to find something like a protest and reaction set in against single blooms

on single stems in the air. It is refreshing to find in these times that a reaction seems setting in in favour of bush Chrysanthemums. Enormous quantities of very fine plants are grown at Syon House, and the Chrysanthemum of all heights and sizes is an important factor in the furnishing of the huge conservatory. It was gratifying, however, to note among the plants that lined the walks in the kitchen garden such a large proportion of bush specimens. All the plants were characterised by great vigour and the most robust health, and will certainly give a good account of themselves through the November fogs.—D. T. F.

**Chrysanthemum Lady Fitzwigram.**—Although the early flowering section is not so highly favoured as the November or late-flowering kinds, such a sterling novelty as the one above named is sure to be sought after and appreciated. I know of no sort which is deserving of attention as an early flowering variety more than this, as it possesses all the essentials required. It is a seedling raised by Mr. Agate, Havant, and partakes of the character of Avalanche in the flower, with perhaps a trifle more looseness in the petals, which are snowy white. Fully developed flowers measure from 4 inches to 5 inches in diameter. The habit of growth is everything to be desired, plants not more than 15 inches high flowering freely in pots.—E. M.

## THE FRUIT CROPS.

### NORTHERN.

**Aldin Grange, Durham.**—In answer to your inquiries, I beg to say that Gooseberries, Currants, and Raspberries are an unusually good crop with us this year. Apples and Pears almost a failure in some gardens, in others fairly good. Strawberries have been perhaps a trifle below the average for flavour and bearing. Garibaldi is still the best; in fact after trying over thirty kinds, I shall grow nothing but Garibaldi, President and Loxford Hall Seedling. I find nothing equal to President for a mid-season dessert fruit, while for a late variety there is nothing I have found in all points equal to Loxford Hall. I make a fresh bed annually in August for fruiting the following year, while at the same time a plantation is made for the purpose of procuring runners; this is most important where a good supply is wanted annually. I should have said the flowers are pinched off as soon as they appear.—W. A. JENKINS.

**Chetwynd Park, Newport, Salop.**—As regards the fruit crop in the gardens here, I am sorry to say it is the worst we have had for the last nine years. Apples are very thin, not half a crop. Pears and Plums almost a total failure. Apricots very poor. Gooseberries very poor. Currants very good. Damsons scarcely any. We had a fine show of blossom, but the late frosts did a lot of injury. Strawberries have been a good average crop.—N. SHERWOOD.

**Alnwick Castle.**—The crop of Apples is very irregular this season. Of Pears the crop is very light; last year we had a very heavy crop, but this spring the trees did not bloom well. Plums on walls are splendid, and Victoria in strong land is bearing a heavy crop. Cherries on walls are very fine; May Duke is the best here; in fact it never fails to bear a crop. Peaches are a full crop and looking well; Royal George is thoroughly reliable outside. Apricots are a full crop, trees healthy. Black Currants are very fine. Gooseberries, too, are very heavy crops. The crops on several varieties, such as Sulphur Yellow, Glenton Green, Alma, Warrington, Whitesmith, Leader, Crown Bob, and others, are quite exceptional in quantity and quality. Raspberries are a good crop. Strawberries under average and of poor flavour.—G. HARRIS.

**Hummers Knott, Darlington.**—Apples much under average both in quantity and quality. Early Pears good crops, late varieties very thin. Victoria Plums heavy, other varieties average. Small fruits abundant and of fine quality.—J. SHORT.

### EASTERN.

**Livermere Park, Bury St. Edmunds.**—Spring frosts again had a bad influence on the fruit crops. Apricots under three-fold fish net and in still dry weather succumbed to 13° of frost on the morning of April 15 (Good Friday). We had a splendid set and the fruits were then larger than Peas, but most of them were blackened right through and the bigger ones were split to the embryo kernel on one side. Gooseberries in the open were badly cut; those in sheltered positions, however, have carried extra heavy crops. Currants, too, lost the flowers on the points of the bunches. Plums on walls were already set; consequently they were nearly all killed. Apples are slightly under average, and the crop is very irregular; many trees are heavily laden with fruit, others have none at all. Manks Codlin is good, as usual, and I take this to be by far the best and most reliable early kitchen Apple, and one to be strongly recommended for planting by cottagers and all who want a quick return for outlay. Large-fruited kinds, such as Blenheim Orange, Wellington, New Hawthornden, &c., are rather sparsely fruited, Wellington being the best. Pears are under average and irregular, but better than last year. The best crops of dessert fruit are on Louise Bonne of Jersey, Beurré d'Amanlis, Williams' Bon Chrétien, and Thompson's. Marie Louise and Fondante d'Automne are almost complete failures. Apricots much under average, only a few escaping the frost. Plums on bush trees are over average; many trees require thinning; but this heavy crop is by no means general in the neighbourhood, where I hear complaints of a complete failure. Strawberries average, and the season was extended over a longer period than usual. Cherries (sweet and Morello) over average and fine. Figs are very poor outdoors, as the wood did not ripen at all well last autumn. Red and White Currants slightly under average. Black Currants a heavy crop of fine fruit. Medlars over average. Peaches and Nectarines good, and I find these far more reliable than Plums or Apricots on outside walls. Grapes under average, poor and late outside; no crop worth mentioning since 1887. Filberts much under average. Walnuts a heavy crop. Quinces over average. Tomatoes under average, very few having set since the plants were put out; those set previously have swelled to an enormous size and many have ripened. As usual, out of many kinds the best are Conference and Horsford's Prelude, and with these I have no reason to complain. I intend discarding the latter and growing very few others but Conference in future, as those of the Perfection, Hackwood, and Ham Green types are not free enough for such summers as we have had lately. Conference comes midway between Horsford's and these in size; the fruits are well shaped and of the most useful size of any.

Potatoes are good; the haulm is now becoming badly affected by disease, the first to suffer being Snowdrop; but the quality of this is so good and the haulm-growth so suitable for garden crops, that it must not be discarded. Sharpe's Victor proves to be a splendid first early kind. The Gentleman appears to have much of the Magnum blood in it, and is not yet affected by disease. Onions are generally poor in the neighbourhood, but over the average with me. Many beds were ruined with the maggot early in the season. Peas have been very good, but mildew is now very prevalent. Latest of All looks promising.—J. C. TALLACK.

**Brandeston Hall, Wickham Market.**—In answer to your inquiry as to the prospect of the fruit crop, wall fruit with me is very thin; many dropped off after the late frosts in the spring. Pears are quite a failure with me, and I think generally so in this neighbourhood. Plums very thin. Apples thin; a few trees with fair crops upon them. Raspberries not a good crop. Strawberries abundant, very fine and good both in size and flavour. I grow Dr. Hogg, which I think one of the best for flavour. I likewise grow Sir Joseph Paxton, John Powell, President, and Waterloo, but Dr. Hogg and Sir Joseph Paxton form my principal



crop, as they are the best liked here. This year my Strawberries have been very large and fine from the plants which I planted out last summer on land deeply trenched and well manured with good rotten manure from old Cucumber beds.—**Geo. COOPER.**

**Bayfield Hall, Holt, Norfolk.**—The fruit crops in this district are very fair in some places. Apples are abundant. I have got an excellent crop of Pears; in some gardens they are very plentiful; others have very few. Plums are scarce. Cherries good, especially Morellos. Apricots are bad. Peaches and Nectarines very good outdoors. Currants and Gooseberries are a good crop.—**JOHN CHASTNEY.**

**Culford Gardens, Bury St. Edmunds.** Apples are very partial, some trees being heavily laden, while others are entirely without; the late kinds are best, but on the whole the crop is under average. The same may be said of Pears, and Plums are almost a failure. Apricots are not a heavy crop, but very fine fruit. Peaches and Nectarines are very good; indeed only require a fair amount of sun to ensure success. Morello Cherries are also very abundant. Strawberries and bush fruits in general have also been good. Nuts rather thin.—**W. HARWOOD.**

**Shrubland, Needham Market.**—The fruit crops here are perhaps the worst that we have had for the last thirty years. Only a few Apples and Pears have half a crop. Plums are a failure both in the orchard house and the open air. Small fruits were plentiful, especially Strawberries, which were large and fine, but the heavy rains we had spoiled a large portion of the later sorts, which were soon over. British Queen is the best flavoured Strawberry that I have tasted. It always bears well here. I have none of the newer sorts and cannot speak of their merits. Vicomtesse H. de Thury is the best general cropper, and Dr. Hogg a good late. I force 500 or 600 plants every year, which I plant out in July for the succeeding year's crop. I only take two crops from the turned-out plants. The fruit crops in this neighbourhood are partial; some trees have a fair crop, but most of them are without any. The Apple crop being so scarce is a loss to the country, and is felt by every one, especially by the working classes.—**THOS. BLAIR.**

**Ashby Hall, Lincoln.**—Of Apples and Pears I do not remember to have seen such a poor crop. This I attribute to the wood not having been well ripened last autumn. Plums are a medium crop. Apricots and Peaches a failure. Cherries a medium crop. Gooseberries, owing to the birds and late frost, about half a crop. Red, White and Black Currants and Raspberries very good. Strawberries very good.—**D. MCINTOSH.**

**Riddlesworth Hall, Thetford.**—The Apple crop in this district is generally light, but some trees have a fair crop. Pears are much below the average. Plums are very scarce; some trees have none on. Apricots none and shoots dying off. Desert Cherries good; Morellos very good. Peaches and Nectarines above the average and very good. Raspberries plentiful. Currants, Black, Red and White, are a very good crop, and Gooseberries very abundant. Strawberries have been very good and fine. Of early kinds we grow Noble, Captain, Pauline and Garibaldi; main crop, Keens' Seedling, Sir Harry, President and Sir Joseph Paxton; late sorts, British Queen and Loxford Hall Seedling. I always plant Strawberries after Potatoes, and they do well.—**J. HENDERSON.**

**Bloxholm Hall, Lincoln.**—The fruit crops altogether are the worst I have seen for many years. Apples, Pears, and Plums are not one quarter crop, although we had an abundance of bloom, but the severe frosts coming on when the blossom was just expanding the greater part was destroyed. Of Gooseberries we had an excellent set of fruit, but we had 20° of frost when they were just forming, which brought part to the ground and only about one quarter of a crop remained. Peaches and Apricots on walls where protected with frigi domo are a good crop and

quality good; where not protected the crop is very poor. Strawberries were an excellent crop and of good quality.—**D. L. MASON.**

**Babraham Hall, Cambridge.**—The fruit crop in this district is very poor in most cases. Apples, Pears, Plums, and Apricots are not half crops; in fact, only those trees (except Apples) that were well protected carry any fruit at all. There was plenty of bloom, but the severe frost was too much for it. Some Pears set well, but got frozen through. Apricots as large as nuts were frozen quite through. Peaches having been protected are carrying good crops, although the wood ripened badly last year. Currants, Red and White, are fair, but very much thinned; Gooseberries the same. Black Currants and Raspberries were good. Nuts a good crop. Strawberries were a heavy crop, although some sorts got killed in the winter. James Veitch suffered severely. I had a large plot of two-year-old plants quite destroyed. Vicomtesse Héricart de Thury and Sir Joseph Paxton seem to stand well.

The Potatoes are turning out well and clean, free from disease as yet.—**J. HILL.**

**Woolverstone Park, Ipswich.**—Pears and Apples are very thin indeed in this district; some trees are entirely without fruit, while others have only a few, but here and there a tree may be met with that is carrying a full crop, the sorts being mostly of the Keswick or other Codlins, which seem to have escaped the frosts better than most others have done. Currants, Gooseberries and Raspberries have been abundant and good, especially the last mentioned, which were particularly fine. Hornet and Superlative bear remarkably large fruit and succeed each other, thus prolonging the season greatly and giving a supply much later than used to be the case.—**J. SHEPARD.**

**Hunstanton Hall, Lynn.**—Apples and Pears a failure. Plums very few. Cherries a good crop. Gooseberries above average. Raspberries above average; very good. All sorts of Currants heavy crops and very good. Apricots very few. Nuts average crops. Strawberries have been plentiful and very good. The best variety for general crop in this neighbourhood is President. For early produce I find Laxton's Noble as good as any. Sir Joseph Paxton does well here.—**G. NISBET.**

**Sudbourn Hall, Wickham Market, Suffolk.**—I cannot speak very favourably of the fruit crops, especially Apples. I have only a few varieties really good this year, viz., Cox's Orange Pippin, Worcester Pearmain, Keswick Codlin, Lord Grosvenor, Lord Suffield, Ecklinville Seedling, Alexander and Maltster. Pears on walls are a fine crop, but very indifferent on standards or bushes. Plums under average. Cherries fairly good, especially Morellos. Peaches and Nectarines very good. Bush fruit very good, especially Currants, Gooseberries, and Raspberries. Strawberries quite an average.—**W. COLLETT.**

**Hardwick Hall, Bury St. Edmunds.**—Apples a failure with the exception of Pyke's Pearmain. Pears a failure. Plums very thin except Damsons, of which we have a moderate crop, and which are very extensively grown in this part. Cherries very thin. Nuts very thin. Raspberries plentiful and good. Gooseberries fair crop. Red Currants thin. Black Currants heavy. Strawberries a fair crop. The varieties that do the best here are, for early, John Ruskin; midseason, Vicomtesse H. de Thury, Sir J. Paxton, Helena Gloede, followed by Waterloo, which does remarkably well. Our soil is a brown clayey loam resting on the magnesian limestone.—**E. WILSON.**

**Euston Hall, Thetford.**—Apples, with the exception of Lord Suffield, Keswick Codlin, Worcester Pearmain and one or two other early sorts, are much under the average; notably amongst the later kinds Court Pendu Plat is bearing a full crop. Pears are much under the average. Apricots are a failure, as well as Plums on walls, and the crop of the latter on standards is a medium one. Peaches and Nectarines are good and the trees are

in excellent health. Currants of sorts and Raspberries have been very good, but Gooseberries are scarcely up to the average.—**W. LOW.**

**Melton Constable, Norfolk.**—Apples, Pears and Plums are under the average in this district. Bush fruits a full crop and good. Strawberries not quite up to the average. President, Keens' Seedling, Vicomtesse H. de Thury, and Sir J. Paxton have done best.—**WM. SHINGLES.**

**Kimberley, Wymondham, Norfolk.**—Fruit crops are variable in this district. With me Apples are very good; Pears good on walls; Plums a few on walls; Apricots a very thin crop. The trees were full of bloom, but the late frosts destroyed all chance of a crop of fruit. Peaches and Nectarines abundant; Figs abundant; Raspberries a good crop; Gooseberries abundant; all kinds of Currants abundant; Strawberries abundant; Nuts scarce; Walnuts abundant; Medlars a good crop.—**W. WAINWRIGHT.**

**Drinkstone Park, Bury St. Edmunds.**—Apples about half a crop, but variable and scarce in general. Apricots very few. Pears one third of crop, generally scarce. Peaches and Nectarines fairly good. Plums very few of any kind. Cherries poor here, but good in places. Figs half a crop, late. Strawberries poor, good in places. Raspberries very good. Currants, Red, Black and White, good crops of fine clean fruit. Gooseberries heavy crop. Walnuts heavy crop, in enormous clusters.—**G. PALMER.**

**Harkstead Rectory, Ipswich.**—Pears below average; Apples very poor crop; Peaches and Nectarines average crop; Cherries above average and good; Plums below average; bush fruit average; Strawberries heavy crop. Sorts most favoured are Vicomtesse Héricart de Thury, Laxton's Noble, British Queen and Keens' Seedling.—**G. JORDAN.**

#### WALES.

**Margam Park, Glamorganshire.**—On the whole, the fruit season is a good one here, and I regard it as being above the average. Strawberries were plentiful and good; Laxton's varieties are favourites in Wales. Currants, Gooseberries, and Raspberries were abundant, and all secured in fine condition. Morello Cherries never fail, but other varieties rarely succeed. I do not know of one instance where Apricots grow well in this county. I have given them up. Plums have been excellent. The Victoria, Magnum Bonum, Kirke's, and Jefferson are all bearing freely. Pears bloomed most freely, but were caught by a severe frost, the result being that they are a very poor crop both on wall and standard trees. Apples are a remarkably fine crop, but they are hardly up to the average in size, and as we are now experiencing rather cold weather, I fear they will not improve much during September. King of the Pippins is one of our best sorts on old trees. Peaches and Nectarines in the open are very good. We began gathering the Alexander Peach on a south wall in July, and will have Sea Eagle into October. Early Silver, a kind recommended to me by a noted grower in the north, is prolific, but somewhat deficient in flavour.—**J. MUIR.**

**Powis Castle, Montgomeryshire.**—Although all fruit trees bloomed very late, yet we have but very poor crops. Apples and Pears alike are failures. Plums partial; good in some places, but as a rule a failure. Apricots killed after getting a good size. Peaches and Nectarines fair crops. Strawberries good; in early part of season rather small owing to drought, but late sorts very good. Red Currants very heavy; Black, light crop. Gooseberries half a crop. Cherries under average. Raspberries very good.—**JOHN LAMBERT.**

**Castle Gardens, Cardiff.**—The Apple crops in this district are very good. The trees escaped the early spring frosts when in flower, and set an abundant crop. Ecklinville Seedling, Lord Suffield, Lord Grosvenor, Keswick Codlin, Emperor Alexander, Pott's Seedling, Cox's Orange Pippin, and



Blenheim Orange are so heavily laden as to require props to support the branches to keep them from breaking. The fruits are clean and free from blemish of any kind, but great quantities of the heaviest fruit have been blown off the trees by recent storms. Pear trees trained on walls and in the open quarters of the gardens never promised better for an abundant crop than they did in the early part of the season. The trees were literally covered with strong healthy flowers, which to all appearance would have set well had it not been for the sharp frost we experienced on the morning of April 15 when they were in full bloom. It destroyed the organs of fructification, and the crop with a few exceptions is a complete failure.—A. PETTIGREW.

**Pen-y-wern, Aberystwith.**—The fruit crop in this district is a very fair one. Apples are very poor as a whole. Some kinds are very good, especially Wadhurst Pippin, Juneating, Golden Noble, Keswick Codlin, Lord Suffield, and a few local kinds. Pears are poor; Nouvelle Fulvie is an exception, it having a very good crop. Raspberries have been a grand crop. Currants, both Black and Red, have been a good crop. Gooseberries were a fair average crop, but not so good as usual. Damsons are very light. Plums are very partial.—G. GRIFFITH.

**Slebeck Park, Pembrokehire.**—Apples are not an average crop this season. The trees bloomed fairly well, but strong winds, cold weather, and slight frosts at night destroyed the crop. The best variety to stand the adverse weather was, as usual, the King of the Pippins; of this sort we have a full crop. It is not a large variety, neither is it very good for dessert, but owing to its cooking qualities, pretty appearance, and productiveness, it is one of the most useful sorts we have; it is also very hardy. Other varieties of which we have a partial crop are Alfriston, Hawthornden, Keswick Codlin, and Wellington. We have scores of others in the orchards with not a fruit on them. Apples on walls are a good crop, every variety fruiting well. Pears are also below average; we had very severe frosts when they were in bloom. We have a few fruit on the earlier blooming varieties, which were set when the frosts came; the hardiest appear to be Josephine de Malines, Nouvelle Fulvie, Louise Bonne de Jersey, and Pitmaston Duchess. Plums are a complete failure; they bloomed splendidly, never better, but we had heavy falls of snow and 10° of frost when they were in flower and these finished them, every variety alike. Damsons which bloomed late this season are a light crop. Currants were a heavy crop. Gooseberries were destroyed by the caterpillar all over the county. Peaches, Nectarines and Apricots are not grown to any extent worth mentioning in this county. Nuts are an average crop. Strawberries were an average crop this season in this district.—G. GRIFFIN.

**Bodnant Gardens, Eglwysbach, Denbighshire.**—Pears total failure. Apples under average; fair quality. Plums very poor; moderate crop on south-west wall. Apricots failure. Currants heavy crops. Gooseberries under average. The Raspberry canes were nearly all destroyed in the winter. Strawberries fair crop. A frost on April 13 of 14° after sleet and rain destroyed the fruit prospects.—J. SAUNDERSON.

**Tan-y-bwlch, N. Wales.**—Fruit, taken altogether, is a very light crop in this district. Of Apples, had it not been for such as Keswick Codlin, we would have had none. Several kinds cropped heavily, but owing to high winds and stormy weather they were severely thinned before arriving at a serviceable and useful size. Pears are also much under the average, and the same remarks apply to these as to Apples, but further, they are rather small and scabby, while what few Apples we have are good samples. Plums a very light crop. Raspberries the same. Gooseberries about half a crop, with caterpillars innumerable. On the other hand, Black, White, and Red Currants were a splendid crop of superb quality. Of Strawberries, owing to injury to the blossom caused by the late frosts and easterly winds, early varieties, such as

Sharpless, Pauline, La Grosse Sucrée, &c., carried hardly any fruit, while midseason varieties, including Auguste Nicaise, Marshal MacMahon, Charles Napier, Unser Fritz, &c., were but a trifle better; but the later varieties, Eleanor (syn., Oxonian) and Loxford Hall Seedling, had fairly good crops, and prolonged the season to an unusual extent.—J. ROBERTS.

**Penrhos Gardens, Holyhead.**—Peaches under glass excellent. Apples are a very fair crop, rather above the average. Pears are a very good crop on young trees, especially Williams' Bon Chrétien and Souvenir du Congrès. Plums are a fair crop. Gooseberries, Currants and Raspberries abundant. Strawberries a very good crop. My mode of treatment is to plant a fresh lot every year and not allow them to fruit after the third season. The kinds which do best here are President and Keens' Seedling for earliest, and Frogmore Late Pine for the latest supply. It is an excellent cropper and splendid in colour.—F. W. EVERETT.

#### SCOTLAND.

**Broxmouth Park, Dunbar.**—The very cold and changeable weather in spring during the

fruit crop taken as a whole can be described as a good one. Old trees have almost invariably failed, while, on the other hand, young trees of a bearing size are the ones which are carrying fair crops, and, as a matter of course, in all sorts of fruit the closely selected collections are again exhibiting the advantage of cultivating alone the best sorts. With regard to the Strawberry crop, it has been 30 to 50 per cent. below the average. A sharp frost while the earlier flowers were open did much harm, and a spell of dry weather following had an injurious effect on the later-set fruit; so that in addition to the crop being short in quantity, it has at the same time been poor in quality and of short duration.—R. P. BROTHERSTON.

**Terregles Gardens, Dumfries.**—The fruit crops in this district are variable, and on the whole rather disappointing. Apples are a very good crop and the fruit is swelling and colouring well. Pears are very poor and the fruit small. Plums over the average. Cherries average. Gooseberries and Currants very good. Raspberries thin and very late. The Strawberry crop has been a very unsatisfactory one; early varieties were very small and soon over; later sorts were much better in size and quality. The best kinds for flavour and bearing here are The Countess, Sir Joseph Paxton, Elton Pine,



*Davallia canariensis* (see p. 303).

flowering period has been very trying to our fruit crops, more especially to Pears and Apples, which over all are under average. Apricots are a heavy crop and look well, though later than usual. Peaches and Nectarines on open walls are fine upon young trees. Early Cherries were good, but Morello and late sorts are not so promising. Plums, except Victoria, are very light. Gooseberries are not quite so heavy as usual, but fine in quality, and all the other small fruits are in great abundance. The Strawberry crop has been the heaviest I remember. Nothing suits our warm, porous soil and dry climate better than Vicomtesse Héricart de Thury and Elton for dessert, and Grove End Scarlet for preserving. The two former are grown singly in rows, and the latter in beds about 4 feet wide.—WM. McKELVIE.

**Tynninghame, East Lothian.**—The fruit crop of the present year, speaking in general terms, can be only truly described as a poor one. There are occasional heavy crops of some particular fruit, such as in one garden a large set of Apricots, in another of Pears, and in another of some other fruit; but as a rule there is no garden where the

Eclipse and Helena Gloede; the two last-named are well worthy of extended cultivation, being of large size and splendid flavour. To secure a regular supply of good fruit, I make a fresh plantation every year, destroying it after the third season.—A. CHALMERS.

**Blair Drummond, Perth.**—The fruit crops here, especially small fruits, are under an average. Apples almost a failure. Pears fair on walls where the trees are young. Plums rather under average, but good. Apricots very scarce. Morello Cherries good. Strawberries (early varieties) were very poor, but later varieties did very well as a whole. Fruit crops in the district are all under average.—J. KING.

**Ardoe House, Kincardine.**—The fruit crop in this district has turned out better than was expected at one time, owing to the cold and ungenial spring and summer we have had. Early Strawberries are an average crop; late kinds are not half a crop and very late. The varieties grown are Black Prince, Garibaldi, Eclipse, Aberdeen Favourite and Myatt's Improved. Eclipse I find bears best; Black Prince for early, Myatt's for



late. I find planting a certain portion every year, and not having them more than four years, answers best in the light soil in this district. Currants, Red and Black, and Gooseberries and Raspberries are abundant. Apples, Plums and Pears are a failure.—J. HAY.

**Mount Stuart, Bute.**—The fruit crops in this neighbourhood are much under the average, Apples and Pears a very thin crop. Plums much under average. Raspberries and Currants good. Gooseberries the worst we have had for years. Cherries are rather light, but the fruit is good. Strawberries only half a crop.—M. HERON.

**Gordon Castle, Fochabers.**—The fruit crop in this district is under the average, with the exception of Plums, which are a full crop, especially on standard trees. Apricots are about half a crop, but the fruits are extra large and fine. Peaches are about an average, and the fruit also swelling fine, with the foliage clean and healthy. Pears are almost a failure, and Apples not much better. Small fruits are a fine crop except Gooseberries, which are only about half a crop. Strawberries have been a good crop. Our standard sorts are Garibaldi, President, and Elton Pine. We plant a fresh batch every autumn, and only fruit them two seasons, as I find it is more profitable, and we get fine fruit from the young plants.—C. WEBSTER.

**Drumlanrig, Dumfries.**—Owing to the unusually low temperature which prevailed throughout the whole spring and summer the crop of all outdoor fruits has been less plentiful than usual and very deficient in quality in this district. Apples and Pears never do well here, but are less satisfactory this season than ever I have seen them. Small fruits, with the exception of Black Currants and Gooseberries, have been abundant. Strawberries were very late in ripening and lacked flavour. The sorts most grown in this garden are the old Grove End Strawberry (the finest of all preserving Strawberries), and Vicomtesse Hélicart de Thury; Laxton's Noble crops well, but is not worth growing owing to its utter want of flavour. Plums are thin on wall trees and very late; under glass very abundant and fine, as are also Pears, Peaches, Nectarines, and Figs.—D. THOMSON.

**Balcarres, Fifeshire.**—The Apple crop is below average and very late. The best varieties we have for kitchen use are Stirling Castle, Lord Grosvenor, Worcester Pearmain, Lord Nelson, and Northern Dumping, a new variety that, I think, will become very popular; dessert varieties, Irish Peach, Redstreak, Golden Pippin, Ribston, Devonshire Quarrenden, and King of Pippins. Pears half a crop. Plums under average. Peaches fair, but very late. Apricots good. Cherries (late varieties) very heavy crop. Small fruits are all good, particularly Gooseberries and Black Currants. Strawberries under average and ten days later. Our first ripe was Laxton's Noble, a grand crop, poor in flavour, but being early and the berries large, it takes in the market and will be largely grown in this district. Garibaldi and Keens' Seedling I grow for preserving; a very poor crop and very small berries. President and Duke of Edinburgh fair. Elton Pine has been very heavy and of good size and fine flavour. I plant the Strawberries on deeply-trenched, well-manured ground, and fruit them for five seasons.—E. TATE.

**Galloway House, Wigtonshire.**—The crops in this district are the worst we have had since the year 1880. Apples are very scarce, many trees fruitless. Those carrying a fair crop are Manks Codlin, Cellini, Early Harvest, Thorpe Pippin, and Worcester Pearmain. Pears are very poor. Of the choice dessert kinds on walls, Marie Louise is the only one bearing a fair crop. Pyramids and espaliers of Louise Bonne of Jersey, Hesse, Swan's Egg, and Catillac have very good crops; these blooming later escaped the severe frosts in April, which destroyed the prospects of a crop on those that flowered earlier. Figs a failure, much of the fruiting wood having been killed. Plums are good crops, especially Victoria and Lawson's Golden Gage, which is probably the most useful Plum for dessert in these northern

parts. Rivers' Early Prolific, Goliath, and The Czar are also very good. Peaches are good, and promise to ripen well. Hale's Early, Gros Mignonne, and Royal George are the best here. Nectarines very good, Lord Napier and Elruge being the best. Apricots a fair crop for this district, where they do not usually succeed well. Dessert Cherries were a thin crop, many fruits failing to swell properly. Morellos good. Strawberries were below the average and deficient in flavour. Currants, Raspberries, and Gooseberries good crops generally; the latter were damaged in exposed places by the late spring frosts.—J. DAY.

**Drummond Castle, Perthshire.**—Apples on walls are a very good crop, but on standards there is none. Pears the same. Sweet Cherries a very fair crop; Morellos under the average. All the varieties of Plums are poor with the exception of Kirke's and Jefferson, which are good. Red, White, and Black Currants, and Raspberries are abundant. Gooseberries in some gardens around here are good crops; with me here very poor, as they always are. Strawberries in some places abundant. Here we only grow Elton Pine. We have a very abundant crop, and on plants ten years planted. This year they are as good as ever they have been.—JOHN ROBB.

**Arden House, Alexandria, Dumbartonshire.**—The cold, late, and changeable spring was very trying to fruit crops during the flowering period. Apples and Plums are very poor. Cherries average. Red, White and Black Currants and Raspberries are very good. Gooseberries under the average. Strawberries were an extra good crop.—T. DINGWALL.

## DESTROYERS.

### THE PREVENTION OF POTATO DISEASE.

FOR six years past the French Government has been making experiments, under the direction of Dr. Aimé Girard, in order to test the value of the Bouillie Bordelaise as a preventive of the dreaded Potato disease (*Phytophthora infestans*), and in the early part of last year that distinguished chemist was able to report that the results year after year had been so satisfactory, that the mixture might with confidence be recommended as a preventive of the disease. Since then a number of experiments have been made not only in other countries of Continental Europe, but also in the United Kingdom, with varied results, and this year Messrs. James Carter and Co., the well-known seed firm, of 237 and 238, High Holborn, London, W.C., decided to devote an acre of land on one of their seed farms at Bromley, in Kent, and further, that the experiment should be conducted on identically the same lines as those on the French Government farm at Joinville-le-Pont. The direction was put in the hands of Mr. Henry F. Moore, the well-known agricultural writer, who consulted M. Girard, in order that the chemicals used might be of the same strength and quality as those used in France.

The experiment was made on a field of a little less than an acre of Potatoes, which were planted in ten long double rows on April 8, the drills being 36 inches apart, a distance which Messrs. Carter believe will be found more remunerative than if planted more thickly, as it permits the rays of the sun to penetrate the bed, an important factor in the development of this crop. The varieties planted were as follows:—

Row No. 1.	Myatt's Ashleaf.
" "	" " Snowdrop.
" "	" " Beauty of Hebron.
" "	" " White Elephant.
" "	" " Carter's King of the Russets.
" "	" " Carter's Cosmopolitan.
" "	" " Carter's Improved Magnum Bonum.
" "	" " Bruce.
" "	" " Carter's Surprise.
" "	" " Imperator.

The whole piece was divided into four equal parts, of which the first and third were dressed

with the Bouillie Bordelaise, and the second and fourth left undressed. The strength of the mixture was as follows:—

22 lb. of sulphate of copper,  
22 lb. of unsalted lime, and  
100 gallons of water;

this being the quantity necessary for an acre of Potatoes. The sulphate of copper is of 98 per cent. purity, and is the Macclesfield patent sulphate of copper, this being the same as that used by M. Aimé Girard in his experiments. For the purposes of the experiment the first and third quarters were dressed with the Bouillie Bordelaise on July 11 and August 2, and the second and fourth left undressed. The mixture was applied by the Antipest, the new knapsack distributor, invented by Mr. G. F. Strawson, which did the work admirably. On the second occasion a German machine was also tried, this also doing good work.

During the period of experiment the weather has been as follows:—

APRIL 8TH TO 30TH.—Rainfall 1.50 inches (on ten days). The rain fell on continuous days from 24-25th to 28-29th (0.55 inches).

Frost was registered on thirteen occasions from April 10th to 30th, in intensity ranging from 1 to 7 deg.

Severe snowstorm 1 a.m. to 8 a.m. April 16th.

MAY.—Rainfall 1.46 inches (on ten days). Very little rain (0.21 inches on eight days) until after the 24-25th; and on the 25-26th there was registered 0.97 inches.

Frost registered on May 1st (5 deg.), May 7th (4 deg.).

JUNE.—Rainfall 2.64 inches (on fourteen days). Thunderstorm 28th 8.30 p.m. to 11 p.m. Thermometer, lowest, 35, highest, 93.

JULY.—Rainfall 2.53 inches (on eight days). Very severe thunderstorm on the 14th, 10.15 a.m. and 12.30 midday, when 0.90 inch of rain fell. Thermometer, lowest, 39, highest, 90.

AUGUST.—Rainfall 3.35 inches (on sixteen days); the heaviest fall was 27-28th, 0.98 inches. Thermometer, lowest, 38, highest, 98.

SEPTEMBER 1ST TO 14TH.—Rainfall 0.57 inches (on seven days). Thermometer, lowest, 35, highest, 83.

Early in this month (September) it was clear that disease had appeared in the undressed portions, and on September 6th one root was dug from the centre of one row of each variety in the first three sections, and with results that, should the whole experiment support them, will conclusively prove that (when properly applied) the mixture is clearly a preventive of this dreaded malady. In the following table the results are given of the state of each root dug in each row of two dressed sections and one undressed section:—

Row.	Quarter plot No. 1 Dressed	Quarter plot No. 2. Not dressed	Quarter plot No. 3. Dressed	Quarter plot No. 4. Not dressed
1. Myatt's .. ..	2 tubers slightly diseased	all diseased	all sound	
2. Snowdrop .. ..	disson d	do.	do.	
3. Beauty of Hebron ..	do.	do.	do.	
4. White Elephant ..	do.	do.	do.	
5. King of the Russets ..	do.	slightly diseased	all sound	
6. Cosmopolitan ..	do.	do.	do.	
7. Magnum Bonum ..	do.	very slightly diseased	do.	
8. The Bruce .. ..	do.	all sound	do.	
9. Carter's Surprise ..	do.	do.	do.	
10. Imperator .. ..	do.	do.	do.	

The above shows that in the dressed sections only two diseased tubers were found in the twenty roots dug, and those were in the one root of Myatt's Ashleaf, a sort peculiarly liable to disease. On the other hand, of the ten roots dug in the section not dressed, in four cases all the produce was found to be diseased, in two cases slightly diseased, in one case very slightly diseased, and in only three cases (new and vigorous sorts, it should



be noticed) was the produce found to be all sound. In other words, 90 per cent. in one of the dressed sections and 100 per cent. in the other dressed section was found to be all sound and good produce, and in the case of the undressed section only 30 per cent. were sound.

On September 15 and 16 the crops were dug, when the following were found to be the condition and weights of the different varieties of Potatoes on the four quarter plots:—

FIRST QUARTER PLOT.—DRESSED.

Row and variety.	Weight of sound tubers.	Weight of diseased tubers.	Total.
	Cwt qrs lbs	Cwt qrs lbs	Cwt qrs lbs
1. Myatt's ..	3 1 5	—	3 1 5
2. Snowdrop ..	2 2 12	—	2 2 12
3. Beauty of Hebron ..	2 3 18	—	2 3 18
4. White Elephant ..	3 2 19	—	3 2 19
5. King of the Russets ..	3 3 14	none	3 3 14
6. Cosmopolitan ..	2 2 7	—	2 2 7
7. Magnum Bonum ..	3 2 19	none	3 2 19
8. The Bruce ..	4 0 0	none	4 0 0
9. Carter's Surprise ..	3 2 10	none	3 2 10
10. Imperator ..	4 3 10	none	4 3 10
Totals ..	35 0 2	—	35 0 10

SECOND QUARTER PLOT.—UNDRESSED.

Row and variety.	Weight of sound tubers.	Weight of diseased tubers.	Total.
	Cwt qrs lbs	Cwt qrs lbs	Cwt qrs lbs
1. Myatt's ..	1 2 17	—	1 2 17
2. Snowdrop ..	1 3 10	—	1 3 10
3. Beauty of Hebron ..	2 0 10	—	2 0 10
4. White Elephant ..	2 0 25	—	2 0 25
5. King of the Russets ..	3 2 5	—	3 2 5
6. Cosmopolitan ..	2 0 0	—	2 0 0
7. Magnum Bonum ..	3 0 21	—	3 0 21
8. The Bruce ..	3 2 0	—	3 2 0
9. Carter's Surprise ..	2 1 10	—	2 1 10
10. Imperator ..	3 2 23	—	3 2 23
Totals ..	25 2 9	—	25 2 9

THIRD QUARTER PLOT.—DRESSED.

Row and Variety.	Weight of sound tubers.	Weight of diseased tubers.	Total.
	Cwt qrs lbs	Cwt qrs lbs	Cwt qrs lbs
1. Myatt's ..	1 1 13	—	1 1 13
2. Snowdrop ..	1 1 11	—	1 1 11
3. Beauty of Hebron ..	1 3 12	—	1 3 12
4. White Elephant ..	2 3 17	—	2 3 17
5. King of the Russets ..	2 2 9	—	2 2 9
6. Cosmopolitan ..	1 2 7	—	1 2 7
7. Magnum Bonum ..	2 3 0	—	2 3 0
8. The Bruce ..	3 0 23	—	3 0 23
9. Carter's Surprise ..	2 2 0	—	2 2 0
10. Imperator ..	2 3 8	—	2 3 8
Totals ..	22 3 26	—	22 3 26

FOURTH QUARTER PLOT.—UNDRESSED.

Row and Variety.	Weight of sound tubers.	Weight of diseased tubers.	Total.
	Cwt qrs lbs	Cwt qrs lbs	Cwt qrs lbs
1. Myatt's ..	0 3 14	—	0 3 14
2. Snowdrop ..	0 2 26	—	0 2 26
3. Beauty of Hebron ..	0 3 16	—	0 3 16
4. White Elephant ..	1 0 14	—	1 0 14
5. King of the Russets ..	1 2 0	—	1 2 0
6. Cosmopolitan ..	0 3 5	—	0 3 5
7. Magnum Bonum ..	1 0 20	—	1 0 20
8. The Bruce ..	3 1 11	—	3 1 11
9. Carter's Surprise ..	1 1 0	—	1 1 0
10. Imperator ..	2 1 7	—	2 1 7
Totals ..	14 0 1	—	14 0 1

The following table gives the totals of the two duplicate experiments:—

	Dressed Plots.	Undressed Plots.	In favour of dressed plots.
	cwt. qr. lb.	cwt. qr. lb.	cwt. qr. lb.
Weight of sound tubers	48 0 0	39 2 10	18 1 18
Weight of unsound tubers..	— 11 6	3 11 6	3 0 0
Total yield ..	58 0 11	42 4 11	16 6 7

It will thus be seen that from whatever aspect the experiment is looked at, it is in favour of the dressing by the Bouillie Bordelaise. So far as sound tubers are concerned, the yield is over two tons per acre more than in the undressed portion (the two plots being less than half an acre), while the quality of the tubers is better.

## NOTES OF THE WEEK.

**Rubus phoeniculus.**—G. A. Farini brings us some branches of this covered with fruit. He says it grows freely in his garden at Forest Hill, the shoots in one season reaching a length of 11 feet, these again branching out and rooting in the ground.

**Royal Horticultural Society.**—The usual fortnightly meeting will be held in the Drill Hall on Tuesday, October 4. Prizes are offered for eighteen bunches, twelve bunches, and eight bunches of hardy herbaceous perennials, bulbs admissible. In the afternoon a paper on Michaelmas Daisies will be read by Mr. Dewar, of the Royal Gardens, Kew.

**Malva alcea**, a charming Mallow and just now at its best, has been very beautiful this year. It has a fine dwarf bushy habit and produces its flowers in the greatest abundance. The latter are not unlike those of *M. moschata*, but of a mauve or lilac shade, and very delicate and pretty. It is perfectly hardy and may be increased either by seeds or division.

**Chrysogonum virginianum** has long been grown in botanic gardens, but it has not yet found its way into the trade, although a very charming and useful border plant. It begins to flower in early summer and continues until October, producing in profusion its golden-yellow stars without intermission. It is quite hardy and is readily increased by division or cuttings in summer.

**Escallonia macrantha.**—This is generally seen growing against a wall. As a bush in the shrubberies or on the lawn or even as a hedge it is largely employed in and about Torquay, where the mild climate agrees with it so well. As a bush it should not be cut in too close, or much of its natural charm will be lost. It is now flowering profusely in the place named, and from the quantity of unopened buds bids fair to continue for a long time yet.—E. M.

**Marie Louise Violet.**—Herewith I beg to send you a box of Violet blooms—Marie Louise. They did not commence blooming this year as early as usual, owing, I expect, to late planting, necessitated through bad weather, as previously reported. In spite of this we have had nice pickings from the beginning of the month, and if the clumps are not quite as large as is sometimes the case, the crowns are bristling with buds and blooms. We are now potting about half the stock, but shall leave the remainder another month.—J. R., Merioneth.

**The Japanese Windflowers**, with the exception of being a little browned by the late frost, are still quite good. They are truly noble autumn flowers, and may be adapted to any phase of gardening with perfect ease. The old type, which is not so common now, is our favourite of the three. The flowers are more irregular, of a deep red, and the plant has a strong constitution. *A. hybrida*, which is supposed to be a cross between *A. viti-folia* and the above, is a fine plant, paler in colour, and with more regular flowers. *A. Honorine Jo-*

bert, which we are told originated in Denmark as a sport from the type, is a general favourite and more common in gardens than either of the above. All three are noble plants and worthy of a place in every garden.—D.

**Fruit evaporating.**—On Wednesday and Thursday, October 5 and 6, Messrs. Ph. Mayfarth and Co. will make a demonstration of fruit evaporating at the Royal Horticultural Gardens, Chiswick (close to Turnham Green), London, W., to which everyone interested is invited. The evaporator is an American invention, and many thousands are in constant use in all the fruit-growing districts of the United States. We hope that many growers will avail themselves of this opportunity for becoming personally acquainted with the process of fruit evaporating.

**Hydrangea paniculata grandiflora** at Gunton Park.—The merits of this fine autumn shrub are fully appreciated at Gunton, and Mr. Allan has one of the finest masses and the plants are bearing the largest heads of bloom that I have ever seen. A large round bed encircles the base of a large vase, or rather shallow pan, which is filled with flowers for the summer. The bed is planted entirely with the *Hydrangea*, and it is treated in the orthodox way, that is, pruned back in spring and well manured. But though many follow this practice, few are successful. The display was magnificent. A natural depth of good soil has doubtless something to do with the success.—A. H.

**H.T. Rose Mrs. W. J. Grant.**—I have received a note from Messrs. Dickson, of Newtownards, calling attention to my recent remarks on the similarity I noticed at Chester between their *Roses* Jeannie Dickson and Mrs. W. J. Grant. Messrs. Dickson say there is no similarity as they grow these two good *Roses* at Newtownards, and hardly think their new *Rose* was fairly treated at Chester in being placed in juxtaposition to Jeannie Dickson as grown in a Southern English county. Messrs. Dickson think Mrs. W. J. Grant much like *La France* in shape and colour, and equal to Viscountess Folkestone in growth and free-flowering habit, so it will probably be a most desirable acquisition.—C. J. GRAHAME.

**Hydrangea hortensis** at Blickling.—It is quite evident that the soil at Blickling must be strongly impregnated with iron, for the common *Hydrangea* produces flowers of an intense blue colour. I have seen blue flowers of this on many occasions, but not so deep in colour as those at Blickling. Mr. Ocle assured me that nothing was done to induce this colour variation, and proof of this was forthcoming from plants growing among other shrubs. Though their flower clusters were not quite so large, the colour was as rich. The plants that were most admired, however, were grown in pots. They are stood out for the summer at the foot of and beside a flight of stone steps, and admirable they looked.—A. H.

**Anemone japonica alba Lady Ardilaun.**—I have sent you some flowers and foliage of my *Anemone japonica alba Lady Ardilaun*. Large beds, also clumps of it are very fine here now. The plants are 5 feet high, well furnished with grand foliage and a profusion of large blooms. Each bloom is replaced by a head of seed quite as large as a Hazel nut. If those seeds are sown in pans or boxes early in spring and carefully treated, they flower very freely the following September and October. If lifted and potted when they begin to show their flower-buds, few plants will have a finer effect in the greenhouse during the months of October and November.—A. CAMPBELL, *The Gardens, Ashford, Cong. Co. Galway.*

**Lobelia Queen Victoria.**—This is extensively grown in the flower garden at Blickling Hall, where perennials and good annuals predominate, and the tender summer flowers fill a minor position. Some round beds have standard plants of the white variegated *Maple* in the centre. This is trained to form a kind of canopy, and the bed is filled with the *Lobelia*, whose dark foliage and brilliant blossoms glow with extra brilliancy through the contrast. It is a grand autumn flower, and even



the disease that sometimes carries off the old stock wholesale need not check the plant's culture. It is easily raised from seed, and there were batches of seedlings at Blickling from seed sown this season. By raising a batch annually from seed, we reduce materially the risks of loss.

**Papers read at the Drill Hall.**—A correspondent writing to us from Hants says: "What a pity it is we cannot have the papers read at the Drill Hall much earlier than is now the case. Take, for instance, Mr. Bunyard's practical paper in which he dealt with root-pruning. How valuable would it have been had it been issued at once, seeing that this very subject is now demanding the attention of all fruit growers. By the time the paper is made public all interest in the subject will have vanished and the season for root-pruning will be over. Not only does this hold good in the case of the paper referred to, but all are alike. When the paper is read the matter is seasonable, but by the time it appears no one can put the advice contained in it into practice until perhaps another twelve months have elapsed."

**Tritoma Leichtlini distachya.**—The Torch Lilies have now no rivals for brilliancy and they are producing grand effects. The one that has the above rather formidable name is decidedly novel and very beautiful. The plant not being thoroughly established only threw up one spike, but this sufficed to draw attention to it, although situated among many more. At first there was a long slender spike, hardly as thick as a man's finger, terminated by a flower-head of a decided greenish tinge. Its distinction from other kinds is that the spike must be fully developed before the flowers expand, as they open from the apex downwards. As the flowers open they assume a soft yellow colour. In form they are different, too, being shorter, more open and more bell-shaped than those of other species and varieties. The anthers, which are thrust out and protrude some distance, giving the whole spike a peculiarly graceful brush-like appearance, are quite double the length of the flowers and of a crimson colour with black tips. The flowers, too, at this stage become orange-yellow.

**The Scarborough Lily (Vallota purpurea).**—The interesting letter of "Plantsman" on the *Vallota purpurea* in your issue of 24th ult. induces me to write a few lines on the subject. I have for many years cultivated this handsome bulb, and have raised a considerable number of seedlings in the hope of obtaining a variety, but without success till last year and this. Out of a batch of seedlings the seed of which was sown, I think, in 1889, I had one plant last year of a different colour to the usual type, a flower of which I sent to you for inspection. This year from the same batch I have flowered four, which are more decidedly distinct in colour, besides some which are of a darker shade of the ordinary colour. To obtain this seed I used the pollen of the *Belladonna Lily*, but though the colour of the flowers suggests the cross, there is no difference in the habit of the seedlings or in the shape of their flowers from those of the *Vallota*, so that I am reluctant to believe in the cross. I have still a few bulbs which have not yet flowered.—A. NIX, Mount Charles, Truro.

**Vanda teres at Gunnersbury Park.**—The specimen of this *Vanda* from which the coloured plate in the last number was made was from one of the many finely-grown plants in the collection under the charge of Mr. Geo. Reynolds at Gunnersbury Park, and not at Gunnersbury House, as stated inadvertently in the foot-note relating thereto. *Vanda teres* is there cultivated in large numbers, it being no uncommon circumstance for Mr. Reynolds to have as many as 100 spikes in flower or developing at one time. A finer lot of plants or in more vigorous health I have never seen. They have now about completed their growth and bid fair to be finer than usual another season. This *Vanda* is not grown in an Orchid house, but in two houses, one devoted to *Ixoras* and the other to *Eucharis*. The places chosen for them are the two outer ends of these houses, which are connected. Those in the *Ixora* house have a western aspect,

whilst the others have the eastern side in the house devoted to *Eucharis*. Those in the latter house have not yet had a fair trial as to their blooming capabilities, but to all appearance they will yield a good return. In the western aspect of the *Ixora* house the *Vandas* receive the full benefit of the sun for a considerable time; hence they are perfectly matured in growth. The plants are grown in small pots and trained erect near the glass in three rows, the pots stood nearly close together, being plunged in a narrow trough in growing Sphagnum Moss. Their growth in such a successful manner is an apt illustration of the fact that houses need not be exclusively devoted to Orchid culture.—JAS. HUDSON, Gunnersbury House Gardens.

### A NOTE FROM JAPAN.

MR. ALFRED PARSONS, writing from Nikko, July 28, says:—

We had five days in succession last week with rain falling in torrents, roads and bridges washed away, and landslips on the mountains. It is a great country for weather and for vegetation. The hills are all green to the top—light green of Bamboo Grass and shrubs, and darker greens of Pines and the infinite varieties of deciduous trees. I wish I knew them and the shrubs as well as I know the herbaceous plants, there are so many species which are quite strange to me. There are plenty of flowers to be seen, but as a rule they are isolated among the Bamboo Grass and do not make masses like our wild flowers at home.



I crossed a very wet moor yesterday which was better, covered with purple Iris—a very red purple—and a tall white *Thalictrum*, and I got a couple of sketches of it. The Funkias are very lovely with their spikes of pale or dark mauve flowers, and the auratum Lilies are spotted about on the rocks and under the densest trees. I saw a Lily I admired very much this morning, greenish white, with purple spots inside. I suppose by the leaf it is allied to *giganteum* (see sketch). There were only a few plants of it in a damp wood. It was from 2 feet to 3 feet high. There are many kinds of *Hydrangea*. The climbing one is handsome, but, like many of the other things, grows among such tangles of trees and foliage, that one cannot get a chance to sketch it. I found a lovely little wall plant this afternoon growing by the celebrated red lacquer bridge, bright shaded purple, with a yellow centre, rather larger than this—a kind of American Cowslip, I suppose (see sketch).



**Caryopteris mastacanthus.**—Scarcely hardy enough for the open border in the neighbourhood of London, this forms a very satisfactory specimen when treated as a wall plant, for it will bloom from the early part of September or even before that time till it is stopped by sharp frosts, often till the end, or nearly so, of October. It is one of the few

shrubby members of the order Labiatae that are hardy in this country, for though very numerous, nearly the whole of them are herbaceous subjects. It forms a free-growing, much-branched bush clothed with ovate leaves of a hoary character; while the flowers are borne in great profusion on the upper part of the shoots and arranged in closely-packed axillary cymes. The colour of the flowers is a rich lavender-blue. In the case of a thriving specimen, the succession of bloom is kept up to such an extent, that the plant is for the greater part of the time quite a mass of blue. This *Caryopteris* is a native of China, from whence it was introduced in 1844; but if not entirely lost, it was almost unknown till within the last few years, when Messrs. Veitch directed attention to its merits. It can be propagated by cuttings of the young growing shoots put into sandy soil and placed in a close frame at any time during the summer months. In planting it permanently, cold wet soils should be avoided, for it succeeds best in a rather light, but deep soil that is by no means parched up during the summer.—T.

### OBITUARY.

**Mr. James T. Pringle**, a well-known Northumberland gardener, died suddenly, at the age of 42, on the 8th ult. at Benton Hall, where he had been gardener for the past 13 years. He was particularly successful in the culture of the *Chrysanthemum*.

**Mr. Samuel Farquhar**, who had reached the ripe age of 86 years and was for the long period of 52 years head gardener at Dunecht House, near Aberdeen, died on September 12. During the long period Mr. Farquhar was gardener at Dunecht he enjoyed in a marked degree the esteem of the former proprietors, Mr. Forbes and the late Earl of Crawford and Balcarres. In all matters pertaining to his profession he took great interest, and he was ever ready to assist by sound advice those who consulted him on horticultural matters. On account of advancing years Mr. Farquhar relinquished his appointment at Dunecht House fifteen years ago.

**Mr. George Bond**, of Clematis Cottage, Lydbury, North Shropshire, died, we regret to hear, on August 16, aged 86 years. Mr. Bond was in his youth employed in Kew Gardens, and his first visit to Walcot, the Shropshire seat of the Earl of Powis, was to paint a sketch of a very fine specimen of the Mango tree. Subsequently he accepted the position of head gardener, which he retained for the long period of forty-seven years, during which time he served three Earls of Powis. By the last Earl, owing to his advanced age, he was eight years ago pensioned off. A note as to a very fine Douglas Fir which Mr. Bond planted in the gardens at Walcot appeared in THE GARDEN of September 10 (p. 224).

**Building a forcing house (An Old Subscriber).**—Your best plan will be to consult a practical hot-house builder.

**International Horticultural Exhibition.**—We have received a list of awards that have been made to the exhibitors at the above. We give it in full in our advertisement columns.

**Names of plants.**—W. M.—Possibly a *Pyrus*; impossible to name from such a scrap; send better specimen.—A. J. H.—Cornelian Cherry (*Cornus mas*).—S. Ehlmann.—*Sicyos angulatus*.—Anon.—1, *Stanhoepia oculata*, good variety; 2, *Vanda cœrulea*, poor form; 3, *Cattleya speciosissima*, poor; your other names are correct.—Mrs. G. C. Greenwell.—1, *Campanula punila*; 2, *C. p. alba*; 3, *Veronica rupestris*; 4, *Aster acris*; 5, *Stenactis speciosa*.—A. Chalmers.—*Hedychium chrysocolum*.—T. Saunders.—*Epidendrum xanthum*.—M. J. M.—1, *Lælia Perrini*; 2, *Cattleya Loddigesii*; 3, *Lælia Dormaniana*—H. Beaumont.—1, *Dendrobium Phalaenopsis Statterianum*; 2, *D. superbiens*; 3, *Cattleya aurea*, fair form; 4, *Lælia elegans Schilleriana*.—Bessie Wigram.—1, *Adiantum hispidulum*; 2, *Blechnum occidentale*; 3, *Pteris serrulata*, a good crested form.—T. B. A.—1, *Phlebedium aureum*; 2, *Cytomium caryotideum*.—J. B.—*Neotopteris australasica*, not *N. nidus*.—T. B. P.—*Pyrus aria*.



## WOODS AND FORESTS.

### WHAT TO PLANT.

By injudicious planting—planting the wrong kind of trees on the wrong class of soil—more trees are killed every year than from all other causes combined. This death-rate in the case of a plantation may occur immediately after planting, may go on for years, or may come about at a certain period of the tree's existence. Examine a piece of damp, low-lying ground where Alder, Willow, and such like trees should have been planted, but which instead was filled up with Sycamore, Oak, and other trees that cannot bear stagnant moisture, and the pitiable sight of dead and dying stems will testify to the fact that in order to be successful in tree planting no haphazard work should be engaged in. Then, again, a large plantation of Larch alone had been formed on a deep gravelly soil, and at the age of hardly twenty years every tree was found to be pumped, this peculiar class of soil being far more suitable for the Scotch and Corsican Pines (*Pinus sylvestris* and *P. Laricio*) and the Douglas Fir (*Pseudotsuga Douglasi*), any of which would have made rapid headway and remained perfectly sound. Take a chalky soil as another example, and where the Beech and Beam tree thrive to perfection, and it is well known, at least to those who have studied trees in relation to soil, that a calcareous formation is very unsuitable for many of our forest specimens. But this is the case with almost every class of soil, and in a mixed plantation where varieties of soils occur, wherever a tree is growing vigorously it will be found on examination that the soil is of the particular kind that is most suitable for the particular species of tree. To the haphazard system of tree planting that is far from uncommon on many small estates, a good deal of the apathy of the landowners to engage in planting is entirely due. Failure after failure has too often been the excuse of the landowner for putting a stop to planting on certain parts of his property, and rightly too, for it is not to be expected that a series of experiments irrespective of cost can now-a-days be tolerated in the clothing of a certain tract of ground with wood.

Not long ago on a medium-sized English estate a young plantation of between 30 and 40 acres in extent was formed, but as the trees were unsuitable for the most part for the class of soil, nearly every plant died out in two years, and the proprietor, with the man who formed the plantation, came to the conclusion that the ground was unsuitable for being planted with trees. In answer to an inquiry as to why the ground should lie idle, more particularly as it was an eyesore from the dwelling-house and lawn, the owner truthfully remarked that already it had been twice planted and twice had failed, and as the cost was considerable he had made up his mind to let the piece of ground run wild, adding that he had also come to the conclusion that it was unsuitable for growing trees upon. I may add that now there is a thriving crop of trees on this same piece of ground, thanks to the advice of one who had devoted considerable attention to the affinity of trees and soil.

But this is only one instance of many that could be given, and clearly shows that unskilfully planned work in tree planting has often a most prejudicial effect on the owners

of land. I have seen a line of a half-hardy tree planted on an exposed mound as a screen, with the result that in less than two years all were either dead or so disfigured that they had to be pulled out. Now a line of Scotch and Austrian Pines looks happy and contented in their stead.

Wrongly-planted trees, trees placed in positions where they can never become half-developed, three trees growing where one was ample, and such-like cases are, unfortunately, the order of the day in almost every part of our country, but particularly in Southern England. The system of mixed planting minimises the evil somewhat, for as the unknowing cautiously remark, if one does not do, another may. This is bad work, and only worthy of being censured and condemned, especially as it is well known to those who have studied their work what kind of tree or trees will do best on certain soils, and all without wasting money needlessly on experimenting. A. D. W.

### THINNING WOODS AND PLANTATIONS.

The general thinning and pruning of woods and plantations will soon be in full swing, coniferous kinds being first taken in hand, and afterwards, when the leaves are down, the hard-wooded species. At the outset in regard to thinning plantations, two important points will require to be kept in mind, and these are whether the plantations are meant to be, in the strictest sense of the word, for economic value or for purely ornamental purposes. To maintain an unbroken leaf canopy in a woodland where clean, straight timber is of first consideration should first be aimed at, and this is particularly the case with Pine plantations. If each tree is allowed so much room that the lower branches remain green and intact, the value of the timber is considerably, from its becoming rough and knotty, decreased in consequence; whereas if grown so thickly that when forty years old the branches on each tree only start out at, say, from 20 feet to 25 feet from the ground, the timber will in consequence be clean and free from knots, and of the greatest value for building, &c. Larch timber grown purely for economic purposes should, when of the height of, say, 60 feet, not stand further apart than 12 feet, and this applies to most trees of the Fir tribe. In this way the stem-branches as the trees grow are killed off gradually from the ground upwards, and at the age and height specified above, about three-fourths of the tree's height of stem should be destitute of branches. On the other hand, where purely ornamental trees, be they of whatever kind, are of first consideration, the individual specimens should not stand closer at any time than will allow of the full spread of the lower branches, the maintaining of these in a healthy growing state being what is first wanted. In exposed woodlands and at high elevations great care is necessary to keep the outer line or lines of trees rather thick, just cutting away such specimens or even branches as will cause but little gap for the entrance of wind. Towards the middle of the plantations the trees may stand further apart, and in thinning out be careful to remove all unhealthy trees, or should it be noticed that a particular kind is doing well, retain as many of these as possible. Crooked, or cankered, or wind-swayed trees should, of course, be removed first, and then regulating of the remainder will be easy.

As thinning proceeds it is well to prune off rival leading shoots and shorten back such branches as are interfering with other specimens; but, generally speaking, pruning need not receive much attention unless where the individual specimens are grown far apart and valued principally for their foliage outline. The branches should be tied into faggots, excepting those of the Pine tribe, which may either be reduced to ashes on the ground or conveyed outside to meet the same fate. In any

case for the health of the plantations it is to be recommended that every particle of branch and stem be removed from the woodland.

A. D. W.

**Decay in timber.**—The chief causes of decay in timber are known as wet rot and dry rot, both of which are indirectly due to the action of moisture—in the former by assisting the decomposition of the tissues of the wood, particularly the alburnum or sapwood, and in the latter by aiding the growth of certain cryptogams which obtain their nutriment from the substance of the wood. The reduction of the natural moisture in the wood itself by proper seasoning, and the prevention of the access of external moisture, is to some extent accomplished by a coating of some impervious substance, such as tar. Paint sometimes prevents wet rot, but for the reasons noted above, this is not always successful. The same means are generally supposed to destroy, or at least to retard dry rot, but with the same unsatisfactory results. There is this peculiarity, that an excess of moisture is unfavourable to the growth of fungus which feeds on the wood; a'so, when the circumstances are favourable, such as a moderate degree of moisture, which most woods possess in themselves, and the existence of a warm stagnant atmosphere, no mere coating of paint will prevent the mycelium of the dry-rot fungus from penetrating to the interior of the wood. Once this gets effected, its destruction is rapid.

**Removing ornamental trees.**—In lifting and removing large ornamental trees, great care is requisite not to cut, bark, or otherwise injure the roots in course of the operation; and in order to guard against such a contingency, I have been in the habit of using digging forks for this purpose in preference to spades, by which means the risk of damage is lessened to a considerable extent. In planting the trees, should the soil be poor and exhausted, some rich friable loam should be brought and mixed with the soil. This will have a beneficial effect in promoting the growth of the trees. The roots should be well spread out in all directions from the base of the stem, and care should be taken to see that they do not cross or in any way overlap each other. Stake, tie, and fence the trees according to their requirements, and apply a good mulching to prevent a too sudden evaporation; and if thought necessary, finish by erecting a screen cage of branches around the tree to shelter and break the force of the wind until such time as the roots take to the soil and get established. A very efficient shelter may be erected for this purpose by placing four upright posts in the ground at right angles and at a reasonable distance from the tree; then, by nailing on say three or four horizontal rails, and warping in a few branches, a useful screen can be formed at small cost, and on exposed situations will be found highly beneficial to the trees.—A.

**Wood for rustic work.**—The Oak and Birch both occasionally produce fine gnarled knots upon their stems and branches, both of which are valuable, when properly selected, for constructing bridges over small streams, seats, beneath trees, summer-houses, and such like structures which have a place in woodlands. Select suitable pieces of the branches with proper bends, and, when dry, store them away in a well-ventilated shed to season and be ready when wanted.—J.

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"This is an Art  
Which does in Nature: change it rather; but  
THE ART ITSELF IS NATURE."—*Shakespeare.*

## CHRYSANTHEMUMS.

## CHRYSANTHEMUM NOTES.

THE past few weeks have been especially favourable to the growth of Chrysanthemums, and I do not remember a season when the flower-buds have appeared to swell so rapidly. I should imagine, too, that those cultivators who have selected the later buds will be the better rewarded at flowering time. I take this view after having seen several collections just lately where many buds were taken quite early in August, and indeed some in July, such cases after a spell of fine weather resulting in ungainly and ill-formed blooms. The autumn dews are so natural to the proper growth of the Chrysanthemum, that the plants may be left in the open quite as long as is consistent with safety from frosts. Of course, it is not easy to say when the first is likely to occur; but by observation each year a grower can form some idea in regard to the particular locality he is in, and can again follow the rule that in low, damp situations the enemy is likely to do harm earlier in the season than on breezy hillsides. The first week in October is a time that suits most people, and by all means let the plants be outside till then, except in the case of any sort the buds of which may be showing colour. Take such under glass forthwith, at least during the night-time, for it must be our care to keep away moisture from the flowers. The glass structures may be got ready by cleaning the glass inside, and thereby gain all the light possible, so essential in giving good colour to the blooms. The plants should not be placed under glass with the leaves in their mildewed state, which cannot be properly kept at bay during the damp and cold nights of September. Housing time gives an opportunity to thoroughly dust both under and upper sides with flour of sulphur—after all the surest way of checking or killing this pest. Another enemy to plant life, and perhaps the worst, namely, aphides, cannot be properly dealt with until the Chrysanthemums are inside. When once allowed to get a hold there is some difficulty, especially in the case of Japanese forms, some of which are so laced and interlaced, in entirely freeing the florets from their grasp. It is advisable to fumigate three or four times, say on alternate evenings, and I would advise that proper, that is, not cheap, tobacco-paper be used. Then no damage will accrue, even if the flowers are unfolding or, for that matter, fully out. Care, however, must be taken that a little ventilation is given before the sun's rays reach the glass in the morning.

In regard to arrangement, some effect must be sought when the plants are placed in conservatories proper, but where exhibiting the flowers at shows is the object desired, then I fancy very little thought should be centred upon effect. The plants which are backward should be placed in the sunniest or warmest end of a greenhouse, and those that want retarding will be in the coolest part. Unless the house be a lean-to facing a sunny aspect, I do not believe in shading whilst the flowers are expanding, not even those of the incurved section. Enough may be done by just covering with sheets of paper to ward off the sun from the pure white

flowers and the very dark colours, these being the more easily spoiled. Any particular flowers may be kept some days in a fresh state by placing the plant in a dry outhouse or shed. This is better than cutting the blooms and keeping them in water. I remember some blooms of the variety Elaine had been preserved in such a manner for over three weeks, and then gained a prize at one of our great shows. The details of watering and air-giving are most important in the case of Chrysanthemums under glass. When first put inside be very sparing with the former and give plenty of the latter. For a few days, if at all sunny, damp the floors among the plants, because the check from the humid atmosphere outside is somewhat severe. Do this in preference to watering at the roots, as the action of these seems for a time stopped as well. Afterwards, when water is given, let a good soaking suffice till the plant is again on the dry side. The fact of the plants being placed close together is enough to show us that their wants as to water are lessened. Apply now and then a slight dusting of some fertilising manure to encourage surface roots and thus assist in giving finish to the blooms. Too much air in fair weather cannot be given, but close the ventilators and just warm the hot-water pipes at the approach of fogs, which, happily for our country brethren, do not cause such anxiety as with those within a measurable distance of London and other large towns. When raining, again, it is not wise to have much ventilation. For incurved Chrysanthemums, fire-heat is not required, only for the above-named purposes and to expel moisture after watering, although in some cases here it may be needed to bring on flowers to time. For instance, the Princess of Teck family respond capitally to a hot temperature, and I have often allowed them to expand from a bud state in a stove heat near the glass and without air. But, generally speaking, it is the Japanese kinds (and of these those sorts like Golden Dragon, Mrs. Wheeler, which may be called fantastic in form) that require a moderate amount of continual fire-heat to unfold their florets. Complaints of damping are very plentiful each year, and I do not suppose this season will be different in this respect from others that have passed. I am certain overfeeding with stimulants during summer is the first great cause of this trouble, and one of the minor causes is want of proper attention to air-giving. But there is one cause of decay in the flowers for which damping is often blamed, and that is their becoming scorched in the same way that Grapes are if air or fire-heat be not given in early morning to dry up accumulated moisture before the sun has reached them. If there is any fear of this through the ventilators being closed to keep out damp, by all means shade the blooms in some way for an hour or two till the inside of the house has become dry and pure.

H. SHOESMITH.

## Chrysanthemum Mme. Edouard Lefort.

This Chrysanthemum, which last year received a first-class certificate from the National Chrysanthemum Society and an award of merit at Chiswick, is a first-rate variety for blooming in the open border during the months of September and October. It is of a good sturdy habit, and forms quite a bush that reaches a height of 18 inches to 2 feet. Two desirable features are, first, the fact that it does not require any artificial support; and secondly, the blooms are borne on good stout stems, so that they retain their position in spite of wind and rain, and do not hang over and hide their beauty as many do. The individual flowers are about a couple of inches in diameter, with reflexed petals that are divided at the points, thus giving to the bloom a lighter

appearance than is to be found in some Chrysanthemums. In colour the flowers are of a deep golden or orange-yellow, shaded with red in the centre. It is usually classed as a pompon, though in common with many others the blooms are a good deal longer than those of the pompons on which this section was originally founded. Its greatest charm, however, consists in the fact that it supplies a grand mass of colour in the open ground for a long time in spite of unfavourable weather.—T.

**Tender Chrysanthemums.**—It is clear that some kinds of Chrysanthemums are far more tender than others. Of this I had a most striking illustration after the severe frost here on Saturday night, September 17, when the thermometer, 3 feet from the ground, registered 10° of frost. Such severe frost had a bad effect on our Chrysanthemums. Many of the tall plants suffered in a remarkable way. Of some kinds the greater portion of the leaves is blackened and a large number of the best kinds killed. It is odd how some kinds suffer compared with others, and all growing side by side. The following kinds suffered the most: Peter the Great, Mrs. Charles Carey, Ralph Brocklebank, Mr. Bunn, John Sharpe, and Mrs. Freeman.—J. CROOK, *Ferde Abbey.*

## CULTURAL NOTES.

No time should be lost now in getting under cover all plants except those grown for producing late blooms in quantity; even these should have protection from frost by placing the plants rather closer together, so that a temporary covering of tiffany or any light material could be quickly thrown over them in case of need. Plants that are grown to produce large blooms and which have large buds, are quickly injured by frost after a shower; therefore it is a pity to allow them to remain outside for even a day longer than is necessary.

Arranging the plants after housing is worthy of some consideration, but the manner in which this can be done depends very much upon local circumstances. Where practicable, an effective manner of grouping them is the best; in this way considerable pleasure is derived in examining them and comparing varieties. No position suits them better than vineries or Peach houses after the fruit has been gathered; the leaves about the time the Chrysanthemums are placed under cover will be falling, thus admitting more light to the plants. Where possible a span-roofed greenhouse is the best place of all to flower the plants in. A long sloping bank arrangement is the best in vineries or Peach houses, placing the colours according to taste. If exhibiting is the chief point in cultivation, the Japanese varieties should be placed at the warmest end of the house, or, what is better, in a house by themselves if possible, as they will stand more heat than the incurved when opening their blossoms, and indeed they are improved by the assistance of heat.

In all cases place the plants as near to the glass as possible, as they will then have the benefit of all the light available. The colours of each are by this means brought out more in their true characters than they can be where the light is at all diffused. The flower-stems do not become drawn up weakly as they do when the plants are far from the glass. The strength of the flower-stem is a good indication of what is to follow in the shape of large blooms. Generally, the number of plants cultivated for the production of large blooms exceeds the space to flower them in to allow each separate standing room without overcrowding. Mildew very soon makes its appearance upon the leaves inside the group, and if not checked, quickly spoils the plants by the premature loss of their leaves. It is also a good plan to dust over the leaves inside of the group with flour of sulphur as soon as the plants are arranged with a view to keeping the mildew in check. Sulphur of a brown colour is best, for the reason that it is not so conspicuous. The best means of applying it is by the aid of the Malbeck bellows distributor, inserting the nozzle of the bellows among the plants; the sulphur is then puffed over the



leaves thinly, which is quite as effective as covering them thickly and rendering them unsightly. All the air possible should be given the plants after housing both night and day; a close atmosphere will only incite the elongation of the peduncles and induce any late plants to make extended growth, which may be at the expense of the strength. In the case of continued or foggy weather for several days, it will be an advantage to the plants to make the hot-water pipes warm, thus maintaining a buoyant atmosphere, which is a means of checking the spread of mildew and the damping of the blooms, which under deficient atmospheric influence will quickly do much injury to opening blooms. Whatever watering is required should be done in the morning; it is seldom that the plants will require water more than once a day, and not always that. The pots being placed closer together, air does not pass among them so freely, and the sun does not so readily reach them; therefore the soil does not dry so quickly as when the plants are outside. Continue to feed the plants as advised previously. About this time of the year it is often noticed that the plants show signs of a lack of vigour, the foliage is not so bright and green nor so crisp to the feel as a few weeks since; this is owing to their being gorged, as I might term it, by the free use of stimulants, such as animal manures and various kinds of chemical mixtures. The best means of giving the plants the required healthy tone is to give them sulphate of ammonia only for a week or two at the rate of one tablespoonful in 4 gallons of clear water twice a week, the intermediate waterings to consist only of clear water. After a few applications the veins will gradually assume a deeper tint of green, spreading over the entire leaf, thus recuperating the plants. Plants which are late in the development of their buds will be benefited by a dose or two of sulphate of ammonia, first giving them one dose of nitrate of soda, half a teaspoonful to each 9-inch pot, powdering it fine and sprinkling it over the surface, afterwards watering it in with clear water.

E. MOLYNEUX.

### NEW EARLY CHRYSANTHEMUMS.

A FINE collection of these may now be seen in flower at Ryecroft Nursery, Lewisham. Last year Mr. Jones collected new Chrysanthemums from every available source, and among them it was thought that the earliest from France would be likely to awaken fresh interest. The plants of new Chrysanthemums are sometimes received in anything but a happy condition from the raisers, and it often takes a year or two to thoroughly bring out their latent beauties. The latter may be said of the set, as it is termed, of 125 from Délaux of last season. All those kinds named below possess qualities such as should ensure their wide cultivation:—

MME. MARIE CONSTANS belongs to the present year and is a beautiful variety. Opening lemon-white, it becomes pure when fully out, and its florets are of great length, like those of the well-known Fair Maid of Guernsey. It is a full flower and very graceful.

GLOIRE DE MEZIN is another introduction of this year, which gained the certificate of the National Chrysanthemum Society at its last meeting. It is a full reflexed Japanese form of a rich amber colour. The plant is of medium height.

SECRETAIRE ALFRED BLEU.—A large Japanese flower which may be called an early Carew Underwood, so much does it resemble that kind in shape and colour.

MME. BAGARIC is a pretty rose-coloured bloom of the drooping Japanese form. It is dwarf in growth and free flowering.

M. BOURNISSEN, white, with shades of purple, is a pretty Japanese form.

MME. GABUS is a small pompon of excellent form and good free-flowering habit. The colour is soft pink.

M. PAUL LEMOINE.—This is a reflexed flower with long florets of a pretty amber colour. It may be likened to that superb kind Criterion.

ALFRED WERLE.—A large Japanese sort with drooping florets, and one of the best early kinds yet raised. The colour is a soft and taking shade of rose.

MME. EUGENIE KLEIN.—A pompon with toothed or fimbriated edges, bluish-white in colour and very neat. It has also the dwarf habit of growth so desirable.

MME. GREARD is a very pure white Japanese flower, in many respects a rival to Mme. Desgrange.

M. ALBERT GALT struck me as an exceedingly dwarf Japanese kind of fine quality. The colour is a rich shade of bronzy red.

ALFRED DE MONTBELLO, an extra large graceful flower of a silky mauve colour, was also very conspicuous.

MME. EULALIE MOREL is a cerise-coloured bloom with a salmon shade. It is a loose Japanese form and is a capital grower.

M. PIERRE CASSAGNEAU is a reflexed flower of good size and the colour maroon-crimson, tipped yellow.

ZELMIRE.—This is a small pompon of a distinct form. It has here and there a floret sent out beyond the rest which gives it the appearance of a miniature Japanese. The colour is bright yellow.

VEUVE CLUQUOT is another pompon with toothed edges; colour red and very neat.

M. A. HERLAUT is also a pompon. It is fimbriated, the colour dark crimson with yellow tips.

MME. GABRIELLE FONTAINE will be admired for its colour, which is a light terra-cotta. It is a loose reflexed flower of medium size.

MME. ZEPHIR LIONNET is a splendid gain to the early Chrysanthemums for cutting. The colour is rich amber-yellow and the flower of medium size. The special value of this kind is its extraordinary freedom. The plant grows to about 18 inches in height and is really all bloom. Were it not for the rule that certificates of the National Society are not given to decorative sorts unless shown in a growing state, that honour would have been accorded this variety the other day.

LADY FITZWIGRAM is another excellent kind, so dwarf as to make it a perfect gem as a pot plant. Pure white, and not unlike the variety Avalanche in form, but smaller. A dozen blooms, each about 4 inches across, may be had on a plant no more than a foot in height.

GENERAL HAWKES is, I consider, the best early kind of its colour, a deep rich purple-crimson. It is a Japanese variety, and was raised by Mr. Owen, Maidenhead.

### NOTES OF THE WEEK.

**Chrysanthemums at Finsbury Park.**—The twelfth annual display of Chrysanthemums in this park is now open to the public daily from ten o'clock.

**New H.P. Rose Marchioness of Londonderry.**—This is a very fine Rose, and about the largest bloom I have ever seen, being in fact nearly as large as a Magnolia. The description given by the raisers, Messrs. Alex. Dickson and Sons, of Newtownards, seems quite correct. It is as follows: "One of the largest Roses yet introduced, the colour ivory-white, petals of great substance, shell-shaped and reflexed, highly perfumed, and free-flowering, especially in cut-backs; a most valuable addition to the white-coloured section." Messrs. Dickson have sent me two blooms, which if equalled when exhibited in a box of twelve next year at the National Rose Society's metropolitan show will most undoubtedly cause a sensation.—CHARLES J. GRAHAME, *Croydon*.

**Surplus bedding plants.**—The Commissioners of Her Majesty's Works and Public Buildings intend to distribute this autumn, among the working classes and the poor inhabitants of London, the surplus bedding-out plants in Hyde and the Regent's Parks and in the pleasure gardens, Hampton Court. If the clergy, school committees, and others interested will make application to the superintendent of the park nearest to their respective parishes, or to the superintendent of Hampton Court Gardens, they will receive early intimation of the number of plants that can be allotted to each applicant, and of the time and manner of their distribution. Any cost of carriage must be borne by the recipients.

—It is officially announced that the surplus bedding plants at Battersea, Finsbury, Victoria, Southwark, Dulwich, Ravenscourt, Clissold, Waterlow, and Kennington Parks, Victoria Embankment Gardens, and Myatt's Fields will be ready for dis-

tribution on or about Oct. 21. Applications for the same, which will be dealt with in the order they are received, should be made early to the superintendents at the respective parks.

**Habrothamnus carminata rubra out of doors.**—I was much surprised a fortnight since to come across a plant of this generally recognised greenhouse climber growing out of doors without any protection whatever in the wild garden at The Court, Cockington, Torquay. The plant had evidently suffered a little from the frost of last March, but it was said to have been growing there some years. Certainly the place is much sheltered by high trees, Ferns, and undergrowth, a clear space having been kept for this and some conifers growing near.—E. M.

**Vanda Sanderiana.**—There are two species of Vanda flowering during the present season which may in many respects be accounted the finest in the genus. The older one of these is *V. coerulea*, whose beauty of colour and wealth of blossom do so much to brighten the Orchid house during the autumn months. Its rival, the subject of the present note, is a much later addition to our collections. It was found by one of Messrs. Sander and Co.'s travellers on the island of Mindanao (one of the Philippine group) in 1881. In size, its flowers may be said to take the first place among the Vandas, some having been found to measure 5 inches across. From four or five to a dozen of these are produced on a raceme. The two petals and the upper sepal are broadly oval and of a pale, rosy lilac, crimson dots occurring at the base. The lower sepals are fawn coloured and netted conspicuously with brownish crimson; they are considerably larger than the petals, sometimes measuring 2 inches across. The lip, in proportion to the other part of the flower, is small, and in colour a dull crimson. On the whole, the flower is very striking, and the species is one that every warm collection of Orchids should possess.

**Tecoma capensis.**—Treated as a greenhouse climber, this plant has, except in a very few instances, proved a failure. Although it grows with the greatest freedom, the amount of sunshine it obtains, even near the roof glass of an unshaded conservatory, is not sufficient of itself to induce it to bloom satisfactorily. A method of culture has, however, been pursued during the last three or four years at Kew which proves the plant to be of the greatest value for autumn flowering, as a batch of plants in the conservatory there (No. 4) plainly testify. These plants are from 1½ feet to 2 feet high, each consisting of a single stem surmounted by a large raceme of flowers. The leaves are of a deep rich green and are pinnate; the raceme is composed of several scores of flowers, the latter having a tube 2 inches in length, dividing at the mouth into five segments, and thus making the corolla nearly 2 inches across. In colour it is a bright orange-scarlet with a slight tinge of purple on the petals. To obtain plants of this description it is necessary to take cuttings as early in spring as possible from the new growth; these should be struck in bottom heat singly in 3-inch pots. When the pots are fairly full of roots the plants should be given a shift, using a rich loamy soil. Up to June or July they must be given the ordinary treatment of greenhouse plants, but after that time should be stood out of doors in a warm, sunny position. If the plants have grown well they may be again shifted, this time into 7-inch pots. The flower-spike as a rule shows in August, and shortly after two shoots appear in the axils of the uppermost pair of leaves; these shoots must be removed at once, thus giving the flower-spike a free hand. The plants may now be taken indoors again, placing them in the cool greenhouse or frame. By giving a little manure water a few times and an occasional sprinkling of some fertiliser, both the size of the racemes and the colour of the foliage are improved. My experience is that with this treatment nine plants out of ten flower, and it would be difficult to find anything giving a brighter effect in the greenhouse than they do during the months of September and October.



## FLOWER GARDEN.

## SUNFLOWERS.

(HELIANTHUS.)

PEOPLE are very apt to plant Sunflowers in out-of-the-way places, where the soil is poor and uncongenial, and then the flowers are small and spare, disappointing the grower. The Sunflower deserves to be well cultivated, and then the blossoms of some kinds, whether single or double, are of giant size and development. Wherever planted they should have good soil, and while there is much in the quality of the variety, it is also certain that a good soil has a great deal to do with the production of fine flowers. Someone has styled the Sunflower "the king of the flower garden," and there is a kind of regal aspect about it. It is common to see flowers more than a foot across, and the dark

rigidum. In Mexico, from whence the common annual Sunflower was introduced, it is said to attain a great height, with flowers large in proportion. The Sunflower is, indeed, a plant of some importance in several ways. In the United States whole acres of land are sown with Sunflowers for the purpose of preparing oil from the seeds. This oil is very pure, and little inferior to that of the Olive for domestic purposes; it also burns well. In Portugal the seeds are made into bread, and also into a kind of meal, in which form they are found to be an excellent substitute for coffee, while they are utilised for other purposes.

**Lobelia Paxtoni.**—It is worthy of notice how after a few years a plant goes out of cultivation to a great extent, and after a time it is again taken up. This has happened in the case of this fine Lobelia. Many of us well remember when it was

add to the beauty of gardens we have now the fiery tints of many coloured autumn foliage. Conspicuous on almost every house is Ampelopsis Veitchii, certainly one of the most deservedly popular plants in the whole list of climbers.—J. GROOM, *Glasport*.

## NOTES ON HARDY PLANTS.

**Veratrums.**—These have been extremely showy in the past summer, and though all the three varieties producing green, white, and black-brown flowers are by no means showy, they are capable of producing an excellent effect, especially when grown into strong groups. These plants are very vigorous growers, and yet one hears complaints that they do not thrive after they have been divided. I have noticed that this fault is attributable more to the operator than the plants. In the first place, they should have the soil deeply prepared, adding at the same time a quantity of light stuff. But it



Sunflowers in vases.

centre stands out conspicuously when margined with its broad zone of golden-yellow petals. There are dwarf and tall forms of the single and also of the double varieties. The last-named, when of a fine double character, are very imposing subjects; but the current taste certainly runs in the direction of the single in preference to the double varieties. There are many varieties of perennial as well as annual Sunflowers that are of great value as border plants, and many grow them for cutting from at the end of the summer and in autumn. They are best increased by parting the roots about the middle of October, or later, according to the season, soon after the flowering period is over and planting out in good soil. The perennial varieties are generally of free growth, throwing up many stems and producing large quantities of flowers. Some are double and some single. Some of the best are *Helianthus atro-rubens*, *angustifolius*, *decapetalus*, *doronicoides*, *giganteus*, *multiflorus fl.-pl.*, *orgyalis*, and *rigidus*, the last perhaps better known as *Harpalum*

seen in almost every garden. It is a most desirable kind, although not as dwarf as some, but it is none the worse for this in many types of garden decoration.—J. C. F.

**Autumn flowers.**—Seldom have we had such a wealth of outdoor flowers. The reason of this unusual display is, that the latter end of summer has been as remarkable for its genial rains and fine still sunny weather as the early part of the year was for drought and frosty nights with drying easterly winds. Although frost has already touched the Dahlias and all sorts of tender flowers, a few miles inland here, where the sea breeze protects us from these very early visitations of frost, Dahlias are now at their best. Sweet Peas, that have been flowering all the season, are now if anything fuller of bloom than ever; the pure white one, a perfect gem for cutting, is really flowering as freely as at midsummer, only that the stalks are shorter. Asters of the Victoria kinds and Stocks of the Queen and Ten-week forms continue to branch out and flower splendidly; and what a splendid sight is a good bed of *Chrysanthemum uliginosum* and the less majestic, but not less beautiful, *Anemone Honorine Jobert*! Then to

is not so much the planting that I have seen to be at fault. We too often overlook the other half of the operation of transplanting. It does not matter how carefully you plant if you have given the roots their death-stroke during the process of lifting them. Of course this applies more to some plants than others, and to no genus more than that of *Veratrum*. For instance, if you do not cut sharp and clean all round, but lift the roots without having first cut them, you simply stretch and lacerate them in such a manner that the outer covering is torn from the inner strings, and otherwise the whole length of the strong and long twine-like roots becomes ruptured. When the roots are replanted in the teeth of winter, and with wet weather coming on, they decay instead of sending out new fibres, as would certainly be the case had they been cleanly cut and not torn. There is little doubt that the indifferent growth which some apparently strong roots make for a year or more is largely due to the rupturing of the roots which takes place from bad workmanship in the process of lifting.

**Liliums.**—It is important that the base roots should be retained, that is in the process of trans-



planting. It is true we receive many of them from the trade as bare as a ball, but that does not prove that such a condition is the best. If you are dealing with bulbs freshly lifted, retain all the basal roots you possibly can, and plant as soon as possible, in order to reap the full advantage which surely exists in the case of rooted bulbs. A rootless bulb may not grow well the first year however carefully planted, especially in the case of some *Liliums* of the semi-rhizomatous species. But if you deal with freshly-dug well-rooted bulbs with ordinary care, you are pretty sure to have vigorous growth afterwards.

**Daffodil bulbs.**—The mouldy specks sometimes to be observed on bulbs that have been out of the ground for a month or more may be due to various causes. If badly harvested or badly stored, they may turn mouldy in such a way; but I have also seen them in such condition when apparently well dried. The thing I most abhor as a producer of fungus on bulbs is the packing material largely employed, especially by the Dutch people. I mean the Buckwheat chaff. The particles of meal settle on the roots and bulbs, and it seems as if the inherent moisture of the roots themselves is sufficient to moisten the meal for the production of mould. Of course, such bulbs as Tulips that have dry smooth tunics may better be able to resist mould or fungus from this cause. In all cases it is better to clear the bulbs of the speckiness by well airing them and afterwards placing them in a box covered with very dry powdered charcoal. So treated for a few days, they may be planted at once with a better chance of success.

**Campanula pyramidalis.**—The fine pot specimens seen in many conservatories at this period of the year are the result of pot culture under hardy conditions, as being plunged in the open in summer and plunged in ashes in cold frames close to the glass in winter. The present is a good time to pot up small stools or offsets, which may or may not have fibres, as they are pretty sure to grow. It is rather important to do this whilst the offsets are leafy; then immediate root-action takes place. It is safer, however, after cutting the offsets, whether the cut has been sectional or vertical, to place the roots to dry for a few hours. The roots are extremely full of a milky juice, and it is desirable that the cut parts should be quite dry and healed up or contracted before they go into the moist soil. This drying process also facilitates another matter. The leaves and stalks then become slightly soft and bend without breaking, which, as already stated, should be preserved. If you handle this plant much when the roots and foliage are quite fresh, they snap off at almost every turn. The softness from the drying process soon disappears after the cuttings are placed in the pots, and if placed in a cold closed frame they plump up and grow away freely. There is, of course, the system of raising from seed, but I always get quicker results from root-cuttings and offsets in the above way. This tall *Campanula*, which flowers in pots for six weeks nearly all the length of its stems, from 4 feet to 6 feet high, is not only a good plant for corridors, conservatories, and occasional groups, but in the hardy border all its shades, from white through puce to bright blue, are extremely effective amongst Dahlias and Hollyhocks, and similar tall things which do not include blues.

**Rosa Wichuraiana.**—Through the kindness of an American friend I have been put in possession of a picture of this as well as living plants. It is described as a rampant grower with a creeping habit, suitable for rockeries. I have been growing it now for six or eight months, working it from slips, and it is evidently a species that may be grown to advantage on its own roots. It may be described as a very small dark evergreen-leaved form with slender trailing stems, producing from the lateral shoots clusters more or less large of large white flowers, much resembling the autumn *Anemone* (*A. japonica*). It is quite distinct from all the small species that I know.

**Primula Munroi.**—It is delightful to see the flowers of these in the latter half of September,

when it is all but alone in the open garden as the representative of the genus. The flowers are fragrant, and the stout little scapes are just of that character to withstand wind and rain, which seem to serve only to make the plants flourish and flower more. Raised from seed, this species, like nearly all of its family, proves variable. I know many lose this plant, but it is from no want of hardiness on the plant's part. It simply grows itself out of the surface, and then in summer its goat-like corms become dried up and perish. It should be grown in a moist, cool place and have an annual top-dressing of sandy peat. Not only will that suit it perfectly, but it might be grown like a weed in company with the hardy *Cypripediums* and other *Primulas*, such as *sikkimensis*, *farinosa*, *scotica*, and a few of the *Gentians*. It does not object to sunshine if you secure for it plenty of moisture and a fair covering for its roots.

**Geranium Wallichianum.**—My remarks apply to a variety known to me as Mr. Buxton's, of which I have several times before spoken. I am induced to do so again from the fact that my original plant from Mr. Buxton is now in grand form in its original place on a dry quickly sloping bank. I am told that the plant is short-lived, and that it should be grown in a very moist part. Also that this sturdy-growing variety with its grand *Nemophila*-blue flowers with an almost white eye is but the ordinary or typical form. All I can say is that the plant sent to me by General Lowther—his own introduction from India—is a very different thing; certainly similar in form to the Buxton variety, but with an extravagant bounding habit, the growths rushing out all around 4 feet to 8 feet long in the stem. The Buxton variety rarely exceeds a length of stem of  $1\frac{1}{2}$  feet. My present plant is four years old and yet vigorous. Not only is the situation dry, but the soil is light. These facts are directly opposite to the experience of some of my correspondents who have tried the plant. I can only explain the difference by stating that my climate is humid; I am in the river valley and on sandstone. So much for the conditions of culture, but as to the worth of the plant itself too much cannot be said; it flowers for months in succession, and the blooms of the end of the season seem the brightest and most beautiful.

J. WOOD.  
*Woodville, Kirkstall.*

#### NOTES ON BULBS.

WANT of space is a common complaint with those who, from a real love of flowers, are trying year after year to increase their stock of hardy plants, while they cannot at the same time increase their borders or enlarge the size of their premises. This is the case with a great many, including the country clergy, whose gardens are often very small, but who yet like to make the most of the little they have. On this account the advantage of making use of the Grass on the lawn for bulbs at this time of the year is at once evident. For while well-kept Grass is in itself very pleasant to walk on and always pleasing, in early spring before mowing time flowers studded about with care and in proper places look well in it. The only flowers suitable for the purpose are those produced by bulbous plants, which early in the year send up their beautiful blossoms, then die down, and speedily get out of the way of the mowing machine. In spring, after the dreary waste of winter, we appreciate flowers out of doors more, perhaps, than at any other time, and the flowers which greet us then are apparently, if not really, more beautiful than at any other season of the year. It is then that the hedgerows abound with *Primroses*, and teach us by the loveliness and the prolific abundance of their flowers on some mossy bank that one element of beauty in flowers is to have a mass of bloom of one sort of plant occupying a corner or a portion of

the garden. The same thing is taught us by another of the wild flowers of the spring-time—the wood *Anemone*. In open glades of our woods, just before the leaves come out on some warm April day, few things are more beautiful than the great masses of bloom of this *Anemone*, which must rank among the most delicately tinted of all the wild flowers of the year.

Bluebells almost lose their individual attractions by the way in which they crowd together in sunny glades, but the great sheets of blue produced by their numberless flowers and the faint perfume which in hot, still weather fills the air make the woods delightful, and their colour often forms one of the characteristic beauties of landscape scenery as painted by our great artists. The same may be said of another of our most lovely wild flowers, the single Daffodil or Lent Lily. Where it does grow, it grows in great abundance, and it is hard to gather the flowers without treading down others and spoiling the buds, which spread themselves so thickly on the ground. Those who have space in the garden or shrubbery should certainly imitate this display of natural beauty in our woods. A dry moat is often nothing more than a deep dry ditch with a scattered Laurel or Rhododendron trying to grow on its sides. It is in reality an opportunity for a display of sheets of the golden blossoms of the common yellow Crocus, or for the early blue Squill, or the pale flowers of the Star of Bethlehem. Some of our hardest bulbs which flower early are cheap enough now-a-days to be bought by the thousand and planted in the Grass or round about the trees. Sods of the common *Scilla sibirica* are most beautiful grown in this way and they last a long time in flower, much longer than the *Chionodoxa*, which perhaps is in some respects more beautiful and certainly equally hardy; indeed, if *Chionodoxa Lucilæ* is once planted in any place where it can grow at all, it will remain there and flourish for years, if not increase. But the bulbs of this are still dearer than those of the common blue Squill, which is therefore the best for putting out in large quantities. Another blue flower of spring, the Grape Hyacinth (*Muscari botryoides*), is pretty placed round stumps of trees, and the same may be said of *racemosum* and *monstrum*. They will all of them give plenty of flowers in May, and the fragrance of one or two species is delightful. Now is the time to put them in; hence the importance of looking over the bulb catalogue, not merely to choose different sorts of Hyacinths and Tulips, but for the purpose of making the whole aspect of the garden gay in the early spring months. For that purpose these cheap and common bulbs must be bought in large quantities. *Ornithogalum umbellatum* is another bulb not so often seen as it deserves to be, for it gives no trouble and will bloom anywhere, just where it may be planted to cover some empty space, or especially in the Grass, for it will become a weed if let alone, and a very pretty one too, as many of our so-called weeds are, and worthy of admiration. But this Star of Bethlehem is indeed worth growing and can be had at a cheap rate, so that it can be introduced into any garden where there is room for it, or pushed into the Grass with a little light soil put into the hole with it. But even that is not necessary, for this pretty starry flower will in reality take care of itself after being once established.

But Crocuses are the real glory of the spring, each bulb gives so many flowers and the variety of colours is so very striking. They will go on for years in the same place. I have had them on the south side of the house against the wall in the gravel of the walk for fully fifteen years,



and still every year they come up, but only the yellow one. The purple and white have all but disappeared. Snowdrops are almost equally beautiful and are more useful in one way, that they can be gathered for a spring nosegay, though for that matter I have seen a dinner-table decorated with golden Crocuses which opened their throats well in the light and heat of the dining-room. Snowdrops grow and increase rapidly even in shady aspects. When growing wild, the finest specimens are often found under the shade of a great Blackberry bush, and in the garden they will do well on the shady margin of the shrubbery. Guano water has a wonderful effect upon them if given in the growing season after they have flowered.

In a damp sunny corner *Gladiolus Colvillei albus* The Bride will go on increasing from year to year in the west. Here I find it better to take it up, but that may be as much owing to the nature of the soil as to the climate, for in a light sandy soil many things which would quickly perish in a heavy clay soil will bear the winter's cold and wet. Mine is not that, but it is to a certain extent stiff, and therefore against bulbs which are at all delicate.

I find the common Martagon Lily—that is, the purple one—grows semi-wild in my shrubbery and back borders. It seems to sow itself casually, and then it comes up with great luxuriance, and its fine flowers send up a tall pyramid of dark-coloured reflexed blossoms. I wish I could say the same of album and dalmaticum, but they are both dear and scarce. Perhaps with care they will become as common as the purple *L. Martagon*.

A GLOUCESTERSHIRE PARSON.

#### NOTES FROM SYON HOUSE.

It is only in such gardens as those of Syon that one can enjoy the complete seclusion of the country and most of its pleasures within touch and sound of the throbbing, restless life of London. Though these charming gardens are bounded by the highway on one side and flanked by the Thames on the other, with glimpses of Kew Gardens in the farther distance, yet so far as any signs of traffic or symbols of outer life are concerned, one might as well be in Northumberland or Scotland. No doubt this feeling of seclusion, with the intrinsic beauties of the demesne, its many fine trees and shrubs, some of them of great antiquity, its long lake richly furnished, broad glades of turf, and brilliant flower-beds, endears it to the present duke, whose patronage of horticulture, as well as that of several of his predecessors in the peerage, is well known and gratefully remembered by most lovers of the gentle art. The pleasure grounds cover a wide area of between 60 to 70 acres, and are intercepted in various directions by about 5 miles of walks in capital condition. The lake, which forms a striking feature, is spanned by two or more bridges, and forms a very striking, pleasing feature, though it is one of the many gifts of Capability Brown to Syon. But mellowed through age and judicious planting and softened through occasional curves, there is a good deal to be said in favour of Brown's canals, as they were jeeringly called almost before his fame as a landscapist began to wane. One of the most obvious charms of Syon is its happy linking of the new on to the old. For instance, just recently many new shrubs and trees have been planted, notably a collection of about forty Oaks, and these virtually join hands, as it were, with the venerable Mulberry trees that were probably planted by the monks here in 1518, when Syon was a monastery, or at some later or earlier date, when it was supposed to have been the site of a botanic garden. The Lebanon Cedars are more notable for their cleanliness, length and size of bole than for their wide sweep of boughs. One hundred feet spread of branches and 15 feet girth of stem are not uncommon.

The clear height of several Cedar boles without break or bough suggests great timber possibilities, which seem to have been seldom realised except on its native Lebanon Mountains. Some very fine specimens of *Pavia flava* and *P. rubra*, and the beautiful *Liquidambar*, far beyond the size it is generally met with, form notable objects at Syon. Common and Spanish Chestnuts, the Walnut, and the seldom-seen Judas tree are also well represented in these beautiful grounds. The black Poplar runs up with fine boles over 100 feet high, and Limes to 100 feet or more, while cut-leaved Alders, Cretan Maples, and *Sophora japonica* are from 30 feet to 100 feet in height. Here thriving plants of *Stuartia virginica* 20 feet or more, *Halesia tetraptera* and other novelties were seen. There were also fine specimens of *Pinus Pinaster*, *macrocarpa*, and others, and many fine Yews, though Syon is not a very genial home for conifers, which may partly account for its not being overplanted with these to the sacrifice of its deciduous trees and shrubs. And yet, singularly enough, the lions of Syon are conifers, albeit deciduous ones, viz., the *Taxodium distichum*, of which there are several striking specimens, the finest of them all being over 100 feet in height, and the root excrescences or knees shooting up over more than 100 feet of turf to heights of 2 feet or 3 feet in the most grotesque manner at the most erratic distances. Such a tree would form a striking object anywhere, even in its native swamps of Florida, and the effect is, if possible, greater at Syon from its close proximity to a fine example of the cut-leaved Alder overhanging the lake, and near to Weeping Willows and other semi-pendent shrubs or Grasses.

The extensive pleasure grounds at Syon are set in green and crowned with verdure, and here in the flower garden we find the rich chaste blending of colour of sufficient area or mass as a set-off to the former as well as a relief to the massive grandeur of the noble conservatory that forms the background.

The conservatory is 400 feet long, and forms a perpetual garden under glass of great extent and beauty. The place of honour, the centre dome, is furnished with an enormous mass of the gigantic Bamboo (*Bambusa arundinacea*), the shoots of this plant rushing up at times at the rate of a foot a day. Near here, too, are some fine Date Palms, 65 feet high and 4 feet through, and other stately giants; also fine pieces of *Encephalartos Cafferi*, *Phoenix farinifera*, *Psidium chinense*, *Eugenia Jambos*, and the seldom seen Iron-wood tree (*Sideroxylon inerme*), with hosts of *Caryotas*, *Latantias*, *Chamærops*, *Livistonas* and other Palms, masses of Sugar Cane, Orange trees, &c. But these are mere samples of a few pickings of the plants of the world that find a spacious home in this great conservatory. In other parts of the gardens whole houses will be found devoted to the culture of Vanilla, Bananas, and other special purposes, as well as to large supplies of stove and greenhouse plants for decoration and adding to the permanent plants in the conservatory at their special seasons. Mr. Wythes also grows large quantities of the fragrant *Nicotiana affinis*, large collections of *Begonias*, quantities of Lilies, *Dracænas*, *Crotons*, *Eupatoriums*, *Arum Lilies*, &c. *Bouvardias* are also grown in quantity, mostly planted out in summer and potted up early. Quantities of Heaths, *Epacris*, *Azaleas*, &c., were being prepared for useful service by making or ripening fine growths in the open air, while hosts of *Primulas*, *Cinerarias*, *Cyclamens*, and *Chrysanthemums* in all sizes and styles of growth, from huge natural bushes to thousands of dwarf bushy plants, with the tall single-bloom-to-a-stem form, the smallest of the three groups, all forming magnificent material for their various purposes. Quantities of *Pancratium* were in bloom, and a whole houseful of the finest variety of *Hymenocallis macrostephana* coming on for future use. Close to the conservatory are five or more useful houses for growing choice *Crotons*, *Dracænas*, *Ixoras*, *Gardenias*, and other choice plants, Ferns, small Palms, and other foliage plants for house decoration. Syon has long been famous for its culture of tropical and rare fruit. My first

visit was to see the Mangosteen, not, however, then in a state of maturity. It still maintains, or has rather greatly extended, its old fame. It will prove a surprise to many to find how well Mr. Wythes cultivates the Banana, and how freely the two sorts *Cavendishi* and *Paradisiaca* fruit. The Vanilla also grows like a weed, and fruits, or shall we say pods, freely. As for Grapes, Peaches, Apricots, Tomatoes, Melons, their merits are often in evidence in the papers. Besides other houses and pits devoted to special purposes there are twelve in one range, nine of which are devoted to Grapes and Figs and three to Peaches and Nectarines. These houses are hardly such as modern Grape growers would choose to day; they are large and lofty, the range being mostly built for the culture of rare tropical fruits, and it speaks well for the skill of the cultivator that such admirable Grapes are grown, four or more of the houses being Muscat of Alexandria and four of Hamburgs. To add to the difficulty of these lofty houses, supplies of fruit and all garden produced must be provided early. Hence pot Vines are used for the earliest crops of Grapes and several low close pits are employed for this purpose, the growth of Cucumbers, Melons, Figs, and other purposes, several pits being devoted to these purposes. For the second crop of Grapes to ripen in May, Mr. Wythes trusts to young Vines planted yearly in a house and removed when the crop is finished—a plan that seems to answer admirably. He then pulls up some of the larger houses in succession, and so maintains the supply. He has one great point in his favour: most of the Grapes are cut as soon as ripe, so that the Vines soon get rid of their burdens.

Peaches and Nectarines are largely grown and in fine condition, the Victoria Lily house being converted into another Peach house at the time of my visit. Figs are specially well grown in pots and planted out, St. John's being reckoned one of the earliest and best for pots, the White Marseilles the second best for early forcing. It was pleasing to find two very old friends—the Brown Turkey and White Ischia—the two chief favourites at Syon. About 4000 pots of Strawberries were being prepared for their winter and early spring work, the sorts being *Vicomtesse Héricart de Thury*, *Keens' Seedling*, *La Grosse Sucrée*, *Auguste Nicaise* and *Sir Joseph Paxton*. Among plant houses in the kitchen garden are several Orchid houses filled with a good useful collection. Others are devoted to *Begonias*, *Eucharis*, Heaths, double Primroses, Tuberoses, the Pearl being preferred; the latter are kept perfectly cool, so as to bring them in for blooming in the late autumn, when they are most in demand here.

The kitchen garden, which contains about six acres, was crowded with a full supply of vegetables of all sorts in the highest condition. The walls are exceptionally lofty, from 13 feet to 15 feet, and remarkably well clothed with Peaches, Nectarines, Plums, Cherries, Pears. The Apricots, mostly on west walls, have been already noticed. Peaches and Nectarines were pictures of health and full of fruit on the south. Cordon Pears and Plums are also good on the west, and the north is fully furnished with Cherries, chiefly Morellos. D. T. F.

**Lilium Maximowiczii.**—This is a very pretty member of the Tiger Lily group, by some regarded as a distinct species under the names of *L. Maximowiczii*, *L. jucundum* and *L. pseudo-tigrinum*, while by others it is considered a variety of *L. tigrinum*, in which case the varietal names employed are *Maximowiczii* and *jucundum*. One fact in connection with it is that as a rule the other members of the *tigrinum* group are past their best before this is in flower, so that it stands out as the last to bloom of the numerous Lilies whose colour is more or less of an orange-red. *L. Maximowiczii* has a smaller bulb than any of the Tiger Lilies, and forms altogether a far more slender plant, while the most marked feature of all is the total absence of any bulbils in the axils of the leaves, as in *L. tigrinum* and its varieties they form a very distinct feature and a very ready means of



propagation, for should the weather be rather damp about the time of flowering, these small bulbils will often produce roots while still on the stem. Some of the bulbils of *L. Maximowiczii* bear a considerable resemblance to those of *L. Leichtlinii*; in fact, it has before now been put forward as a red form of this last-named species, but the two differ from each other in so many ways, that such a suggestion is scarcely probable. Another theory is that it is a hybrid between a Tiger Lily (perhaps *Fortunei*) and *L. Leichtlinii*. This is put forward by Dr. Wallace in his publication "Notes on Lilies," and such might indeed be its origin. It is a native of Japan and is sent from there during the winter in company with several other species, headed, as far as numbers are concerned, by *L. auratum*, most of which find their way to the various auction sales of these bulbils held during the winter months.—H. P.

#### THE AURICULA.

THIS is an important period in the life history of the Auricula. It is the time of preparation for the season of rest, and at such a time the ordinary gardener, who does not think anything more of Auriculas than he does of zonal Pelargoniums, may find that some choice plant has damped off because a leaf has been left too long in a state of decay, or a flower-stem has been allowed to decay and rot the plant at its centre. Amateurs must learn that no plant is more impatient of neglect than the show Auricula. I use the word "show" because it has become the recognised term to distinguish the Auricula of the old florists from the alpine Auricula, a very different plant altogether, different in its origination and its properties as a garden plant. The alpine Auricula stands the vicissitudes of an English winter out of doors much better than the Auricula does, and it seldom suffers from a little inattention. At this time of the year the fancier knowing exactly what attention is needed will see to it that the plants are duly cared for. When frosty nights set in the outer leaves decay, and when they are quite limp should be removed. The established plants should be now in frames, with the lights drawn off whenever the weather is favourable. The glass lights should also be made water-proof to prevent drip from injuring the plants by soaking them with water at this season, even if the drip does not go into the centre of the plants and kill them right off. Every good cultivator of Auriculas is a raiser of seedlings, and his plants at the present time are of various sizes, from the tiny seedlings pushing their seed leaves out of the ground to the full-grown robust specimens, which will throw up their flower-trusses in the autumn, to the chagrin of the experienced cultivator, who is well aware that no well-developed trusses will be obtained from such plants in the spring. A correspondent, who finds his choicer specimens pushing out their flower-trusses one after another, wishes to know what he had better do with them. What I do in that case is to pick the flower-buds off as soon as they can be laid hold of with the fingers. If this is done, the stem gradually dries up and can be pulled out by the fingers; whereas if the stem is snapped off, most likely it will become a mass of rotteness, and might die down in this state and cause the centre of the plant to decay. When the flower-buds are removed the plant will form a new centre, and may not flower again until the spring, but the trusses are seldom so good as in the case of those plants which did not produce flower-trusses. The flower-pots in which the plants are growing should be kept quite clean and the surface of the soil free from weeds. Green-fly must also be kept from the plants, and the troublesome Auricula aphid (*Trama Auriculæ*) should at least be kept from the neck of the plants; it may work underground without doing much injury, but if allowed to cluster round their necks it goes some way towards strangling them. Cleanliness, plenty of air, and attention to the quantity of water given to the plants will be the means of keeping them in good condition during the winter. Full-grown unbloomed seedlings require exactly the same

treatment as the named varieties. Offsets put in at intervals during the summer and autumn may also be wintered in the cold frames. As the winter season closes in upon them, the outer leaves decay and must be carefully removed without pulling up the plants with them. I have generally kept the smaller offsets in hand-lights; they get abundance of air and light there. The tiny seedlings which have been produced from seeds sown in July, that is as soon as they were gathered from the plants and dried, may also be kept in the frames or hand-lights until sharp frosts set in, when they are better in a house from which frost is excluded. If they are put in such a house the seeds continue to germinate all through the winter months; the larger number will vegetate in the month of February, and as soon as the first leaf is formed, other than the seed leaves, prick them out in 3-inch pots, using the ordinary potting soil underneath and a little fine sandy soil on the surface in which to prick out the very tiny plants; they would be lost in rough, unsifted soil. Correspondents are constantly writing about Auriculas, and very few of them have any idea about the distinctive characters of the show and alpine varieties. I have been writing entirely about the show section, which comprises the green, grey and white-edged varieties, and also the selfs. They are all known by their white centres densely coated with farina. The leaves of many varieties are also thickly coated with farina in the form of a dense fine white powder, but some varieties have quite green leaves. There is no powder on the leaves or flowers of the alpine, and yet the leaves are so different from the quite green leaves of the show varieties, that a fancier could tell which was show and which alpine at a glance. Information is also sought as to the treatment of alpine. My experience with them is that they are quite hardy if planted in the open garden and well established, and they seldom require to be disturbed. The plants will grow freely and spread widely, forming dense clumps of flowering growths. They should have a surface dressing of good rich compost around the stems once a year either in the autumn or the spring. I tried experiments with the alpine out of doors thirty years ago, and proved them to be most excellent border and rock garden plants. I had some plants that were eighteen years old and had never been removed, but they had a little fresh material put around them every year. They were left in the old garden. Some I planted where I am now, and they have continued to do well for about ten years without removal. We grow a two-light frameful of plants in pots, which also give very great satisfaction in their way. They are principally for exhibition, and for that purpose the very best varieties must be grown, and they are repotted every year, the plants being reduced to single crowns at the time of repotting them. Sometimes varieties with very perfect flowers are not of vigorous constitution. These require care in their culture, and would not do for planting out. Only the vigorous growing varieties should be planted out, and they ought to be in such a position that water does not stand about their roots in the winter. They like good deep soil. Heavy loam is much improved by the addition of mortar rubbish, sand and leaf-mould. As far as regards pot culture, alpine require the same treatment as the show varieties.

J. DOUGLAS.

*Modiola geranioides* has been very beautiful in many places in the neighbourhood of London. The plant is well fitted for hanging over ledges in the rock-work, and thrives in light loamy, well-drained soil. It should be planted in the full sun. The large saucer-shaped flowers are of a deep rosy crimson.—W. G.

*Malva lateritia*.—This will be found useful for a warm sunny rockery. The flowers are produced singly upon long peduncles. It grows about a foot or rather more in height and spreads considerably. It makes neat three-lobed leaves, and is very showy when allowed to grow upon the rockwork fully exposed to the sun. It is one of the old-fashioned plants which should again be-

come popular, and appears to be a native of Monte Video.—W.

*Mirabilis multiflora* (*G. Bockett*).—The plant of which you send me flowers was introduced some few years ago from California by Mr. Thompson, of Ipswich. The flowers are borne in great profusion in terminal panicles, and are large and spreading, bell-shaped, rich purple in about two shades. I have seen this plant only once, and I do not know its habit. Perhaps Mr. Thompson will kindly tell me and other readers of THE GARDEN something of its requirements.—W. H. G.

#### FLOWER GARDEN NOTES.

THE early September frost was this year strongly in evidence, and 12° were registered on the morning of the 18th ult. in one or two places in the immediate neighbourhood. With only 6° and all foliage very dry, we have as yet escaped comparatively unscathed. With the exception of the big-leaved Tobaccos, nothing is injured. *Nicotiana glauca* I can recommend as a grand sub-tropical plant. It does its work very quickly from the seed-pan, the habit is good, and the individual leaves of immense size and fine form. It is, unfortunately, like all the family except affinis, very tender and its season consequently short. The frost has touched the Dahlias, but has not seriously affected them. They have been very fine this year, and are very effective both as single isolated plants, in a mass, or in contrasts of colour in blocks and lines. Beds of Fire King with Desgrange Chrysanthemum and the free flowering Marguerite are very bright through early autumn. A very showy border is composed of a front row of white Marguerites backed with Dahlia Cochineal, the latter backed with the white Constance. Constance is wonderfully free, and although the finely serrated and elegant Mr. A. W. Tait is perhaps more in favour as an individual flower, nothing can beat Constance for freedom of growth and flower, and for its value for bold massing. Another very pretty autumn bed is composed of alternate plants of Chrysanthemum Mme Desgrange and Aster acris. This Starwort does not as yet seem generally known, but it is a gem—colour a lovely shade of dark lavender, height from 30 inches to 36 inches, and lasting a long time in flower. The particular section of annual Asters known as bedders, seed of which can be procured wonderfully true both as to height and colour from most of our leading seedsmen, is now a special feature in most flower gardens. To inquiries as to how best to secure a bright and lengthened display for a small flower garden, to be produced at a minimum of time and expense, I would suggest that the above-named Asters in variety, together with the dwarfest of the Phlox Drummondii, seedling Verbenas, where these flourish kindly, Lobelias and Petunias should follow Wallflowers, Polyanthus, Silene, and some of the Daffodils. A mistake is often made in being too late with the sowing of things for this second planting. The seed should be sown by the end of March, and if house or pit room is insufficient, a one or two-light frame, or even hand-lights resting on a bed of leaves of sufficient depth to produce a little warmth, will answer the purpose admirably. If sown in this manner, it is well to exercise a little special care with the tiny seeds of Lobelia and Petunia. The advent of frost has made us glad to house not only all cuttings, but all plants connected with summer flower gardening, as specimen Ivy and scented Pelargoniums, Heliotropes and Marguerites. I like to get these in fairly early so that flower and foliage remain in tolerably good condition for some time. A batch of good shapely Marguerites is, after cutting round them twice at the interval of one week, carefully lifted, potted, and consigned to a shady corner for a few days, when they take their place in an empty vinery or Peach house, and come in very handy for cutting through the dull months. Mention of these Paris Daisies reminds one of the similarly named Carnations, Marguerite or Margerita. I hope the correspondents who complained last year of very poor flowers and a big proportion



of singles have been more fortunate this season. I suppose rather more than seventy-five per cent. of our batch had double, and some very fair flowers among them. The latest batch has been lifted and potted, and will yield a very nice picking of button-hole flowers for some time. Other plants that must soon be housed are those that have been used for forming groups in different parts and positions in the flower garden. I drew attention early in the season to the value of such arrangements for securing a bit of bright colour. Where there are comparatively few flower-beds much can be done in this direction with common plants, and I have seen very effective lawn groups this year composed of the pyramidal Campanulas and Francoas, Fuchsias, Begonias, and zonal Pelargoniums in variety, with such fine-foliaged plants as Palms, Dracænas, and Aspidistras, and an occasional Grevillea and Eucalyptus. Those of the Pelargoniums used for the above purpose which are good winter flowering varieties may, as soon as they are no longer required out of doors, get a little fresh soil

cut off by frost. I remember on one occasion we had a sharp frost in the middle of September, which made the outdoor garden quite bare of bright flowers. A bed of Asters just coming into bloom was protected with mats, and gave me an abundance of fine flowers for a month afterwards. It is well worth going to the trouble of protecting them, for there is nothing that can equal the Aster for cutting during the early autumn months. Naturally, for late blooming the seed must not be sown quite so early as it is customary to do. I make two sowings, one in a cold frame early in April and another ten days later in the open ground. For the first sowing I never use pans, but sow broadcast in fine soil, and as soon as the plants appear they are exposed on all favourable occasions, so that they come on slowly and are very hardy and robust by the time they are large enough for planting out. If sown rather thinly they may be taken up with a ball of earth, and if well watered in they will experience but a slight check. I am now (the last week of September)

have not made strong growth, not being more than 9 inches high, but are remarkably healthy, and are just forming a mass of colour, the individual blooms being small, but just the thing for cutting, and at a time when most useful. J. C. B.

## STOVE AND GREENHOUSE.

### THE STOVE BALSAMS.

SOME twenty-five or thirty years ago, the most noteworthy or only species to be met with in gardens was *Impatiens Jerdome*, not including, of course, those found in botanical collections. This species was of more compact growth than the newer ones, but not so striking or showy, whilst it requires a kind of semi-rest during the winter season. I have grown it into compact little specimens, but it is now seldom seen, the newer varieties, *I. Sultani* and *I. Hawkeri*, having superseded it. The former of these two is now to be had in at least three distinct shades of colour, the original with scarlet flowers, others of carmine and salmon shades. Besides these there is a variegated form, which, although a novelty, has no other particular merit to recommend it for general cultivation. *Impatiens Hookeriana* is a winter-flowering species, having white flowers striped with crimson, but is not much cultivated, being a tall, vigorous-growing plant. *Impatiens Hawkeri* is, when well grown, the finest of the genus, but it is somewhat a shy doer, being very partial in its likes and dislikes. When not over-potted, so as to encourage a rank growth, I have found it to thrive and flower well. Young plants should, however, be always kept in stock, as older ones have an unfortunate weakness in dying off prematurely. *Impatiens platypetala* has rose-coloured flowers with broad petals. This is a stove annual and not much cultivated; nor is *I. flaccida*

*Impatiens Sultani.*

on the top of the pots (a bit of good loam with a little artificial manure in it). These will then, if placed on a light airy shelf in the structure devoted to soft-wooded winter-flowering stuff, give a capital lot of bloom until winter is well advanced.

Claremont.

E. BURRELL.

### CHINA ASTERS IN AUTUMN.

I MAKE a point of having a good bed of Asters for cutting from through September and the early part of October. I like to have my show of Asters at that season in preference to a fortnight or so earlier, as the blooms last so much longer owing to the cooler weather that usually prevails in early autumn. If the plants come into flower in August and the weather happens to be very hot, the blooms soon pass over, partly through the heat, but in a great measure because they are so quickly fertilised. When the autumn has been favourable I have often cut Asters up to the middle of October, and by protecting at night with mats have had good blooms when all summer-blooming things were

cutting fine blooms from plants that have been treated in this way, and others are opening from the open air sowing. The easiest of all ways of growing Asters, and one that can be followed where the object is a supply of cut blooms, is to sow where the plants are to flower. Let the ground be deeply dug, well manured, and shallow drills drawn 9 inches apart. Partly fill these with fine sandy soil, fill with water before sowing and shade with branches till the young plants come through. Fly seldom assails Asters raised in this way, probably because they go away so freely from the time they come through the ground. When they come into full growth, I give a dressing of concentrated manure which is well stirred in, and an occasional watering is given during June and the early part of July, after which time they need no more assistance. Last spring, thinking I might not have quite enough plants, I made a sowing in the middle of May. The seed was sown rather thickly, some of the plants were taken out, and the remainder allowed to remain. The ground was very light and poor, the summer was dry, no water or food of any kind being given. The plants of course

*alba*, also met with under the name of *I. Sultani alba*, this latter being amenable to greenhouse culture. Of these species and varieties, the best for private gardens are *I. Sultani* (of which an excellent example is given in the accompanying woodcut), both the type and its other colours, and *I. Hawkeri*. Neither of these appear, however, to be grown so much as a few years back. I attribute this to their being grown in too much heat. This they do not certainly require; an intermediate or cool stove will suit them well for the greater part of the year, with no excessive amount of moisture. Under this mode of treatment, with root limitation, they will flower more profusely. In a stove, with excessive moisture and a high temperature, such as many plants delight in, these Balsams will grow abnormally large, quite out of their true character in fact. Plants thus grown must not be accepted as correct indications of their special value as decorative subjects by any means. Whilst some amount of shade is re-



quisite to keep them fresh in the foliage, on the other hand, too much is worse than none at all. Red spider is one of their chief insect enemies, but with syringing this may be kept in check. If the plants are infested with mealy bug, the better way will be to consign them to the nearest fire and start afresh with a clean stock. A species of white fly will be found troublesome at times. To remedy this, a weak solution of any tried insecticide will be found effectual. Ordinary potting soil as used for quick-growing plants will suit them, loam being the chief constituent. Both of the species recommended for culture will strike readily enough from cuttings. A good number of these should be taken in the spring to make flowering plants, whilst towards the autumn others should be struck, so as to keep the stock without having to retain all the older and larger plants. Through the winter they should be kept moderately dry in a warm house; a shelf near to the glass will be found a good place for them. *Impatiens Sultani* can also be readily raised from seed either directly it is ripe, which is the better plan, or early in the spring. This variety has in some places been tried for bedding out, but I have never seen it a pronounced success. It hardly pays to retain old stools from year to year when a fresh stock can be raised so easily. In a cut state the flowers are somewhat disappointing, fading quickly, much too quickly, to be of essential value other than for particular purposes and occasions.

PLANTSMAN.

## NERINE FOTHERGILLI.

THIS is one of the showiest members of a most beautiful genus of South African bulbous plants, whose merits, as is the case with many others, are at the present day so generally overlooked. They were at one time more popular than now, and used then to form quite a feature at the Wellington Nursery when Messrs. Henderson had collected together there a large and varied assortment of plants, many of which would be very difficult to obtain now-a-days. M. Max Leichtlin, of Baden-Baden, appears to be the principal person to interest himself in these *Nerines* and in the raising of new varieties from seed, but the grandest display of them that I have ever seen are the huge masses that flower so well year after year at Baron Schröder's. The *Nerines* push up their flower-spikes about September when totally devoid of foliage, but soon after the leaves begin to push and the plants continue to grow throughout the winter, ripening off as spring advances. As they show traces of finishing their growth the water supply must be diminished, and ultimately quite stopped till the spikes make their appearance. Full exposure to the sun in order to make the ripening process complete will do a great deal towards ensuring a good display of bloom. In potting them thorough drainage must be given, and a very suitable compost for the purpose is an open, but not too light, loam with an admixture of leaf-mould, well-decayed manure, and sand. If the manure is not perfectly free from insects it had better be omitted, for the great thing in the successful culture of the *Nerines* is to disturb the roots as little as possible, as they bloom best when the bulbs are tightly wedged together, and consequently the soil used should be such as will remain in good condition for years. When potting is necessary, the roots should not be disturbed and the new soil should be pressed down firmly. A cool greenhouse suits *Nerines* perfectly, but it is essential that it be in a light position, as they grow during the winter, at which season in many districts a deal of dull weather prevails. *N. Fothergilli* is one of the largest members of the genus; its gorgeous vermilion-coloured blossoms are covered with sparkling coruscations that give to them the appearance of being frosted. Some individuals are a good deal superior to others, and upon the best form the name of *Nerine Fothergilli* major has been bestowed. *Nerine curvifolia* is also

synonymous with *N. Fothergilli*. Two other species, *N. corusca* and *N. Planti*, are somewhat in the same way, while there are several others, most of them smaller, but all beautiful. Four of them, consisting of *N. pulchella*, *N. pudica*, *N. humilis*, and *N. filifolia*, with *N. corusca* and *N. Planti* just mentioned, were illustrated by means of a coloured plate in *THE GARDEN*, March 25, 1882. Some of these smaller forms of *Nerine* flower every year at Kew, and when several bulbs are grouped together in one pot they are very attractive. The hardiest and at the same time the commonest member of the genus is the *Guernsey Lily* (*N. sarniensis*), of which large numbers are sent to this country every year just as the flower-spikes make their appearance. They are grown in the open ground and lifted early in the autumn, when the flowering bulbs can be sent a long distance without injury. This *Nerine* is certainly a very accommodating plant, for though the roots are, of course, a good deal disturbed by lifting, the blossoms will expand beautifully if the bulbs are potted as soon as received and placed in the greenhouse. After potting they need to be freely supplied with water. In a dry atmosphere the blossoms will remain in beauty a considerable time. If the bulbs are potted singly, pots 4 inches in diameter will, unless in exceptional cases, suit them well, or three bulbs may be placed in a 5-inch pot, and in this way extremely useful little specimens are obtained. The *Belladonna Lily* (*Amaryllis Belladonna*) also blooms in the same way and at about the same time, but it cannot be lifted and flowered in as satisfactory a manner as the *Nerine*. A narrow border on the sunny side of a hothouse planted with this *Belladonna*, if allowed to remain undisturbed, will be, as at Kew, an object of great beauty during the autumn months.

H. P.

## ROSE GARDEN.

## TEA ROSES.

TEA ROSES are in nearly all respects the most beautiful of their species; they possess nearly every desirable quality which we look for in a good Rose, having in all cases lovely tints, and in most cases scent and form. They lack, however, in many varieties that which most of the Hybrid Perpetuals possess, viz., stamina and hardness, but as a set-off to this defect they have when in full vigour the most wonderful power of constant flowering, and in this respect are far superior to the so-called perpetuals. The Tea Rose frequently appears in the spring unable for a time to recover the severe trials of the winter, and the wood is found to be dead almost to the very junction of the stock with the Rose bud, yet it is wonderful how often even from this little remaining atom of life a strong bud breaks and grows into a fine shoot, subsequently forming a large head; for this reason it is well to warn the inexperienced not to be too precipitate in taking up as dead Tea Roses those which look hopeless in the months of April and May. The Tea Roses which are the strongest in vitality are those which have been obtained by crossing others with the *Gloire de Dijon* stock, such as *Mme. Berard* and *Bouquet d'Or*, *Belle Lyonnaise*, another scion of the same race, not having, however, quite the same vigour, although in many other ways desirable, and resembling the above-mentioned Roses in their good qualities.

Nearly all our best Tea Roses have been raised by French rosarians, the most notable of these raisers (especially of those Teas which are at the present time the most highly valued) being *MM. Guillot et fils*, of Lyons; but amongst our own rosarians at home there have been many good varieties raised, notably *Cleopatra* and *Princess of Wales* by the late H. Bennett; *Ethel Brownlow*, by Messrs. Dick-

son, of Newtownards; *President*, by Paul and Son; *Sappho* and others by Mr. W. Paul, of Waltham Cross. Even allowing for these Teas and a few others raised by English growers, the greater majority by far have been raised by French houses. *MM. Guillot* I have already mentioned, as I consider they are the leaders and in the front rank of Continental rosarians by their productions, and especially by having sent out such Roses as *Comtesse de Nadaillac*, *Catherine Mermet*, *Ernest Metz*, *Hon. Edith Gifford*, *Mme. Bravy*, *Mme. Cusin*, *Mme. de Watteville*, *Mme. Falcot*, *Mme. Hoste* and other Roses of the most desirable class, and, with the exception of *Mme. Falcot*, of the best exhibition form. Next to the firm of *Guillot et fils* I place *Ducher*, to whom we are indebted for that grand Rose *Innocente Pirola*, and also such beautiful varieties as *Jean Ducher*, *Marie van Houtte*, *Anna Olivier*, *Bouquet d'Or*, *Rêve d'Or* and *William Allen Richardson*. The grandest yellow Rose of the day—*Maréchal Niel*—was raised in 1864 by a grower not now much remembered, viz., M. Pradel; but his name should be immortalised by that great production alone. I would refer, however, anyone caring to learn the history of many other Roses now famous, and the French growers who were associated with their production, to an interesting article by the Rev. H. H. D'Ombraïn in the Rose number of the *Gardener's Magazine* for July 2 of this year. Most people have their favourite Tea and Noisette Roses, but I think everyone gives the place of honour for distinctness of colour, growth, and sweetness to *Maréchal Niel*, the Roses usually held in the highest estimation with the *Maréchal* being *Comtesse de Nadaillac*, *Catherine Mermet*, *Souvenir d'Elise*, *Innocente Pirola*, *Edith Gifford*, and *The Bride*, all Roses of the highest exhibition standard. A list of the best Teas and Noisettes for all uses, including exhibition, is not a very long one, and after those already named I would place *Anna Olivier*, *Mme. Hoste*, *Mme. de Watteville*, *Mme. Cusin*, *Ethel Brownlow*, *Marie van Houtte*, *Princess of Wales*, *Sunset*, *Souvenir de Paul Neyron*, *Mme. Bravy*, *Francisca Kruger*, *Mme. Lambard*, *Ernest Metz*, *Cleopatra*, *Jean Ducher*, *Caroline Kuster*, *Bouquet d'Or*, *Mme. Berard*, *Princess Beatrice*, *Niphotos*, and *Souvenir de S. A. Prince*. I have omitted a few Teas and Noisettes which are generally known and held in estimation for various purposes, such as *Homère*, *Celine Forestier*, *Madame Falcot*, *Luciole*, and *l'Idéal*, but they are not Roses of exhibition standard, although very lovely and sweet; and certain others are also beautiful as garden Roses, such as *Fortune's Yellow*, *Ma Capucine*, an exquisite flower of *Nasturtium* colour, lovely in the bud state, but very transient, as it has no substance whatever, and *Chedane Guinoisseau*, which is also a desirable flower in the bud, but nearly as fleeting as *Capucine* after it opens. I confess to a preference for those Roses which we can grow of good size and lasting power, but no good garden collection should be without *Ma Capucine* and also *Fortune's Yellow*; the latter is a difficult Rose to grow. I have not myself succeeded in doing so satisfactorily, but I believe Mr. Girdlestone has found out the secret. Sweet scent is with many the first point in a Rose. Possibly no individual Tea or Noisette, except probably *Maréchal Niel*, is as sweetly scented as some Hybrid Perpetuals, notably *La France*, *Mme. Gabriel Luizet*, and *Viscountess Folkestone*, which in my opinion excel all others in this advantage; but I should say that many of your readers have noticed the delightful fragrance from bloom-covered trees of *Mme. de Watteville* or *Mme. Cusin*, the former especi-



ally being easily recognised at some distance by its sweet-smelling flowers. The varieties Luciole, Devoniensis, Comtesse de Nadaillac, and the Dijon Roses are also remarkable for this most desirable quality in a Rose.

It is now generally conceded that the Brier stock is the best for Tea Roses, and the most satisfactory method of growing them is as half-standards, the reason for thus growing them being that the Tea Roses do not as a rule throw out very strong wood, and the blooms on dwarf trees suffer in consequence when rain and wind dash them about, the flowers thereby getting much damaged. The best soil for the growth of Tea Roses is that where the red sandstone abounds; they seem then to grow in rampant form. But good Tea Roses can be grown on any well-prepared loamy ground. The trees should be protected in winter-time, especially after recent planting, either by Bracken in the branches of standards or in the case of dwarf trees by earthing up, as in Potato growing. The protection should be left on till after the cold March winds be past. They should be pruned late in April and quite as hard as Hybrid Perpetuals. Tea Roses usually require more central thinning out of weak wood than the H.P.'s, and to obtain Roses of high quality, disbudding must be well attended to. In planting Teas the first consideration is to give them the sunniest aspect possible, and also plant where water will not lie stagnant; therefore the plan of planting on two sides of sloping beds is a good one to adopt.

Some of our best Teas of former days seem to have almost died out. Especially would I note Devoniensis and Cloth of Gold, which are hardly ever seen in gardens, not to speak of exhibitions. This is much to be regretted, but the severe winters of 1878-79 and 1880-81 caused great havoc amongst Teas generally, and may be one cause of several Roses once of note having almost disappeared from our gardens. It is a pity that Teas are not more generally cultivated. In most cases, amateurs, although usually expressing the greatest admiration for them and Noisettes, seem to be afraid of growing anything but H.P.'s to any extent, the reason being the somewhat natural fear of what the frosts may do for them; but I think with the precautions already named of planting in a sunny position, if possible somewhat sheltered from north and east winds by wall, fence or protecting shrubs, and if a little Bracken be used or earthing up adopted, the results will be encouraging. Such winters as those I have quoted and more recently that of 1890-91 are infrequent.

In my small collection of some 800 trees I grow about an equal number of Teas and H.P.'s, and although I lose each winter about six Teas for each H.P. which dies, yet I would not give up Teas, even if the proportion were more unfortunate, and I certainly would prefer to sacrifice growing H.P.'s to Teas if I had no other alternative.

CHARLES J. GRAHAME.

(Croydon.)

**Roses in November and December.**—All growers of Roses know how difficult it is to secure a good crop of flowers during December and the following month. After that time Roses grow apace, but from the fall of the year until the commencement of a new year it is often a hard matter to secure a paying or satisfactory crop. There are two ways of doing this, either by hard forcing of early summer-ripened plants, or by continuing to grow a few which were kept back as late as possible. I have frequently tried both methods, and have come to the conclusion that the latter is the easier and more certain. I leave those pot

plants that are least ripe when pruning early in the spring; these are stood on the north side of a hedge, plunged in ashes and kept as backward as possible. When treated in this way, the plants are not nearly so exhausted by the end of autumn as those grown on more freely. They have, in fact, a fine lot of young growth upon them. Now, by introducing these plants into the house, and only giving them a temperature of 55° until these young growths have bloomed, and then encouraging them in every way possible, both with a gentle rise in the temperature and a little guano water, I have never had much difficulty in obtaining a good second bloom about Christmas and the early part of the year. These plants will commence to grow directly they are housed, and it is these growths which produce such useful blooms in close succession to those already forming upon the young shoots made out of doors in the autumn. These flower in November and the early part of December, and are in their way equally as useful as those coming later, especially if we have an early winter, and one which cuts off the late autumn flowers that are sometimes found in warm and sheltered corners. By adopting this plan and then starting a batch of the ripest plants as soon as the days have turned, I have had much better and more uniform success than when trying to start some in September or October.—R.

#### ROSES FROM CUTTINGS.

UNDOUBTEDLY there are many good Roses that will thrive very well upon their own roots, especially if sufficient time be allowed them to become well established. It is only after this has taken place that they have strength enough to be profitable. I am not in favour of own-root Roses, except in a few cases, as I am firmly convinced that all of the abuse that has been delivered against the plants worked upon various stocks is due to their having been carelessly or cheaply done either in the way of undisbudded stocks, or in being worked too high or far away from the roots. There is yet another cause of these complaints, and that is in the planting. All dwarf Roses, whatever stock they may be upon, must be planted deep enough to cover the junction of stock and Rose. If this is neglected the Rose seldom does well, and much more encouragement is given to suckers forming. A great deal depends upon whether you are growing your Roses for indoor or outdoor cultivation, and whether you can afford them the protection of a close frame or not during the process of rooting. The most certain way is the following: Procure some wood of the desired variety that is about three-parts ripened; that still with leaves on is preferred. Prepare some 2½-inch pots of sandy soil—leaf soil, loam, and sand in equal proportions is a good compost. Cut up the wood into lengths of two or three eyes, according to the width between them. Do not remove any of the foliage, and then insert the cuttings about half of the depth of the small pots. Give a thorough watering, and stand in a cool and perfectly close box or pit. Shade must be given during bright weather, and if properly attended to in this respect they will need very little sprinkling to keep the leaves and wood plump and fresh. Under such conditions they will soon callus and emit healthy roots, when they be looked over and the forwardmost removed to another place and be still kept cool and tolerably close for a while longer. Very soon the young eyes will commence growing, and they may then be either potted on and treated the same as other Roses (affording them a gentle bottom heat at this time is a great help) or they may be allowed to winter in the cool pit, and then be started with gentle heat when the days turn. At any rate, now is the best time for striking them, but I have little, if any, choice as to growing them on from now or a little later. Three weeks to a month will be quite long enough to decide which are going to strike or not, and strong or free-growing Teas, Noisettes, Chinas, Hybrid Perpetuals, &c., may be rapidly increased in this manner. If you cannot afford them a pit or a frame, a close box covered with sheets of

glass will answer the same purpose. The other plan is to choose wood that is a little riper than that recommended above, and to cut it into lengths of 4 inches to 6 inches. These are then inserted thickly in sandy soil, and, if possible, under the cover of a wall or fence. By paying a little attention to covering with rough litter during frosty weather, and pressing them down if at all lifted by the frost, a fair proportion of the cuttings will strike. They should be inserted deep enough to cover all but the top eye, and wood should be used that has lost all its leaves, or in the open air these would tend to absorb and throw off the sap still in the cuttings. When kept close in a frame or pit, the leaves are an assistance, but not otherwise. There is yet another very simple way of increasing own-root Roses. This is to choose vigorous wood and cut out the buds or eyes somewhat the same as when preparing them for budding. Cut rather deeper, and do it as clean as possible, not removing the small portion of wood remaining over the seat of the eye, as you would in budding. Prepare pots the same as before, place a layer of sand on top, and rather more than three-parts bury the eye in this, leaving the whole of the leaf intact if not too large and weighty. By using a very fine rose in the final watering, and taking care, you can set the sand around them sufficiently to keep in position until struck. Exactly the same treatment may be accorded them as that recommended for the other small cuttings.

R.

#### ROSE NOTES.

**IMPROVING ROSA RUGOSA.**—I do not think there is much to alarm "D. T. F." in my notes on p. 201. *Rosa rugosa* is very beautiful, and I hope that it may long remain a valuable and cherished shrub in our gardens; but this does not justify an objection to improving it. Perhaps this sentence, however, needs qualifying, for in some respects it cannot be improved. Surely "D. T. F.," knowing the shortcomings of many present-day Roses, will recognise that a race having *Rosa rugosa* for a parent may be characterised by all that parent's good qualities. I started on the assumption that such would be the case, and the after-publication of the letter concerning experiments in America seemed to me to afford ample proof of the possibilities I had suggested. At least a double *R. rugosa* can be but a variety, and all who prefer the single can do so. Our best Roses of to-day that are the outcome of high cultivation and hybridisation are kept up to the mark by a standard of cultivation approximating to their needs. Their original parents, if we happen to have them, will hold their own in the shrub plantations, producing their profusion of single flowers and fruits in succession. In the same way, if *R. rugosa* is improved, nothing alarming will happen. We may have to root out from our borders some of those Roses that are vainly supposed to be perpetual bloomers and are afflicted with divers diseases to make room for others of a hardier and more vigorous constitution.

**AUTUMN ROSES.**—It is well that in reviewing the season as far as it has gone mention should be made of the all-important fact that several weeks of Rose enjoyment remain. After reading the partial reviews that appeared on pp. 201 and 223, I examined my Roses. The writers were amply justified as far as they had gone, for the aspect of the border of Hybrid Perpetuals was a very naked one. Even *La France*, one of the best of them, is not quite so good as generally supposed. I thought at one time my experience was singular as regards this variety, but some others tell the same tale of rich promises not half fulfilled. With me a group of plants has only been really good once during three years, and that was this year. Then of the many buds produced and half-



developed, only a moderate number expanded into perfect flowers. On the other hand, some of those "D. T. F." mentions on page 223 as appearing in the streets at 1d. a-piece are grand in their season and most reliable. Peg their long shoots down to the ground, and what a return they give. One pleasant remembrance of the past Rose season is the lovely and long-lasting effect of a pegged-down group of Fisher Holmes. For weeks it was gay with perfect flowers, fine in form and hue, favoured, of course, by such weather as dark Roses love. To turn from the Hybrid Perpetual border to the Tea Rose garden, how marked is the contrast! Such vigour, health, profusion of rich foliage and amazing promise of bloom only dependent upon fine weather. The quantity of foliage alone places the autumn blooms in a setting more dense and more effective than that which accompanies the first and summer flowers. Individually the enjoyment of the blooms is prolonged several days, and one cannot help noticing the gradual expansion of the perfect bud into the full and perfect flower. In this state, too, it is more lasting, shorter days and less heat having diminished power; therefore, they do not speedily hasten the flower on to its fall. A group of Catherine Mermet had many flowers, and a noteworthy feature of this kind is that the autumn flowers are borne on stronger wood. As a Rose for grouping, this kind is not quite so useful as the majority. It has a thin look, the leaves being naturally small and few. With a grey carpet, however, it makes a pretty picture at any time, and the loss in one respect leads up to a gain in another way. Safrano, a Rose of fifty years ago, has made a bold effort for this present season, as if to try and sustain our interest in it, by sending up shoots 4 feet high, proportionately thick, and terminating in branched clusters of more than fifty buds. In summer its flowers are but of one day's duration, but now visit it on any day and there are buds in plenty to admire and cut and come again. Mme. Lambard, as usual, is covered with many-tinted blossoms. The autumn charms of this Rose are many. One flower I specially noticed was of the palest blush tint, with a distinct margin of rich rose round the edges of the petals, and altogether unlike the kind as we usually see it. Anna Olivier has deeper coloured flowers than usual, for with me, as a rule, the late blooms are very pale. Luciole is producing its third crop of flowers this year. Comtesse Riza du Parc and Jeanne Abel are both Roses that have no merit to recommend them to exhibitors, but grouped in gardens make perfect pictures. The first named promises to give a far better autumn display than in summer. Strong shoots from the base of the plants have branched at the top, each promising from twenty to forty blooms. Jeanne Abel has an open and rather loose flower, but with a bright suffusion of pink and rose on a white ground. Rubens, Mme. Charles, Marie van Houtte, and Dr. Grill may be dismissed with the remark that they are contesting as to which shall make the best display, but Hon. Edith Gifford will even surpass them if weather permits. I began to count the buds on a group of plants, but having counted 200 on three plants, I left the rest, for they were quite as numerous. All things considered, there is no better Tea Rose in existence for making a handsome group than this. It cannot be over-praised. These kinds here mentioned were selected as being the most conspicuous, but what is true of them applies to all the other good kinds not alluded to. The only Rose among these not a true Tea is Grace Darling, but happily it is equally as beautiful

and the plants are covered with clusters of fine flowers. This group was planted three years ago, the ground was surfaced with the mossy Saxifrage, and nothing has been done to it since in the way of digging or forking in manure.

OTHER AUTUMNAL ROSES include the Monthlies, and those who cannot succeed with the Teas will be well repaid by getting all the good kinds in this section and planting them in bold groups. Few indeed are the pests that ever plague them, for in the large bed of them that I have it has never been necessary to adopt any remedial measures against the usual foes of Roses. I treat them exactly the same as the Teas. They are hard pruned in spring, and this induces an extra vigorous successional growth upon which flowers keep coming till the hard frosts put an end to them. There are many really first-rate kinds in existence, but only one or two growers offer them in any quantity. A good way to popularise them would be through the medium of the flower shows, if a collection of the best was brought together and the flowers were shown, as they might easily be, several times during the summer and autumn. Last, but not least in our public parks and gardens groups of Monthly Roses would be a delightful feature.

A. H.

**Stocks for grafting.**—It often happens that when the grafting season comes round one finds that he has neglected to prepare any stocks, or that those potted up for that purpose have not done so well as he wished. Now that the struck cuttings of both Brier and Manetti are partially ripe they may be lifted and potted. If plunged again at once and afforded the shelter of a hedge or an old frame, they will commence root-action and be almost as good for grafting as well-established stocks that have been growing in pots all the spring and summer. I use quite as many stocks that are grown in this way as of those potted up in the spring, and with about equal success.—R.

**Rose Belle Lyonnaise.**—This is one of the best of Roses for autumn flowering, and as the flowers generally hang their heads slightly, they do not suffer so much from rain as many other Roses do. The colour is a soft yellow without any of the warm tints found in its parent Gloire de Dijon, to which, however, it bears a strong resemblance in habit, while the blooms are rather larger. One of its peculiarities is that though rather tender generally, it is much hardier when grown as a standard on the Brier than it is when grown as a dwarf either on its own or on foster roots. On its own roots it will not live through a severe winter, though standards come through unharmed.—J. C. TALLACK.

**Rose Lamarque**—I was glad to see this Rose receiving such favourable notice as has lately been accorded it, for it is one of the most useful. It is quite deserving of all that "D. T. F." and "E. M." say of it, and if it were only hardy enough to be depended on for ordinary positions and planting, it would be the garden Rose, as we have so few that are white and none of the merits of Lamarque. It is beautiful in the bud, and what a number it affords, as they come in great clusters and have good long stalks—just the thing for button-holes and working up into bouquets. If they are wanted for other purposes, such as the embellishment of rooms in vases or for church decoration, one has only to leave them to expand a little, and to choose the smaller bunches with one or two blooms, and then they are perfect for the uses mentioned, as they stand up boldly instead of drooping or bending in the stems, like Niphetos and most Teas. I quite agree with "D. T. F." that Lamarque should be on its own roots, and the place to grow it is against a sunny wall or fence where it can have plenty of scope, as it is a strong-habited kind, making shoots of great

length every season. Our plant is indoors, where it covers the back of a house 30 feet long by 10 feet high, and does us great service. The shoots are kept thin and are laid in about 6 inches apart, the house being thrown open and the plant syringed freely to keep the foliage fresh and healthy and ward off red spider.—S. D.

## GARDEN FLORA.

### PLATE 878.

#### YUNNAN RHODODENDRONS.

(WITH A COLOURED PLATE OF R. RACEMOSUM.\*)

YUNNAN Rhododendrons are not unlikely to prove as useful in the garden as the Himalayan and the Malayan kinds. The discovery of over thirty new species in the province of Yunnan by the French missionary Delavay about ten years ago was soon afterwards followed by the introduction of some of them by means of seeds. The first to flower in England was *R. scabrifolium*, of which a figure was published in the *Botanical Magazine*, t. 7159, prepared from a plant which flowered in a greenhouse at Kew in 1891. The second was the species represented in the accompanying plate, and which was exhibited in flower last May at a meeting of the Royal Horticultural Society by Messrs. J. Veitch and Sons, who called it *R. racemosum*. It was awarded a first-class certificate. A comparison of this plant with the type specimen of *R. racemosum* in the Kew Herbarium threw suspicion on the name given to Messrs. Veitch's plant, which agreed much more closely with some of the forms of *R. parvifolium* represented at Kew, although this latter species as known in gardens differs in habit, flowers, and behaviour under cultivation from that shown by Messrs. Veitch. Whatever the name be, this new introduction is a charming little plant, and should it prove to be quite hardy, as Messrs. Veitch believe it to be, it will be a first-rate plant for the rock garden. None of the plants exceeded 9 inches in height, and their leaves, which were leathery, bright green, and an inch long, clothed the erect brown stems from base to apex. The flowers were in terminal and axillary clusters nearly an inch across, pale pink margined with rose, and slightly fragrant. The plants exhibited had been growing in the open ground all the winter in Messrs. Veitch's Coombe Wood Nursery, but were lifted a few days before they were shown and placed under glass to open their flowers. I believe there are many plants of this Rhododendron in cultivation now, and, so far as I know, all from the same batch of seeds, so that whether the name be wrong or right, we may safely assume that they are all the same as that here figured. The seeds were certainly sent to Paris by Delavay. There are seedlings under the name of *R. racemosum* at Kew which are identical with Messrs. Veitch's plant.

There are no less than sixty-five species of

\* Drawn for THE GARDEN by Marie Low, in Messrs. Veitch's nursery at Chelsea, April 29, 1892. Lithographed and printed by Guillaume Severeyns.





RHODODENDRON RACEMOSUM







Rhododendron in China, according to the latest account of them. Of course the old well-known species, such as *R. Fortunei*, *R. dauricum*, *R. ovatum*, *R. sinense*, and the so-called Indian *Azalea* are included in this number. Of the new species I know of six in cultivation, viz., *R. scabrifolium*, *R. racemosum*, *R. decorum*, *R. Delavayi*, *R. cilicalyx*, and *R. lacteum*. Judged by the dried specimens, these Chinese Rhododendrons are generally sufficiently ornamental to be classed among good garden plants. They are not so magnificent as the giants of the Himalaya, but at the same time they have all the charm of habit, flower and colour of the smaller species. Indeed, after a study of the whole of the hundred and thirty or so species of Rhododendron known, one may say of them what has been truthfully said of their rivals, the Roses, that whilst they show great variety in the size, form and colour of their flowers, there is not one which does not merit a place in the garden. I question if in the whole range of garden plants there is another genus to equal Rhododendron (including *Azalea*) in all round value. It is curious that in the ordinary garden the species of Rhododendron are scarcely known, and this is equally true of the Rose.

W. W.

## THE WEEK'S WORK

### FRUIT HOUSES.

**TRANSPLANTING PEACH TREES.**—Peach and Nectarine trees can safely be transplanted any time from now till they are coming into flower, but the best crops during the following year are borne by those moved when in full leaf. Root-action is most brisk after the wood is hard and the buds well plumped up, and when the trees are moved early they are almost certain to form a considerable number of fresh roots before sap movement wholly ceases. Trees in early houses might well have been moved during the first or second week in September, the exceptions being any young trees that have formed a second series of shoots. If these are interfered with before the young wood is become firm, the latter is liable to shrivel badly. Where any of these, therefore, have to be shifted from one house to another or from the outer walls, it is advisable to delay the process till some of the older leaves are falling. Regulating the trees is a most desirable proceeding in many cases, good-sized trees of new, superior, or good old varieties being given the place of either exhausted trees or worthless old varieties. It should be borne in mind that wholly lifting and moving good-sized trees is almost certain to impair their serviceability during the following season. At any rate they ought not to be heavily cropped during the next summer, otherwise the fruit will be considerably below the average. Crop in moderation, and the trees will form moderately strong healthy growth and produce very superior crops in due course. For this reason it is not always wise to move many trees in one season, a few only being taken in hand each autumn, and there will then be no appreciable falling off in the weight or quality of the crops generally, but rather the reverse. There is nothing in most cases to prevent the transferring of trees from early houses into later ones and *vice versa*, but it is not a good practice to bring young trees straight from an open wall into an early house, the better plan being to first prepare them in successional houses.

**THE PROCESS DESCRIBED.**—In each and every case good pains should be taken with the re-

moval. First detach all the branches and shoots from the walls or trellises, and bundle these up together carefully; next open a deep circular trench midway between the other trees, or if a single row solely occupies the border, cut about 1 foot from the stems and gradually undermine and separate the soil from the roots up to within 15 inches of the stems. Fork away the surface soil of this reserved ball and undermine, taking care to cleanly cut through all deep running roots, and to work a short, wide and stout board well underneath before the mass settles down. A moderately large flat ball of soil and roots slid on to and well balanced on such a board, can be readily lifted out and carried elsewhere by two or four men and be slid off on to a well-prepared bed of fresh soil. The site intended for the trees should be made quite solid, or otherwise sinking will take place and the collar of the trees soon be too low. Better plant rather high than too low, as should the roots be buried far below the surface, healthy top-growth will not long be made. The roots ought to be taken good care of both during the lifting and moving, and after having all bruised ends cleanly cut over to facilitate healing, should be relaid evenly and well up to the surface in fresh loamy compost. Give the old ball of soil and roots a good soaking of water if at all dry, and syringe overhead frequently till such times as the leaves are fallen. Fasten up the trees lightly at first, as there may be some settlement of the soil in spite of the ramming given.

**PARTIALLY LIFTING TREES.**—Fresh soil about the roots of Peaches and Nectarines has a markedly good effect on the top growth, and, as a matter of fact, the crops also. Especially is root-lifting and fresh soil desirable in the case of trees that are not growing healthily, the tops of the branches, it may be, presenting a sickly, yellow appearance. When the roots are principally deep-running, they form but few fibres, and are out of the reach of warmth, air, and much of the good food that may be applied to the surface of the border. When the trees have been shifted or wholly lifted and replanted two or three times, and everything possible done to attract and keep the roots near the surface, there is seldom any necessity to completely undermine them. All that is necessary is to open a trench at a good distance from the trees, and to further fork away the exhausted soil from the roots up to within 30 inches, or rather more in the case of large trees, of the stems, replacing the old soil with fresh turfy loam to which old mortar-rubbish, charred soil, ashes, and half-inch bones have been freely added. Lightly prune the roots and distribute among the new soil. Also bare the surface-roots in the reserved part of the border and top-dress with fresh compost. In some instances nothing short of completely undermining, raising, and replanting in fresh soil will cure trees of a bad attack of yellows. When, however, the trees are not rooting unduly deep and yet have the "yellows," a course of lime is the simplest and, it may be, the only remedy. Apply enough of this to quite cover the border now and again in the spring, well washing it down to the roots with water. The least that can be done in the case of exhausted borders is to give them a good soaking of liquid manure this autumn and once or twice during the winter.

**FIGS.**—When the roots are confined to large pots, tubs, or narrow brick pits and borders, they are not long before they thoroughly exhaust the soil of all fertility. Now is a good time to fork away a good portion of the soil from the roots, many of the latter also being freely shortened back. Substitute a compost very similar to that advised in the case of Peaches for the old soil, adding a little good short manure and more mortar rubbish and chalk. Those in comparatively small pots may have a shift given, but all the rest will thrive very well if they only have a moderate amount of fresh soil to support the roots next season. Make the soil very firm about the roots. Where trees grow too strongly and are not productive, this often happening when the borders are rather large, considerably reduce the root-run, and

keep them restricted by means of a brick wall. A rather poor border in which mortar-rubbish or chalk is freely mixed, say at the rate of one part in four, will usually cause a short-jointed productive habit of growth, especially if it is made very firm.

PRACTICAL.

### ORCHIDS.

LAST year during this month and the previous one we repotted nearly the whole of the *Odontoglossums* in the cool house, and this year it is not necessary to do more than surface-dress them. The material used for repotting these *Odontoglossums* is a mixture of good fibrous brown peat and freshly gathered Sphagnum Moss, with a due proportion of clean potsherds and nodules of charcoal. The Sphagnum is encouraged to grow on the surface, and it does this for a time, but occasionally a different species of Moss of slender, wiry growth gets the better of the Sphagnum, especially in the summer months, and the surface gets into a condition not at all conducive to the healthy growth of the plants. Under these conditions I find it answers well to remove the partly decayed peat and any mossy growth other than Sphagnum, and replace with fresh material similar to that used for repotting. The work ought to be done in a careful manner. Have the material mixed together in a sieve, so that the finer particles may drop through. Carefully pack the mixture around the base of the bulbs evenly distributed. *Masdevallias* may be repotted and surface-dressed in the same way as the *Odontoglossums*. I do not disturb the pretty white-flowered species *M. tovarensis* at this season, as I find it answers better to repot and, if necessary, divide this species in the spring after the flowering period is over. When *Masdevallias* have grown into very large specimens, it may be thought desirable to break them up into several smaller portions. This is necessary sometimes, and the *Masdevallias* thrive with this treatment if the plants are divided without injuring the roots. The right way to do it is to clear away the old spent and decayed potting material. After the plants have been turned out of their pots, carefully break the plants up either with the fingers or by thrusting a wooden skewer into the plant where it is to be divided, and gently forcing it asunder. It is necessary to be very careful not to injure the roots. A knife should on no account be used. The *Masdevallias*, including *M. tovarensis*, have been placed in the Cattleya house. The careful cultivator will see that the plants are made quite clean and free from insects before surface-dressing or repotting them. We have removed the blinds from all the Orchid houses now and put them away in a dry place for the winter; we take rollers and blinds together. It is necessary, of course, to see that the shading is quite dry before it is put away; if it is in the least damp it will rot and be entirely useless when the time comes to put it up in the spring again. The glass has been washed, or is being done, for it takes a long time to get over it all. Woodwork and glass should be made quite clean for the winter, and all the plants ought to be gone over carefully as well, so that the entire collection may face the winter in the best possible condition. By persistent hunting and trapping there is now no trace of slugs amongst the plants, but those who have not yet got into this fortunate state must watch well over such choice and valuable cool Orchids as *Oncidium macranthum*, for the young rootlets and the spikes of bloom in course of development are more sought after by slugs than anything else in the house. I have now about half a dozen large plants of *Maxillaria venusta grandiflora* flowering freely, and I find them very valuable indeed. I do not know any cool Orchid that grows so freely as this with but little trouble. It is the most valuable cool house Orchid we have for this month and the next. In the warmest house the *Cypripediums* are at present the most free flowering plants we have; the greater portion of the bloom is obtained from garden varieties. I have never been without blooms of the very beautiful rose-scented *Odontoglossum Roezli* all through the summer months. It is one of the



plants grown in this house which is very liable to be attacked by thrips, and requires quite as much attention to destroy them or keep them off as *O. vexillarium* does. I cut off all the blooms that were open and dipped the plants in tobacco water very much diluted; they were afterwards sponged over with clean water, and by dipping again twice during the winter they will pass through it safely as far as insect pests are concerned, for green-fly and red spider are killed as readily as thrips.

I have been told more than once that the old-fashioned houses with small glass panes are better for such plants as the Moth Orchids (*Phalenopsis*) than the best modern constructions. Certain it is that we do not see the plants doing so well in the new houses, and in houses, too, where every attention has been paid to ventilating, heating, &c. I know that Mr. Lee when at Downside, Leatherhead, built most superior Orchid houses, and I thought the house intended for *Phalenopsis* was as perfect in its way as it was possible for such a house to be. The plants would grow freely for a time, but when the hot days of summer set in the large succulent leaves did not seem to have substance enough to stand the heat. Most gardeners can grow the recently imported plants into fairly good specimens, but the difficulty is to keep the back leaves from dying off, and thus checking the plants. It so happened that after visiting Mr. Lee's Orchid houses, I had an opportunity to visit the gardens of the late Mr. Partington at Cheshunt. There I saw perhaps the best grown collection of *Phalenopsis* that ever was seen in England, and the gardener did not claim to have any special knowledge of Orchids, nor did the house commend itself to one as being specially adapted to the culture of such plants. It was an old lean-to vinery, and the plants were all over the house; some of them on the front stage, others upon a stage at the back of the house, others suspended in teak baskets from the roof glass, but all of them vigorous and in robust health, with the back leaves perfect, some of the plants having about a dozen leaves upon them. I could not ascertain that any special treatment had been bestowed upon them, except that the atmosphere of the house had been kept drier than most growers would like; in winter the atmosphere was always well on the dry side. Salt was sprinkled freely on the paths (which were of coarse gravel) and under the side stages twice a year. In hot weather in summer when the sun shone very brightly, mats were thrown over the roof glass as well as the ordinary scrim canvas.

J. DOUGLAS.

### THE KITCHEN GARDEN.

**LATE POTATOES.**—These have now finished growing and should be lifted. Those people who still cling to the old notion that every vestige of green must disappear before the tubers are taken up should have no scruples upon this point. On heavy and cold soils it is of the greatest importance that they should be out of the ground, for not only is wet soil very detrimental to the quality of the tubers, but grubs also are apt to bore into them and injure them. Dig the tubers up with all possible dispatch, leaving them open to the atmosphere for an hour or two to become dry. Those of an eatable size should alone be selected, the smaller being rejected. When suitable storage room under cover is scarce, late Potatoes may be pitted. Select a dry spot and mark out a width 4 feet or thereabouts. The soil need only be taken out about 10 inches, just merely to form a base, as the higher the bulk of the Potatoes are out of the ground the better. Line the sides and cover over with a layer of clean and sweet straw, afterwards banking over with soil, bringing the sides up sharply and beating smooth with the back of a clean spade to throw off the rain. It is also well to form a chimney in the ridge to draw off moisture. For this purpose drain-tiles are the best, these being inserted at intervals of 5 feet. The tiles should not be placed upright, but horizontally just beneath the ridge.

**STORING ONIONS.**—Many Onions are spoiled annually through being badly stored, and although thorough ripening is of the greatest importance, this will not ensure their keeping well if not well stored. Too close, warm, and also damp positions must be avoided, the two former evils causing premature growth, and the latter decay. What is wanted is a position where the air can freely circulate, and where damp and frost can be kept off. In many gardens there are well-constructed Onion stores, these having open lattice stages, on which to spread the bulbs thinly. Where time can be spared the best should be roped, as in this manner they keep well and last longer without sprouting, on account of the freer circulation of air that this method affords. Piling them in heaps must be avoided.

**PROTECTING ENDIVE.**—In some districts early frosts have been experienced, and these must put growers on the alert in protecting the Endive. A moderate frost even will quickly disfigure fully grown Endive by injuring the tips of the leaves, and when this takes place, decay afterwards rapidly sets in. For the very earliest supply it is not necessary to take up the plants from the open ground, that is, if they can be protected where they are growing, either by placing spare lights over them, or by a wooden framework as a support for mats or oiled canvas. The plants which are to be taken up may either be planted in frames, on the floors of vineries and Peach houses, or sheds where a fair amount of light can be admitted.

**YOUNG CARROTS.**—Where Carrots have been sown in frames to provide a supply during the winter months, the lights should now be replaced, as cold rains and early frosts are detrimental to them. The roots are more tender than when left exposed. Upon the approach of severe frosts a further protection will be necessary. Carrots which may be growing in the open for the same purpose will not need protecting until frosty weather really does set in, when the whole should be covered over with a sufficient thickness of dry Bracken to keep out frost.

A. YOUNG.

### MARKET GARDEN NOTES.

**FAVOURABLE** by exceptionally fine weather, the work in market gardens has of late been pushed on vigorously, and storing or marketing of root and other crops is well advanced for the season. The crops as a rule are above the average. The most important work at present on hand is

**CABBAGE PLANTING** for early spring crops. As fast as land is cleared of root crops of any kind it is ploughed over, harrowed down, and the plants set out in rows about 2 feet apart for all the earliest small kinds, and 3 feet apart for the large kinds. The sorts in most favour here are Early York, Wheeler's Imperial, Early Rainham and Nonpareil.

**CAULIFLOWER AUTUMN GIANT** is now plentiful, and for the next two months will be the most conspicuous vegetable in the market. No other variety has any chance with it when in its season.

**CELERY.**—The digging and marketing of early crops is now being pushed on, but the main work lies with the mid-season and late crops, and, judging by the present appearance, Celery will be good, the season having been very favourable.

**LETTUCE AND ENDIVE.**—Large quantities of these have been planted for winter use, and now planting out for spring crops will demand attention. The Hardy Brown and Hicks' White Cos and the hardiest of the Cabbage Lettuces are employed, a large stock of the smallest plants being kept in reserve in case of a severe winter.

**ONIONS** are now being pulled up and stored away in dry airy lofts. The long keeping sorts are mostly grown. James's Long Keeping and Bedfordshire Champion are the best.

**POTATOES.**—The lifting and storing of this important crop now must be attended to, and where growers have many acres to store, every fine day has to be made the most of. The crop is excep-

tionally fine in this locality and the quality excellent. As a natural result prices are very low, so that it will pay to store them carefully rather than sell at present. If there is any fault heard about Potatoes this year, it is the rather novel one that the tubers are too large, and cannot be retailed in small measures with satisfaction to either buyers or sellers. The prospects at present are that root crops of all kinds will be abundant and cheap for some time.

**TOMATOES.**—Thanks to fine September weather, we are cutting splendid fruit of Tomatoes from open walls and plants trained to wire trellises and single stakes. The great thing is to get strong early plants put out in May and protected at night from frost. Very rich soil is not needed, as I find our best crops are where the soil was rich enough to ensure fine healthy growth, but not large gross shoots, as the fruit does not set well on these, at least early in the season.

**TURNIPS** of white kinds are now in good condition for marketing, and the late crops are being hoed and thinned out to get them as large as possible while growing weather lasts.

**VEGETABLE MARROWS** are still cropping well where they escaped the early frosts about the middle of September, when the majority of beds were blackened by frosts. The growth has again pushed out so vigorously, that they promise good crops yet if the present favourable weather continues.

**MUSHROOM BEDS** are being made up in quantity for the main winter supply, the present being the best time for ensuring a good supply from Christmas onwards, when the prices are usually most remunerative.

**APPLES.**—Gathering and marketing all the early sorts have been done under much more favourable conditions this year than last, as the weather has been fine and free from rough gales of wind. The Apple crop in this locality is good; certainly not so abundant in quantity, but much superior in quality to the crop of 1891, and prices have been better, owing to the smaller crop of other kinds of fruits. Late sorts for storing will now need attention, as after October has set in we can scarcely expect to have such still weather.

**PEARS** are by no means abundant, especially on the large orchard trees of the commoner kinds that were so heavily laden last year, but the smaller trees of the best kinds are bearing very good crops, and have swelled up to a large size. In this locality many Pears that require walls in the midlands can be grown to great perfection as bushes, Pitmaston Duchess, Beurré Superfin, Beurré Bosc, Beurré Diel, Beurré Clairgeau and many others being fit for exhibition, and certainly of better flavour than from wall trees.

**DAMSONS** have been a good crop, but nearly over. The idea that they do not want good cultivation and will grow and fruit as well in hedges as anywhere is entirely erroneous.

Gosport.

J. GROOM.

**Viola cornuta.**—I was pleased to see in a late number of THE GARDEN that the old *Viola cornuta* is still considered as worthy of a place in some gardens. Although so much inferior in colour and size of bloom to the varieties which it has given birth to, it still remains one of the prettiest and most useful hardy flowers we have. A pleasing feature of this *Viola* is that one is never in danger of losing it through neglect—that is, if some seed-pods are every season allowed to form. It reproduces itself as freely from seed as the common wood Violet, and if a few plants are allowed to seed, young plants will spring up here and there every year. I obtained this *Viola* a good many years ago, and after the first two or three seasons did not propagate it in any way, for I found enough self-sown young plants come up without my taking any pains in the matter. This *Viola* is of such a hardy, enduring nature, that it will live and bloom freely in places where there is much difficulty in getting hardy flowers generally to do well. It stands drought and poverty in the soil better than most things.—J. C., *Byfleet*.



## TREES AND SHRUBS.

## THE SEED HARVEST OF 1892.

EXCEPTIONAL may well be applied to the present season in so far as the production of fruit by our trees and shrubs is concerned, there being few instances in which the crops are not far above the average for many years back. The Oak, Beech, Holly, Thorn, Sycamore, Sweet Chestnut, Mountain Ash, Hazel, wild Rose, Bramble, and Laburnum may be cited as examples, for, as far as I have had an opportunity of judging, in the majority of instances these are literally weighed down with the great quantity of fruit. It was no uncommon sight a month back to see branches of the Mountain Ash that had snapped asunder from the very unusual weight of the fruit, and the same thing I noticed only lately in the case of that prettiest of autumn fruit, the Siberian Crab. Berry or fruit-bearing trees and shrubs are often brought under the notice of the readers of THE GARDEN during the leaf-fall in autumn, but I have rarely seen this Siberian Crab noticed—a pity, for in my opinion there is no fruit grown commonly in this country that is nearly so ornamental as this little-known Crab. At present the tree is literally loaded with bunches of the red-checked fruit, the size and colour of these being something remarkable when seen in our golden September sunsets. The bloom on the Crabs is worthy of remark, it resembling that of the Peach or Grape, and imparting quite a finished touch to the fruit. Acorns are unusually plentiful, the trees assuming quite an unusual appearance, and the same may be said of Beech mast, while the Chestnuts, both Horse and Spanish, are weighed down with their loads of fruit. The Spanish in particular is most noticeable, and the fruit, if well filled, will afford an unusual amount of food to the animals of the woodland. Laurel berries are also abundant, and so are those of the Holly and Yew, while the white Thorn is rendered conspicuous for a long way off by reason of the pretty haws. Wild and neglected hedges on the chalk formation afford many a pleasing scene at present, and which would be worthy of imitating in our wild gardens, such as the tangled masses of Old Man's Beard (*Clematis Vitalba*) and the good old single-flowered Guelder Rose (*Viburnum Opulus*), the berries of the latter of the brightest shining scarlet affording such a contrast to the fluffy heads of the *Clematis*. Then the Wayfaring Tree (*Viburnum Lantana*) is unusually rich in fruit, but these are soon spoiled by the thrush and blackbird.

*Solanum Dulcamara* (the Bitter-sweet) hangs its lithe branches of showy fruit from every stronger neighbouring branch and presents quite a feature of the woodside and fence. Probably one of the showiest berries of our woodland is that of the Deadly Nightshade (*Atropa Belladonna*), but they are always sparsely produced, although this season an old plant I went out of my way to look for had a fair sprinkling of fruit. These are as big as a marble and of a shining jet black, but they are very poisonous, so it is perhaps just as well that the plant is rather scarce and locally distributed. The Quince, the Medlar, and the Almond are all fruiting readily this season, and this is perhaps rather remarkable, as fruit generally—

Apples, Pears, and Plums—are scarcer than usual in our gardens and orchards. Hazel Nuts are everywhere abundant, and some of our five-year-old coppice woods are bearing unusually heavy crops.

Several very rare fruits are being produced this season, such as at Holwood House, where the Umbrella Magnolia (*M. tripetala*) and the Cucumber Tree (*M. acuminata*) are setting their curious fruit, not plentifully, but in small quantities. The fruit of *M. acuminata* certainly resembles small Cucumbers, while that of *M. tripetala* is altogether more imposing, being larger and more conspicuous. But our native Barberry (*Berberis vulgaris*) can well hold its own with any of the shrubby species this season, for every branch seems pendent with the long ruddy-tinted fruit, and no more ornamental berried shrub could be thought of than this native wilding. Elder berries, too, are very plentiful, but they are rarely allowed to remain long on the trees after becoming ripe. Coniferous trees are heavily cropped, speaking generally. The various species of *Abies*, but particularly *A. nobilis*, *A. Nordmanniana* and *A. cephalonica*, have fine well-developed cones and in quantity, while Lawson's Cypress (*Cupressus Lawsoni*) and the various species of *Pinus* are all more or less abundantly furnished with cones. The Yew and Juniper cannot be excluded from our list, for both are up to their usual in the matter of seed-production. Sycamore and Ash keys hang in great festoons from the branches, while Birch seed may at present be collected in unusual quantity. Even the Alder is rendered conspicuous by the curiously-formed fruit, and which would seem to be very freely produced. A spike of Privet berries might do good service for decoration if thoughtfully mixed up with other fruit, and they are rendering many a hedge conspicuous by their abundance.

Altogether, forest trees and shrubs are unusually well supplied with fruit, and the harvest of 1892 should be chronicled as one of the best that has been known for many years.

A. D. W.

**Autumn-flowering shrubs.**—Permit me to add an additional word of commendation to several of those highly spoken of by 'A. D. W.' (page 271). It is surprising that the Buckeye (*Pavia macrostachya*) is so little grown. There is nothing of similar character in bloom in the autumn season, nor indeed at any season, the habit, foliage and flowers being exceptionally showy and beautiful, while its natural habit of multiplying itself rapidly from root-suckers not only enlarges the general mass, but provides unlimited supplies for planting, as well as for establishing fresh groups. The leaves die off to a sort of light lemon and other shades, that add a distinctive richness to the landscape. Yet one may enter a score of rather famous gardens without meeting with a single Buckeye. The same holds good of the well-named Wig Tree or Venetian Sumach (*Rhus Cotinus*), the flowers of which are charming on the plant and almost invaluable for table decoration and other purposes. The leaves, too, often die off of an exquisite blend of purple and gold. It is a slow-growing plant, flowering too profusely to occupy a wide area. Where the *Ceanothus azureus* thrives as a standard, groups of this striking plant would contrast well with groups of the *Rhus*, while the panicle-flowered *Hydrangea* would form a good third for a trio of autumnal beauties.—CALE DONICUS.

**Limonia trifoliata.**—The decaying foliage of this distinct and uncommon shrub is of a clear yellow colour, and though the leaves soon drop, a bush of it is very noticeable till that takes place. It is a near ally of the Orange family, and is in

fact by some authorities included in the genus *Citrus*. This *Limonia* usually forms a freely-branched, sturdy bush, thickly studded with stout spines, that present a most formidable appearance. The bark of the shoots, spines, and branches, except the very oldest, is of a rich deep green colour, and as the leaves are, generally speaking, somewhat sparingly produced, this feature stands it in good stead, for even in the winter when totally devoid of foliage it is almost as effective as an Evergreen. When in the flowering stage it is very striking, for the blossoms, which under favourable conditions are freely borne, are as much as a couple of inches in diameter, composed of five pure white petals arranged in a star-like fashion. Its showy blossoms have been many times noted in THE GARDEN, but little if any reference has been made to the beauty of the decaying foliage. This *Limonia* is a native of Japan, and has the reputation of being somewhat tender, but such does not appear to be the case. Although a hard and unpromising looking subject, it is not difficult to strike from cuttings taken during the summer or early autumn months and kept in a close frame till rooted.—H. P.

**Acorns and Beech-mast.**—The heavy crops of acorns and Beech-mast are having a very noticeable effect on the trees in this (the east) part of England, as the growth is not nearly so strong as usual. The Beeches especially appear to be stunted and suffering. I never remember seeing such a fine lot of catkins on the Oaks, and the effect they gave was so beautiful, that branches were cut for indoor decoration and were greatly admired.—J. C. T.

**The Tansy-leaved Thorn** (*Crataegus tanacetifolia*).—A very handsome tree of this variety stands upon the lawn at Livermere Park. It has a peculiar, but constant habit of flowering and fruiting, one year upon three branches alone and the following year upon the other portion of the tree. Distinct in leaf and in blossom, it is also very handsome in fruit, the haws being double the size of those of the common Hawthorn and of a bright glowing colour. Its finely-cut greyish foliage contributes materially to its distinctive character, and mark it as a fine tree worthy of being more freely planted.—A. H.

**Magnolia stellata** (*J. Hunt*)—It is said to bloom naturally in the open air in March and April, so that if you have plants likely to flower they should be taken up carefully and potted as soon as the leaves have fallen and the plants quite at rest. If kept in a greenhouse in an airy situation they will get established. About the end of November or beginning of December some of them may be placed in warmth; in this manner you may succeed in having flowers from the beginning of the year until the tree blooms naturally in the open air. The flowers, which are produced in great abundance, are some 3 inches or more across, reflexed, pure white, and deliciously fragrant.—G.

**Ampelopsis Veitchi in autumn.**—There are two or more quite distinct forms of *Ampelopsis Veitchi* in cultivation, and this is particularly noticeable in the autumn, for the foliage of some individuals die off very richly tinted, and, on the other hand, there is one form whose leaves change to a dull brown before they drop, and never by any chance do they become red. A very desirable type of this *Ampelopsis* has had the name of *purpurea* bestowed upon it by some, and this character is particularly noticeable in the spring and early summer when growth recommences, and again in the autumn before the leaves drop. In the spring the freshly expanded leaves are of a peculiar, yet beautiful bronzy hue, which colour also extends to the leaf-stalks and bark of the young shoots, and when grown in proximity to the common kind its distinctive features are then very noticeable. The form whose leaves do not die off tinged with red, but simply turn brown, is of more rapid growth, and when trained to a wall it will if the soil is good push out large lobed leaves on long stalks, so that it does not set so close to the wall as the others. In the spring this last-men-



tioned form has the young foliage green, which tint is retained throughout the summer, for it never becomes bronzed, while various intermediate forms between these two extremes are to be met with—in fact most of the plants one sees belong to this group. An interesting feature in connection with *Ampelopsis Veitchi* is its rapid rate of growth towards the end of August and in September compared with that which takes place earlier in the season.—T.

## ORCHIDS.

### THE DOVE PLANT.

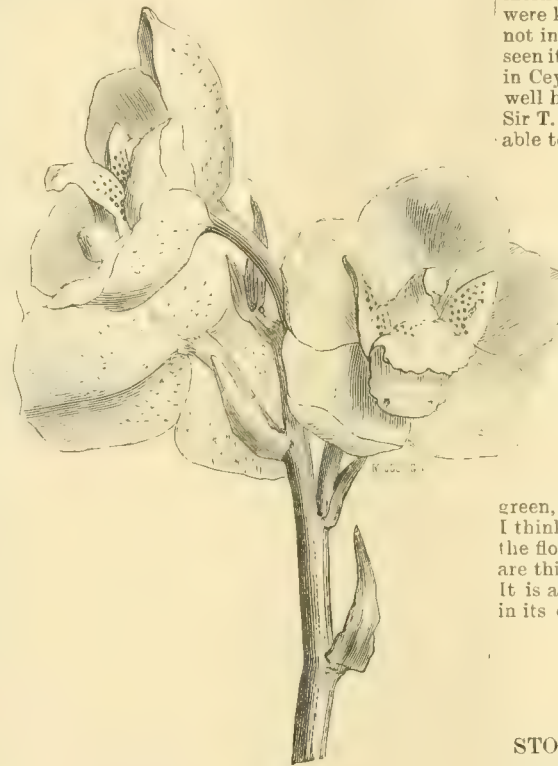
(*PERISTERIA ELATA*)

THIS beautiful plant, which has of late been much neglected, again appears to be attracting attention, and is becoming more popular, inasmuch as one more frequently sees it in Orchid collections. I was the more struck with this plant on seeing a fine spike of it in Messrs. Laing's nursery at Forest Hill bearing a raceme of thirty or more flowers. The plant now under consideration comes from about Panama and various other parts of Central America, and likes a great amount of heat during the growing season. I have always succeeded best with it when it has been placed in a warm, shady part of the East India house, and where the atmosphere was always kept moist. In the early stages of its growth care should be taken not to syringe it, as oftentimes this causes the bulbs to decay. To compensate for non-syringing, the air must be kept well charged with moisture. After the growth is completed it may be removed to a cooler and dry part of the same house or to the *Cattleya* house. The latter position I like the best, because the plant becomes more hardened and better rested. I do not agree with those who recommend a severe drying for the plant. I would rather keep it just sufficiently moist to prevent any injury happening to its foliage. The soil should consist of good turfy loam with some of the fine soil shaken out, to which may be added a small portion of old and well-rotted sheep's manure. The *Peristeria* being naturally terrestrial, it can assimilate this better than the strictly epiphytal kinds can. The pots for this plant must be of good size, and the drainage must be good if success in its cultivation is to be looked for. The plant should not be elevated above the rim of the pot, but be potted in the same manner as an ordinary stove plant; indeed it thrives well mixed with other plants in an ordinary warm stove. Various plants have been assigned to this genus, but they have from time to time been removed to *Acineta* or some allied genus. Among these are *P. Barkeri*, *P. cerina*, *P. guttata*, *P. Humboldti*, and *P. pendula*.

*P. ELATA*.—It is between sixty and seventy years since this was first introduced in a living state to this country. Its pseudo-bulbs are usually as large as a swan's egg. The bulbs of a plant of it I had in the Kingston collection, and which belonged to Mrs. Lawrence, of Ealing, were quite as large as an ostrich's egg. They are ovate, bearing on their summit several broad, strongly-nerved or plicate leaves, which attain a length of some 3 feet or more. They are rich green in colour if the sun has not been allowed to shine upon them during the hottest part of the day. The scape, which is erect, issuing from the side of the pseudo-bulb near its base, rises to a height of from 4 feet to 6 feet or more, and bears from twenty to thirty flowers, which are cup-shaped, thick and waxy in texture, and very fragrant. The whole flower is of a waxy-white, saving a few crimson-purple dots at its base. The plant blooms sometimes during the months of June and July, but the usual time for it to flower is during the months of August

and September. The blooms remain a month or two in full beauty. Some of my readers may think that the flower-stem is too high to see its beauties, and when placed upon a 4-feet or 5-feet stage it would be, but there is always to be found some convenient corner in a stove where the plant can stand upon the floor, and the flowers thus be brought more on a level with the eye, the leaves only requiring to be tied in such a way as not to injure them. When in bloom it will require an abundance of water, and after the flowers are over the plant may be stood upon the stage, and less water given it until its growth is finished, when it may be removed to a cooler place and rested until the spring. WM. HUGH GOWER.

**Sobralia Beyeriana.**—This is a pretty dwarf plant now flowering with Mr. Seeger at his Orchid nursery in Dulwich. It is about 18 inches in height, the slender stems having broad, plaited dark green leaves. The flowers are each nearly 5 inches across, the petals much broader than the



The Dove Orchid (*Peristeria elata*).

sepals, white slightly tinged with a flush of rosy pink; lip large, the front lobe large and full, beautifully undulated. This and the side lobes, which form a continuous fringe round the tube, are of a beautiful rosy lilac with numerous small white veins running through it, the whole having a somewhat velvety appearance. Throat at the mouth has a zone of white, and behind this it is rich golden yellow. This charming novelty is named in honour of M. Emile Beyer, a great lover of Orchids in Leipzig. It is an elegant and chaste flower, and will be a grand companion plant for such species as *S. leucoxantha*, *S. xantholeuca*. Its dwarf habit will be an additional charm.—W. H. G.

**Vanda Roxburghi unicolor.**—J. Meeks sends me a flower bearing this name. The flower is about 2 inches across, the sepals and petals being French white behind, the front greenish brown tessellated with deep brown. The side lobes are large, and with the whole basal part and the spur, together with the column, are pure white; the front lobe is pale green. A flower I obtained from Mr. Williams under the name of *concolor* is exactly the same, with the addition of several rows of dots of

purplish crimson, which run from the bottom of the lip to the base of the front lobe, and the large side lobes are plentifully freckled with very small dots of the same colour. How can I say that either name is right? Each implies that the flower should be of one uniform tint, whilst here are two specimens having at least four shades of colour.—W. H. G.

**Cattleya Vedasti (J. O.).**—The flower you send is very poor. I know of nothing in any way like it. The flower of the plant named as above and figured by M. Godefroy-Lebeuf, of Argenteuil, in "*L'Orchidophile*," is very handsome and pretty. You say the parents were *Cattleya Loddigesi* and *Cattleya marginata*, and of these species the two worst varieties, I should think, had been selected for the cross. The parents of the plant figured in "*L'Orchidophile*" were C. Loddigesi and C. Pinelli.—W. H. G.

**Vanda spatulata (W.).**—I am glad to find there is so much interest taken in Vandas. The article in *THE GARDEN* of September 24 was not intended to include all the species, but only such as were known to be worthy of cultivation. This does not infer that *V. spatulata* is not, as I have not seen it in flower. It appears to be a common plant in Ceylon. Several of my friends who know plants well have spoken to me about it. The plant is in Sir T. Lawrence's collection, and soon I hope to be able to report it in flower. Lindley says the flowers are golden-yellow. "*Vanda*," apparently only knows *V. helvola* from Blume's or Lindley's description. It has never, so far as I am aware, been in cultivation. It is said to be found in the mountain woods of Western Java, and the true plant would be a welcome addition to our collections. Whilst speaking of Vandas I may mention one that I had growing thirty or more years ago named *V. Jenkinsi*. It passed into the hands of M. Linden, of Brussels, and I have neither seen nor heard of it since. Does any reader know the species?—W.

**Catasetum sanguineum.**—"M." sends me a flower which is of a soft green, spotted with red in most of its parts, which I think is *Catasetum sanguineum*. I am told that the flowers, which are small and not at all showy, are thickly set, making a somewhat dense raceme. It is a curious plant, deserving care and attention in its cultivation.—G.

## KITCHEN GARDEN.

### STORING AND BLANCHING ENDIVE.

It is an easy matter, comparatively speaking, to secure good full-hearted plants of Endive. Most people can manage this part of its culture well enough, but fail to store and blanch it properly. The blanching in itself is a simple affair, and the difficulty generally arises from the want of good sound plants at different times throughout the winter. Early in the season good plants are plentiful enough, as with a little ordinary protection they may be kept sound, but not so later on and when the Endive is looked for. At these times Lettuce is getting short, but with plenty of good sound plants of Endive to fall back upon the want of Lettuce may be surmounted. Not that Endive can be expected to take the place of good Lettuce, as it is a poor substitute at the best of times; but one can help out the other, and with other material which is generally available at such times a good salad is obtainable.

Frost and damp are the greatest enemies to Endive, and the larger the plants the more likely are they to become injured. A moderately dry frost may not injure them, but although injury may not be seen for a time, decay gradually creeps over the edges of the leaves, and when



this takes place it is impossible to stop its progress. The protection of the plants is the first consideration. Upon a sudden frost occurring before the plants have been taken up and housed, or otherwise adequately protected, sooner than allow them to remain uncovered, some light protection should be provided. Oiled canvas is a capital protective agent, this keeping out both frost and damp; and although this may be looked upon as a luxury obtainable only by a few, yet it is cheap in the end. At this season of the year there is generally suitable storing space available in vineries and Peach houses, these having only heat applied to keep out sharp frosts. I like these positions better even than cold frames, as the air is drier; consequently the plants are not likely to suffer from damp in any way. Frames, of course, are generally used for storing, but in a dry and frost-proof shed which can be kept free from severe frosts and where light can reach the plants, Endive will keep sound for a long time. If packed in moderately damp soil, no water will be needed.

Lifting the plants whilst the foliage is in a perfectly dry state is very essential. To facilitate the removal, if the plants of the Round-leaved Batavian are of good size, each plant should be drawn carefully together and tied with a piece of matting. Lift carefully with a good ball, placing in shallow boxes and carrying on a hand-barrow so that the soil is disturbed as little as possible. This may appear a very unimportant point, but it often makes all the difference between success and failure. By digging up and carrying roughly, the ball of soil becomes broken; consequently the plants wither instead of remaining fresh and plump. When the plants are to be packed on the floors of vineries and Peach houses, some fresh soil is needed for packing about the balls. The plants must be arranged far enough apart, so that when they are untied and opened out there is space to allow of air to circulate. A watering will settle the soil about the roots, and will be sufficient to carry them through unless the soil should become unduly dry. When the plants are to be stored in frames they must be well elevated to the light, as otherwise damp is apt to affect them. Deep frames should not be wholly filled up with soil, these being the better for being partially filled with some open material before placing in the soil. A layer of faggot-wood, if available, forms a good foundation and lessens the evil of damp. If the soil is fairly moist, as it should be, no water will be needed after planting. All that is necessary is to keep the frames freely ventilated, and also protected with mats or litter in the case of frost. The evil that must be guarded against is deep planting, this very quickly causing the under leaves to decay; consequently the hearts of the plants soon collapse. Certainly it is natural for the leaves to rest on the soil, but in transplanting to frames, if they are slightly elevated the less likely is damp to settle about them. For a very late supply, the smaller plants should be kept in a frame by themselves, as these would grow and form a very useful late batch.

The storing having been assured, it now remains to give a few details on blanching. With this part of the routine cleanliness is of the greatest importance, and no method should be adopted other than will allow of this being assured. Where an early supply is needed blanching may take place in the open air, the best course being to reserve a batch for the purpose; but to prevent any possible injury from early frosts a temporary covering should be erected, so that mats or oiled canvas cover-

ing may be placed over them on the shortest notice. Tying the plants together with matting and earthing up with soil is a dirty method. Clean flower-pots are as good as anything, taking care to closely stop the hole to exclude light, perfect darkness being essential, a little soil being also drawn up about the rim to make this complete. Perfectly clean tiles or slates may also be used; also clean boards. When boards are used and the plants are in rows, as they should be, long lengths should not be used, as when only one or two heads are all that is necessary for daily use, the covering and uncovering are apt to injure or bruise the tips, when decay soon commences. Pieces that will cover from six to ten plants will suffice. To perfectly exclude light, a little dry soil may be drawn up along each side. Later on in the season blanching is a much slower process, and although when in glass structures the plants may be covered over with pots, and in the case of the Broad-leaved Batavian be tied up, yet it is quicker to lift the plants and place them in a warmer and perfectly dark structure. For instance, they may be placed in the Mushroom house or even a warm and dark cellar, when the blanching will take place rapidly. A dozen or two dozen plants, as the case may be, should be put in weekly. These should be lifted and packed in boxes with a sufficiency of fairly moist soil to sustain growth without the necessity of applying water.

A. Y. A.

**Runner Beans.**—Whenever the meteorological history of the present century is written, few facts will have more importance than this, that in the year 1892 we had so sharp a frost on June 18, that in many places runner Beans, Potatoes, and Vegetable Marrows were quite killed or materially injured, and that on September 18 we again experienced just as sharp a frost, which again in exposed or low-lying places did great harm amongst tender plants, in some cases to their entire destruction. Runner Beans specially suffered again, as is usually the case when early autumn frosts prevail, especially breadths growing without sticks close to the ground. But it was somewhat of a surprise to see how much rows of runners that had been staked and had thus been able to grow to a great height had escaped. There seemed to be no doubt that the frost was severest, or at any rate the most destructive, near the ground, arising doubtless from the greater humidity of the atmosphere there than higher up. I observed that where runner Beans had been supported by ordinary Pea sticks, and the strong growth had borne down the tops so as to present a broad surface to the frost, these surfaces were quite blackened. The higher the Beans had gone up tall and narrow lines of stakes, the more had they escaped. It would be interesting to learn the experience of others on that point. The granting of two first class certificates to runner Beans recently shows that, so far as varieties are concerned, we have some undoubted improvements. Not only have the two sorts Hill's Prize and Sutton's Prize-winner, a selection from the popular Oxonian, and having very distinctive seed, proved to be the best in gardens and on show tables, but these two were the finest and most prolific of all the section of Scarlet Runners grown at Chiswick this year, where they readily received the full number of marks.—A. D.

**Potatoes.**—The granting by the fruit committee of the Royal Horticultural Society of four first-class certificates to Potatoes grown at Chiswick, and four certificates of merit will, no doubt, excite some surprise that it should be possible to find in these days of good Potatoes so many new ones that merit such distinction. The awards, however, are moderated by the fact that one variety, Reading Giant, has long been in commerce, but never received the honour it merited; and another, The Canon, has been in commerce two years

at least. One of the finest round white varieties ever grown at Chiswick, Boston Quality and Quantity (Johnson), and certificated unanimously, is of a Regent-like character, and remarkable not only for its good cropping qualities, but also because it turns out all its tubers of one even table size. As it is of the best table quality, it will be a surprise if this variety does not become popular in market circles. The other variety so honoured, Mary Anderson (Fletcher), is of excellent quality, a heavy cropper and handsome. It is a somewhat largish white pointed kidney. Laxton's Early Short-top, certificated last year, again this season fully justified its previous award. The other four varieties which received lesser awards were all very fine croppers. Thus it will be seen that not only are there several fine new Potatoes coming into the market, but that they have been regarded as worthy of all praise. There are so many really good Potatoes in commerce, that no inferior forms need now be shown. It would have been a good thing could a conference on Potatoes, especially in relation to the checking of the disease, either by chemical applications or by the raising of varieties that are practically disease-re-isting, have been organised in connection with the recent show at Earl's Court. There seems to be so much to lament when a large gathering of those specially interested in Potato culture is brought together, that nothing is done to secure the benefit of their united knowledge and experience. Although it has not been a season of severe disease visitation, yet there has been quite enough of it to enable growers to testify on the points referred to.—A. D.

#### CELERY EARTHING UP AND MOISTURE.

THE early part of September is a critical time for Celery. The mid-season and late lots are apt to suffer more than the earliest. As pointed out at p. 233 in the calendar notes, Celery requires almost unlimited supplies of moisture; indeed, I often think the want of it causes the running or bolting we often hear of. In rainy weather it is often thought the plants are getting ample supplies of moisture; indeed, I have seen it noticed that, owing to excessive rains, Celery is not so good as usual, when doubtless, if the rows were examined and the plants large or with dense foliage, they were dry at the roots. I have frequently noticed that when Celery for autumn and winter use is moulded up when dry, bolting occurs. Large growing forms of Celery are worse in this respect than the medium growers. Now is a good time to apply moisture and a liberal amount of liquid manure to the plants for late autumn and winter use. If plenty of moisture is given now, there will be less bolting and the growth will be much firmer. The value of liquid manure from the cow-yard during this month cannot be over-estimated. This may be given mixed with water to save time, or it may be poured in the trenches in a pure state and a man follow with the hose and flood the trenches afterwards. Those who cannot apply liquid manure would do well to apply a dressing of salt previous to watering. So it is also a good fertiliser, and should be applied where slugs abound. One of the best stimulants at this season is fish manure. The effect is very marked if a little is applied every two or three weeks, well washing it into the soil and giving a final dressing before earthing up. In all cases dryness at the root previous to earthing up should be guarded against; indeed, it is best to err on the safe side and to give a heavy soaking, especially on light soils. On the other hand, late Celery does not require so much manure in the trenches as early Celery; hence the necessity of more moisture, as if given too much manure it does not stand severe weather like plants grown more sturdy and of firmer texture. In light soil there is no better manure than cow and sheep droppings in a decayed state and given in moderate quantities. When much animal manure is applied at one time, the Celery has a tendency to bolt just at the time the plants should be thickening or forming a solid



centre. Early earthing is also a serious evil with late Celery, as the longer this operation is delayed the better. I am well aware it is necessary to earth up before severe frost, but it need not take place till it is really necessary. We often get very fine weather during October, so that the late plants can get the attention required, as if a few degrees of frost occur early in the month, this does no great harm to plants in robust health. It is an easy matter to add a little soil occasionally in preference to building up large masses to check growth and make the plants tender. G. WYTHES.

## THE FRUIT CROPS.

### SCOTLAND.

**Scone Palace, Perth.**—The fruit crops in this district, with a few exceptions, are this season much under the average. Gooseberries, Black and Red Currants are a fair crop. Strawberries promised to be an abundant crop, but the blooms were destroyed by frost early in June. The varieties which give the best results here are Vicomtesse Héricart de Thury, Sir Joseph Paxton, President, Bothwell Bank, James Veitch, and Elton Pine. Apples and Pears are almost a failure. Apricots and Plums are very thin, but the quality is good. Early Cherries generally a failure. Morrells good.—A. MCKINNON.

**The Glen, Innerleithen, Peeblesshire.**—Apples in some districts are an average crop; in the gardens here a good crop. Cherries a poor crop. Gooseberries below average. Currants and Raspberries an abundant crop. Strawberries good in some gardens, but below average generally. The best sorts of Strawberries to grow in this district, and the ones that give the most satisfactory results, are Keens' Seedling, President and Garibaldi. Elton Pine does very well. I have tried the following and found them almost useless: Noble, The Captain, A. F. Barron, Commander and Latest of All. Waterloo is a good late. Garibaldi is our earliest, but the berries are small compared with Keens' Seedling and President, which are the two to be most depended on in this district.—MALCOLM MCINTYRE.

**Cullen House, Banffshire.**—The fruit crop in this district is very poor on the whole, with the exception of small fruit. The spring frost and cold winds seemed to cut off the blossom. Pears and Plums are very thin, as also Peaches and Apricots. The wood of the Figs suffered very much during the winter. Strawberries have been extra good, as all small fruit with me, but not generally.—J. SMITH.

**Cawdor Castle, Nairnshire.**—Strawberries, Raspberries, Gooseberries, and Currants abundant and good. Victoria Plums on standards abundant, so much so, that the branches are borne to the ground with the weight of crop. On walls, Orleans and Jefferson fair. Pears very poor. Apples on old trees abundant; on young trees poor. Strawberries grown here are Noble, Garibaldi, Duke of Edinburgh and Elton Pine.—J. MAITLAND.

**Alloa House, Clackmarnan.**—Taken as a whole, the fruit crops are much under the average. Small fruits (Currants) are a good crop, but in the case of everything else the crop is very poor, in many cases almost a failure, Apples and Gooseberries especially. Strawberries are very poor, owing to unfavourable weather when the plants were in flower. The following varieties amongst others I have found to do remarkably well: James Veitch, Dr. Hogg, President, Laxton's Noble, Vicomtesse Héricart de Thury, and Sir J. Paxton.—THOMAS ORMISTON.

### IRELAND.

**Vice-Regal Gardens, Phoenix Park, Dublin.**—Apples and Pears are most disappointing this year; about one tree in ten has a fairly good crop. Other varieties alongside with fruitful vigorous constitutions have nothing but leaves. Plums are a fair crop on walls; standard trees have dropped much of their fruit. Apricots

and Peaches are both under average. Continuous east winds and low night temperatures have done all the harm. Good natural shelter and moderately good soil are indispensable to make fruit-growing a profitable investment. Small fruits are good average crops. Currants and Raspberries heavy. Gooseberries moderate; Warrington thin. Strawberries an average crop. To secure regular good crops, I find it necessary to replant every third or fourth year and to thoroughly trench and manure the ground before doing so. Mulchings of manure put on either late in autumn or early spring are of special importance in the production of large fruit. For very early fruiting, King of the Earlies and Black Prince take the lead; they colour well, but are small in size. Vicomtesse H. de Thury and Market Favourite do well here as second earlies. Bothwell Bank Prolific, a variety that does not appear to be much grown, does well here. It is a good cropper, with large firm fruit, of good flavour. I have used it a good deal for pot work, and it does well for general cropping. James Veitch, Keens' Seedling, President, and Sir J. Paxton are a few good sure croppers. For flavour, British Queen and Dr. Hogg take first place here. Filbert Pine, Eleanor, and Elton Pine are the most reliable for late work.—G. SMITH.

**Hillsboro' Castle, Co. Down.**—Gooseberries, Raspberries, Currants in variety, and Strawberries have been abundant. The Strawberries I find that do best here after a few years' trial are President, British Queen, and Sir Joseph Paxton. Noble has been excellent in pots, but does not do well in the open. A. F. Barron is also a shy fruiter with me, the fruit hard and of poor flavour. Wizard of the North is very prolific and our best late Strawberry; it is a much better cropper and later than Oxonian, and is well worthy of a place in every garden. Our mode of cultivation is to layer the runners in pots from the middle to the end of July, and plant them out of the pots on heavily manured ground as soon as they are well rooted. They produce good fruit the following season. Cherries were a good crop. Plums, Apples, and Pears on standard and wall trees are very light. A great many of the trees have not a fruit on them; the continual spring frosts and east winds destroyed the blossoms as fast as they opened, particularly so on the Pears and Plums on the south walls.—T. BRADSHAW.

**Ballywalter Park, Co. Down.**—The Apple crop here is very good, notably Irish Peach, Sam Young, Keswick Codlin and King of the Pippins all heavy crops. Young standards of Warner's King, Stirling Castle, Cox's Pomona and Orange Pippin with several others have a quantity of fine fruit. Pears are below the average with me, but in some other gardens in the neighbourhood are well up to average. Plums abundant, also Black and Red Currants; the Red are growing side by side with Black and are never touched by caterpillars, but on the walls the Red have been destroyed by this pest. Gas-lime is of no use. I am going to try sea-weed, which, I believe, saved my Gooseberries this year. Raspberries a failure. Cherries a good crop. Keens' Seedling the best early Strawberry here outdoors; Frogmore the latest; President one of the best here; Paxton is also good; Noble and Dr. Hogg not so good.—J. WARD.

**Powerscourt, Bray.**—Strawberries fair crop, many of the early blooms destroyed by May frost. Varieties grown, Keens' Seedling for flavour and preserving; Garibaldi and Noble for early picking; President and Bothwell Bank mid-crop; James Veitch latest variety grown here. Frogmore Pine is grown in this district, and succeeds fairly well. My treatment of the Strawberry is well-prepared ground for planting, keeping clean with the hoe. A mulching of solid manure is given in February or March. I plant at 32 inches between the rows and 18 inches from plant to plant; even wider planting is desirable, specially for such kinds as President and James Veitch. For fresh plantations I secure my runners in the early autumn, putting them in nursery lines on good ground till the middle of March, when they are moved to their permanent quarters. Raspberries

a most abundant crop here and of capital size. I cannot speak too highly of Baumforth Seedling; for flavour and size no better. Superlative is also first-rate and of good size. Gooseberries full crop and large; in some gardens in this district crop extremely light. All other small fruit, such as Black, Red, and White Currants, abundant. Cherries average crop. Plums most plentiful, and of full size both in the open and on walls. Apricots thin crop. Pears very scarce, except Bon Chrétien. Apples average crop. I find East Lothian Seedling a most abundant bearer and good. Such kinds as Lord Suffield, Keswick, Quarrenden, Cox's Pomona, and Golden Noble are our best. Medlars and Nuts are plentiful. Damsons average crop. On the whole fruit crops have turned out very much better than was expected, considering the very severe weather we experienced at the blooming period.—D. CROMBIE.

**Straffan House, Co. Kildare.**—The Apple crop in this neighbourhood is the worst we have had for twelve years, although the promise in early spring was all that could be wished for, but the severe frost (17°) on the nights of April 15 and 17 killed the unopened flower-buds. Of Pears the only kinds bearing any fruit are Marie Louise, Passe Colmar, Winter Nelis, and Glou Morceau, and these only on south walls. Plums on walls are a failure, while standards of Victoria, Prince of Wales, Winesour, and Damsons are fairly good. Cherries thin, but of good quality. Strawberries were a splendid crop and lasted well. All bush fruits much below the average.—F. BEDFORD.

**Lurgan.**—The fruit crop in this district is considerably below the average. Apples and Pears are about half a crop. Plums, especially Victoria, are abundant; indeed it is the only Plum worth growing in this locality. Peaches are seldom grown out of doors here. I may say the same of Apricots. Small fruit, such as Gooseberries, Currants, &c., have been plentiful. Strawberries have been a very good crop this season, but flavour in most cases deficient. Sorts most frequently grown for main crops are President, Sir J. Paxton, Duke of Edinburgh, and J. Veitch; late kinds, Elton Pine and Eleanor; early sorts, Vicomtesse H. de Thury and King of the Earlies. Laxton's Noble has been a disappointment here.—W. ALLAN.

**Kylemore Gardens, Kylemore, Galway.**—The fruit crops here were considerably above the average. Apples both on wall and standard trees are a very heavy crop, and promise to be of average quality. Pears are an average crop, the samples being good. Plums, which showed a great profusion of blossom, are but a thin crop, and small fruits were an unusually heavy crop, Raspberries being especially good. Strawberries are not fruited in the open here, but we force extensively. The varieties most in favour are Vicomtesse H. de Thury and Noble.—WILLIAM L. FARMER.

**Pota, Cork.**—The prospects of a good all-round fruit crop were never better than in the early part of this year. Fruit trees generally looked healthy and flowered profusely, but we were visited by severe spring frosts, which destroyed our hopes of a full crop. Apples under average; Worcester Pearmain and W. E. Gladstone are bearing a fair crop; Pott's Seedling, Lord Suffield, Lady Henniker, Waltham Abbey Seedling, Dutch Mignonne, Golden Noble, Sturmer Pippin and our never-failing Small's Admirable are the best croppers we have this season, with a few on other well-known kinds. Pears much under average and fruit generally poor in size and quality. Peaches under glass copings a good average crop and well coloured. Nectarines the same. Small fruits variable, especially Gooseberries. Here we have hardly any, as the bloom was destroyed by frost. At a short distance from here at the same altitude and the same distance from the sea the bushes were laden to the ground. Currants of all kinds full crops and good. Strawberries very full crop. Laxton's Noble is now much grown for early local market work; the district suits it well, quality second-rate. Marshal McMahon is the general fa-



yourite both for market and private gardens: it comes in after Sir Joseph Paxton, President and others, and continues in bearing longer than most kinds. It is the Strawberry for this district. I mention this district, because I know locality has so much to do, not only with Strawberries, but other kinds of fruits, that it is impossible to give a limited list of varieties that will do equally well in every place. A friend who tries almost every variety of Strawberry that is brought out has just called upon me from Buckinghamshire. Marshal McMahon is worthless with him, refuses to fruit at all; here it is the best. Keens' Seedling I consider the best for early crop and forcing. Sir Joseph Paxton and President are favourites. Sweet Cherries and Plums under average; Morellos a full crop and very fine. — W. OSBORNE.

**Bessborough Park.**—Apples here and throughout the district are not more than half a crop. We had a sharp frost here on June 14 and 15. Pears are about half a crop. Plums, although more plentiful, are not abundant. The best with me are Victoria and Prince Englebert. Victoria Plum deserves extensive cultivation for its cropping qualities. Peaches and Nectarines under glass are an average crop. The trees have not made so much wood as usual. Raspberries, Red, White, and Black Currants abundant. Gooseberries abundant, but small and deficient in flavour. Morello Cherries a very thin crop. Apricots none. Strawberries a failure; whereas in gardens about two miles distant they are abundant, but small and very deficient in flavour. The varieties that succeed best with me are Vicomtesse H. de Thury and Keens' Seedling. To succeed with Strawberries, plant every year; the third year is the best after planting. — WM. CLARKE.

## ORCHARD AND FRUIT GARDEN.

### ROOT-PRUNING.

THERE is considerable difference of opinion as to the results obtained from root-pruning, many objecting to what they term mutilation of the roots and advising letting the tree have free play. I believe in root-pruning provided it is done carefully and at the right time. There is no better time than the month of September; the earlier in the month the better for such early fruits as Cherries, Apricots, and Plums. Apples and Pears may be operated on early in October, and not only root-pruned, but in many cases lifted and replanted if necessary. One of the chief objections to root-pruning is that trees left alone, for instance those in orchards, fruit freely without the roots being cut. Such is the case, but then the top is left alone also, so that the top-growth balances the root-growth and the trees are fruitful. If old orchard trees are severely cut in at the top, the next season there is a forest of small twigs and no fruit. Careful thinning may take place, but sufficient wood must be allowed to absorb the supply of food from the roots. Root-pruning in every case would be radically wrong. Where it is required is with trees pruned severely or not allowed to become large, as this cutting in of the top without restricting the roots produces unfruitful trees. This pruning has been practised in orchard and fruit houses for years with success, as fruit trees in pots must be root-pruned at least once in two years to keep them from growing too much and to induce them to bear freely. It is much the same with various fruits. For instance, Figs to be profitable must have a restricted root-run, which is a kind of root-pruning. In many gardens pyramids or bush trees are planted near walks; these are most ornamental in the garden, but in a short time fill the allotted space allowed them. The result is that severe annual pruning is necessary, and every

year a strong growth with few fruits is produced. These are the trees that benefit by root-pruning, doing away with the severe top cutting for a time. Of course there are different ways to go to work, as if extreme measures are taken at once the trees are injured; indeed, root-pruning requires a certain amount of skill, and with large old trees with coarse roots only a portion of the roots should be cut, say a third or half, doing the work in two or three seasons instead of one. With small trees there is less danger, provided the cutting takes place at a fair distance from the stem of the trees. Fruit trees, such as pyramids, would often be better if lifted oftener when in a young state, say every two or three years; then root-pruning would be out of the question, as a sturdy growth would result. We see how well trees in nurseries grow with frequent removal, and how late it is often practised, and with no evil results, simply because the roots are a mass of fibre that soon takes to the soil. It is the large coarse roots that succumb to lifting; hence the advantage of root-pruning to induce better root action by the formation of fibrous roots. Of course stocks have much to answer for, as these are not all suited for the scion, but of late more attention has been given to these and to grafting or double-grafting. Apples on the Paradise stock and Pears on the Quince rarely fail to give heavy crops of fruit. The Quince stock fails in some soils; for instance, on chalk or gravel the Pear stock often does best. — G. WYTHES.

— This is a very important matter, and should be well considered by all who make hardy fruit culture a study. It is pitiable to see so many fruit trees of all kinds in gardens growing freely and never bearing any fruit, when a few hours' well-conducted labour would make them not only profitable, but also interesting. A properly nursery-prepared tree when sent out will not have a single tap root, presuming, of course, that all nursery trees are frequently moved after they have been grafted. I also presume that nurserymen, in planting their fruit trees as maidens or otherwise, carefully cut the roots. The tap root would in that case be cut off, and I have yet to learn that when once the tap root is severed a few inches from its base a second is made; therefore, I fail to see how the tap root is responsible for all the superfluous growth which some trees make. Many fruit trees, Apples for instance, would not require root-pruning nearly as much as some persons appear to think if the top growth was managed in a more rational manner than is very often the case. The proper manipulation of exuberant shoots will generally bring a tree into fruit-bearing with much less trouble and considerably less check to the tree itself than root-pruning. I am aware that there are instances which do not admit of the branches being managed in the manner I will indicate. In these cases the only remedy to render a tree fruitful is to root-prune with a view to check exuberant top-growth and bring the tree into subjection, so that it will give some return for the space it occupies. The merest novice can determine whether it is necessary to root-prune a tree or not when I say that if space will allow for the branches to extend both in width and height it is not necessary to do this. In the case of pyramid trees growing in a limited space, say beside a path or otherwise, the question is different. The continual pruning of strong shoots into two or three eyes every year without curtailing the run of the fibreless roots only tends to increase the evil. Allow the leading branches

to remain with the exception of removing the tip, and the result with most varieties would be the formation in the following season of bloom-buds the whole length of the shoot and a reduced growth in the length of shoot. Even the year after the previous practice of hard pruning was abolished, each year afterwards less length of new growth will be produced, but a much larger increased area of fruiting space, and absolutely without touching the roots in the shape of pruning. Standard Apple trees in orchards are living evidence of the utility of this plan of dealing with trees without the necessity of root-pruning. Very seldom indeed do we hear of anyone root-pruning this class of tree; neither is it the plan to annually cut back the shoots, and why should it be done in the case of bushes? Pyramid-trained trees I hold to be totally useless where a full crop of fruit is the first consideration. If Apple tree roots were paid more attention to on the surface than is often the case, we should hear less complaint of trees wanting root-pruning than at present. How often do we see young trees of all shapes carrying good crops of fruit in the kitchen garden with many of the roots quite bare on the surface, and in the driest weather, too, and not the faintest sign of a particle of mulching having been given them with a view to conserving the moisture in the soil? It is not to be wondered at if the roots of such trees descend deeply in quest of that moisture which is denied them in the proper quarter. After a few years of such treatment these same trees are often found making a lot of gross growth and lacking in fruit-production, caused in a great measure also by the annual digging in of manure to the roots during the winter months with a view to making the trees grow well. All these points need some consideration when discussing the great question of root-pruning.

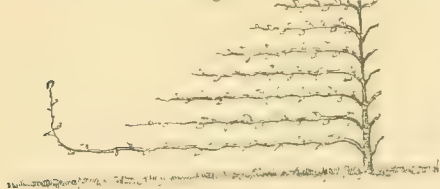
In planting Apple trees I do not mix manure with the soil, but add a few shovelfuls of vegetable refuse, wood ashes, &c. I, however, sometimes find it absolutely necessary to fork in a quantity of partly decayed manure about the roots the following autumn. In some soils trees will grow fast enough without the aid of manure, except that employed for mulching, but in others even in the same field the growth of the same kinds of Apple trees is as different as possible. The colour of the leaves, too, is quite distinct; instead of the deep green colour and leathery feel of the foliage, a paleness and flimsiness are much too evident. Now it would be folly to allow trees such as these to struggle on without the aid of some food to give them their proper colour and necessary growth. This is an instance where the rule of not manuring trees for a certain number of years after planting must be put on one side, and the circumstances of the case thoroughly taken into consideration. In planting an orchard on a newly-broken-up field instances like this are almost sure to crop up, as seldom indeed can a single field beyond an acre in extent be found of exactly the same kind of soil. Where the newly-planted trees do not make satisfactory progress the first year, it would be folly to allow them to stand still when a dose of manure of some kind would be of great advantage. The longer the trees remain in this unsatisfactory state, the longer will they be before they come into bearing. Apple trees, with the exception of standards, if well attended to when first planted ought to bear fruit the second year after the shift. In the case of standards growth is of more importance than fruit. The first two seasons after planting I pick off all bloom buds from the standard



trees, and by the increased length of shoot the plan is justifiable.—E. M.

—The value and necessity of root-pruning are not understood and recognised in the way they should be, and few people are aware of the good effects it has on trees, especially such as are on heavy land and full of gross growth. The reason of this is that they keep running to wood and make timber instead of flower-buds; but once check that gross tendency it is easy to restrain after, for Nature then rights herself, and one crop

Fig. I.

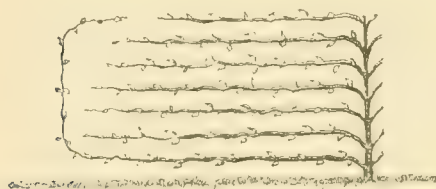


leads on to another. It must be borne in mind, however, that root-pruning must not be carried out in a rough-and-ready fashion, as otherwise harm instead of good will result, for if roots are hacked and mutilated and severed too near to the tree, a long time will elapse before the tree will recover. This being so, great care should be exercised in the operation. The way to set about it is first to open out a trench of a workable width, say 18 inches or so, according to the size of the tree, and if the tree is a large one, the trench ought not to be nearer than 4 feet to the stem, and even then it will be better if it is not carried entirely round. The reason of this is that the chuck would be too great, and to guard against that, half should be done one year and the other half next. In dealing with the roots, all the small fibrous ones met with should be taken great care of and saved, but all those that are big cut through, but not, of course, with a spade. The proper tool for that purpose is a keen-edged knife, as it is important that the cut be made perfectly smooth, for it is only such wounds that heal freely, others causing a dying back through decay of the parts. With all the roots severed in the way referred to, the next thing is to cover them up as quickly as possible by returning the soil and filling in the trench, and if the soil is close and tenacious, road scrapings will do much good. Not only is root-pruning desirable and beneficial for over robust fruit trees, but it is the proper thing to do by way of preparation for any of an ornamental character, or shrubs of large size that are to be moved. Although root-pruning may be carried out from now on through the winter, it is better to do it early while the leaves are still on, as then the healing process goes on more quickly and fresh fibres are more speedily formed.—S. D.

### ESPALIER FRUIT TREES.

ESPALIER TRAINED fruit trees are not, I believe, so much in favour now as they were formerly; nevertheless, there may be some whom the

Fig. II.



history of a tree so trained may interest. Eleven years ago I planted a dwarf Apple tree Cox's Pomona—designing it for an espalier, but at the end of two years it had got into so hopeless a form, that I resolved to train it anew, and with this object I cut off all the branches and

left it a bare stem 21 inches high. The space allotted to the tree was in length 8 yards, the height 5 feet 6 inches. Its appearance at the commencement of the present year will be understood by a reference to fig. 1.

In the year which followed the deprivation of its branches and its reduction to 21 inches from the ground level, a plentiful supply of shoots issued from the stem about a foot from the ground where the thickest branches had been cut away, and several more were produced at the top; from these a selection was made at the end of the year wherewith to commence the training of the tree. On referring again to fig. 1 it will be seen that it now had three branches on either side and one to form a leader. My three tiers of branches having been established, I had to get them to grow in such a way that, as the tree advanced, a proper gradation of thickness should be maintained in each tier. This could not be effected in one year. The lowest branch, though trained horizontally at first, was always curved in an upward direction at the extremity, and this mode of training it is, as fig. 1 shows, still maintained. One tier only of branches and a leader was suffered to grow in the course of one year, and the proportionate difference in the length of each tier was increased each year at the winter pruning. At the present time, although there are no Apples on the highest tier, there are thirty-four fairly distributed over the other six, the lower tier alone having seven on it; but there are very few portions of the tree that did not carry blossoms in the spring, and if the usual quantity had set, ten times that number of Apples would have been produced.

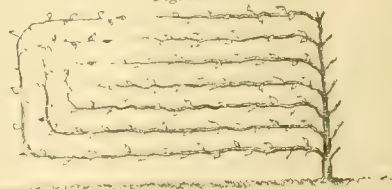
Fig. 2 gives the form which I hope my tree will eventually assume, as being that which, by judicious training and pruning, would be the most convenient to keep in order; but a form which in theory would be more correct is shown in fig. 3 for the benefit of those who prefer more methodical training.

The chief tendencies which we have to counteract in espalier training are excess of vigour in the upper branches, in the top one especially, causing them to outgrow the lower, and the producing of all the fruit at the extremities only, leaving the middle of the tree bare, an evil which, though it cannot be cured in trees that have long been neglected, may always be avoided by a judicious course of training from the very first. Begin with as many branches as you can get, with two, or even three on each side, with a leader to carry on the growth; but as the tree advances, take care to increase the proportionate difference in the length of the lower branch and the branch above it, laying in only one tier each year till the intended height has been obtained. All the shoots except the terminal have to be shortened as they advance, beginning with those on the highest tier. The end of each should be pinched off when about 4 inches long. Great attention should be given to this, and if any are afterwards found to have been overlooked, they should be reduced to the same length. Any shoots that are produced on these shortened portions later on in the year should be treated in the same way. The terminal shoots should be looked at occasionally, and if any appear to be more vigorous than their neighbours on the opposite side of the tree, their points should be pinched off. A reduction of their length should commence early in August, beginning with those of the highest tier and proceeding downwards as the season advances. The tree should be measured at the end of the year, and the branches on the right

side of the tree made to correspond in length with those on the other side.

In the event of an accident happening to one of the branches necessitating the removal of a portion of it, a new shoot proceeding from it may be made to overtake the others and acquire its proper length in the course of a few years by allowing the terminal shoot to remain always unshortened, and to be trained in an upward direction across the other branches, as shown in fig. 4, which gives the arrangement of the

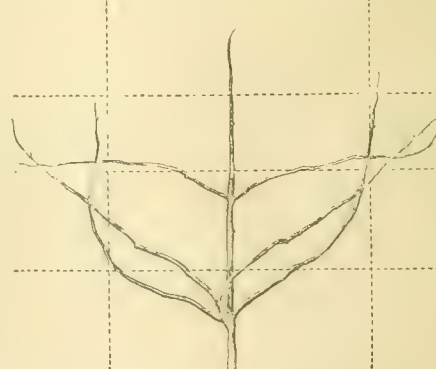
Fig. III.



branches of my present tree in the year 1885. The laterals also might be allowed to remain on longer than those on the other branches, and be reduced to 6 inches instead of 4 inches. At the winter pruning all the laterals should be reduced to about 2 inches in length from the main branches in the usual way. These, I think, are the chief points that require attention in the cultivation of an espalier fruit tree in the early stages of its growth.

An espalier that has for some years filled the space hitherto allotted to it may be profitably treated by having new terminal shoots trained horizontally at right angles to the main branches across the border in which it stands, taking care to keep the lower branchlet well in advance of the one above it. This can be done effectually in the second or third year of their growth. Little available space on the border for the growing of crops is lost by this arrangement. There is nothing to hinder vegetables from being grown close

Fig. IV.



to the new branches on either side. I have one so treated, the lowest branch of which has attained the length of more than 15 feet. B. S.

**Grape Alnwick Seedling.**—On page 250 this variety is rather highly spoken of by "Y. A. H.," and he appears to have been more successful with it than any other gardener of my acquaintance. That it is very easily coloured there can be no disputing, and, in fact, it is the only black variety that will colour well in the high temperature and comparatively moist atmosphere that are supposed to be necessary to grow and ripen Muscats properly. What I do not agree with is the remark that Alnwick Seedling, in common with the Black Alicante, is of good quality or "very refreshing" from December to the latter end of January. I have my doubts about its ever being of really good quality, though it may be refreshing; while as to its keeping good till late in



January, I also am doubtful. If "Y. A. H." can keep it plump and good till the end of November, that is more than I can accomplish, and a period of another two months is not to be thought of. Grown under precisely the same conditions as Gros Colman, Alicante, and Lady Downe's, Alnwick Seedling is the first to colour and commences to shrivel long before the end of October. This season I have good bunches on a rod in a Fig house and near to another Vine of Foster's Seedling, and if the latter does not keep as well as Alnwick Seedling I shall be agreeably surprised, as the latter might do me good service in the "any other black" class at more than one Chrysanthemum and fruit show. "Y. A. H." is a more than ordinary successful grower of Mrs. Pince's Black Muscat, and, it may be, is equally so with respect to Alnwick Seedling.—I.

**Grape Foster's Seedling.**—In the favourable notice of this Grape (p. 237) nothing is said about the first-rate qualities for pot culture which it undoubtedly possesses. By far the finest crop of fruit growing on pot Vines of any kind that has come under my notice was of this variety in one of the vineries at Frogmore in May of this year. Foster's Seedling is an excellent Grape to plant as a supernumerary in a new vinery. A greater crop can be taken with impunity off canes of this Grape than off any other variety that I know.—E. M.

## SOCIETIES AND EXHIBITIONS.

### ROYAL HORTICULTURAL SOCIETY.

OCTOBER 4.

This was not such an extensive meeting as on some former occasions this season in respect to variety, but the hall was very well filled by large collections of Apples and Pears, Michaelmas Daisies in large variety, and a few good groups of Orchids.

#### Fruit Committee.

A grand lot of fruit was staged at this meeting, some of the large collections taking up much space, Messrs. Cheal and Smee staging some finely coloured Apples and Pears. There were also many seedling Apples.

The following first-class certificates were awarded to—

**APPLE RIVERS' CODLIN.**—A large conical fruit, streaked with red on the sunny side, yellow on the opposite, flesh firm, flavour brisk, keeping good till April. A valuable addition to our list of cooking Apples. Messrs. Rivers and Son.

**GRAPE WHITE GROS COLMAN.**—Similar in shape to Black Gros Colman with a thickish skin, but much superior in flavour. It should prove a valuable late white kind. R.H.S., Chiswick.

Awards of merit were given to—

**APPLE KING HARRY.**—A medium-sized handsome fruit of fine flavour, with firm flesh. A variety of great merit and good keeper. R.H.S., Chiswick.

**GRAPE CHASSELAS VIBERT.**—A white Grape with transparent skin, flavour good. One of the best for outside or cool house culture. The bunch shown was grown in a cool house. R.H.S., Chiswick.

**MAIZE ADAMS' EARLY.**—This was shown in the husk and cooked, it being a useful autumn vegetable; sown in April or May, and may be had fit for table for autumn use. From Mr. Willard, Holly Lodge, Highgate.

**TOMATO MISTAKE.**—Grown against a wall in ashes without manure of any kind, fruits large, of Ham Green shape, but more robust and larger than that variety. Mr. Hudson, Gunnersbury House, Acton.

A Grape named Chasselas Rose was also sent from the Society's gardens. Seedling Apples were sent by Mr. Ross, Welford Park, Newbury. One of great merit was asked to be sent again when ripe.

Messrs. Spooner, Hounslow, and Mr. Crook, Forde Abbey, Chard, also sent seedling Apples of little merit. A Tomato named Owen's Perfection, much like Conference, but flatter, was sent by Mr. R. Owen, Maidenhead. Mr. J. Simpson, Dollis Hill, Kilburn, sent a Tomato of good shape and colour. A good basket of Lettuce named Autumn Queen, a cross between Hicks' and Brown Hardy Cos, was sent by Mr. Leach. A large collection of fine fruits (forty dishes of Pears and 100 dishes of Apples) was sent by Messrs. Cheal. The best were Beurré Superfin, Pitmaston Duchess, very fine; Belle de Bruxelles, Passe Colmar, King Edward, Glou Morceau, General Todtleben; and in Apples, Wealthy, Emperor Alexander (very fine), Peasgood's Nonsuch, Stirling Castle, Lady Henniker, Akera, Domino, The Queen, Adams' Pearmain, Worcester Pearmain, Bismarck, Lane's Prince Albert (large silver-gilt Knightian medal). From Mr. A. H. Smee, Wallingford, a very fine lot of fruit was staged, some sixty dishes being exhibited. Among them Emperor Alexander, Peasgood's Nonsuch, Lane's Prince Albert, Tyler's Kernel, Dutch Codlin, Yorkshire Beauty, Bismarck, Melon, Ramborough (very fine), Annie Elizabeth, Gascoigne's Scarlet, Brownlee's Russet and Court Pendu Plat were very fine (silver Knightian medal). The Dowager Lady Freak sent thirty-six dishes of Pears and Apples. Among the Pears, Louise Bonne of Jersey, Beurré Clairgeau, Pitmaston Duchess and Gratioli of Jersey were good. Amongst Apples, Pott's Seedling, Alfriston, Lord Suffield, Cox's Orange and Frogmore Prolific were excellent (silver Banksian medal). Twelve dishes of fruit, chiefly Apples from cordon trees planted in 1890, were sent by Mr. A. J. Brown from the School of Handicraft, Chertsey. Dr. Frankland, Reigate Hill, sent a seedling Melon. It is a scarlet-fleshed variety with very thick skin and rather over-ripe. The committee wished to see it again.

#### Orchid Committee.

No awards to new Orchids were made on this occasion, a most unusual circumstance, but a few good groups were staged. That from Messrs. B. S. Williams and Son was the largest, containing several well-grown plants. The best of these were two capital specimens freely flowered of *Cypripedium insigne*; another of *Miltontia candida grandiflora*, its rich brown flowers with the distinct white lip, was very attractive. *Odontoglossum grande* was also well represented; so also was *Dendrobium Phalænapis Schroederianum* by several plants in excellent varieties. Both *Dendrobium Dearei* and *D. superbiens* were also shown, and *Cypripedium Ashburtoniæ* with several twin flowers upon the spikes. *C. Morganii* was in good form; also that remarkably distinct variety *C. Io grande* (award a silver Flora medal).

Messrs. Sander and Co., as usual, contributed a group of choice things, not so many as on some former occasions, but very interesting. *Phalænapis Lowi* (seldom seen), a beautiful minor variety of quite small growth; the flowers are flushed with rose, the lip a rosy purple. *Oncidium Burbridgeanum* bore an erect spike of flowers of a pale yellow shade. *Cypripedium Spicerianum magnificum* bore several twin blooms upon the spikes of extra size. *Cattleya labiata* was represented by two plants bearing richly coloured flowers. *Houlletia Brocklehurstiana* has dark cinnamon-coloured sepals and petals with lighter spotting towards the base, an Orchid of remarkable colouring. *Sarcanthus teretifolius* with quite minute flowers more curious than beautiful, *Zygopetalum rostratum*, a species seldom seen, and good examples of *Dendrobium Phalænapis Schroederianum*, and one *Paphinia grandis* were also shown (award a silver Banksian medal).

Messrs. H. Low & Co., had a bright little group containing good varieties of *Vanda cœrulea* and of *V. Kimballiana* in various forms (an exceedingly useful and very bright autumn flowering species). *Cypripedium Schroederæ* was well represented, also *Dendrobium formosum* and other *Cypripediums*. This group was finished off effectively with Maiden-hair Ferns (award silver Banksian medal).

Messrs. Pitcher and Manda had a group consisting chiefly of hybrid *Cypripediums*, as *C. Arthurianum*, *C. ænanthum superbum*, and *C. tonsum* (very distinct); also *Oncidium tigrinum* and a small plant of *Lælia pumila*, with a nice piece of *Cattleya labiata*. A cultural commendation was most deservedly awarded to *Oncidium ornithorhynchum*, of which a most profusely flowered example was exhibited by Mr. W. Bryant, Stoke Park, Slough. One flower of *Cattleya Hardyana Massiana* of aurea affinity was sent by Mr. W. Wells, Bromfield, Sale. A finely executed painting of the same Orchid came from the same source. Mr. Statter on this occasion showed *Lælia elegans chelchensis* with the lip of a deep vinous purple, the sepals and petals also rich in colour. *C. granulosa splendens*, with yellowish-green sepals and petals, the lip veined with purple, and *C. tricolor cœrulea* with the lip of a clouded pale blue, a striking contrast to the greenish-yellow of the other parts of the flower, were also shown. *Stanhopea aurea* bearing one fine spike came from Mr. C. K. Wild, of Hampstead.

#### Floral Committee.

A few good things were duly recognised by this body on this occasion.

First-class certificates were given to the following:—

**TACSONIA SMYTHIANA.**—A hybrid variety with flowers of the ordinary size, but in colour a bright scarlet, a pleasing and most distinct shade. From Mr. Smythe, Basing Park, Alton.

**DRACENA AUSTRALIS VAR. RUBRA.**—An extra dark form of *D. Veitchii* with more robust habit, a very promising addition to its class. From Mr. Elliott, Stour Valley Nursery, Christchurch, Hants.

**RHODODENDRON MULTICOLOR NEPTUNE.**—One of the dwarf forms of the javanico-jasminiflorum hybrids, quite distinct from the older types, being of very compact growth and most profuse in flowering. The plant shown bore some eight or more trusses, the flowers pure scarlet. From Messrs. Veitch and Sons.

**HYMENANTHERA CRASSIFOLIA.**—A hardy shrub of the style of growth of *Cotoneaster microphylla*, profusely laden with pearly white berries, which have a slaty blotch of colour on one side. The plants shown were from the open ground. From Messrs. Veitch and Sons.

Awards of merit were given to the following:—

**DAHLIA MRS. VAGG (show var.).**—The colour a lilac-mauve, novel and distinct, also of good form. From Mr. A. Rawlings, Romford.

**CHRYSANTHEMUM GENERAL HAWKINS (English seedling).**—A dark purplish-claret after the style of *M. Délaux* in character. From Mr. R. Owen, Maidenhead.

**CHRYSANTHEMUM LADY BROOKE.**—Another English seedling, with broad reflexed petals, the outer ones of a straw colour, the central portion of the flower of a deep golden shade. From Mr. R. Owen.

Messrs. Barr and Son sent an excellent collection of the best kinds of Michaelmas Daisies, *A. Amellus* in its best varieties, *A. Novi-Belgi* Robert Parker, *A. Novæ-Angliæ roseus*, *A. lævis*, *A. vimineus*, and *A. cordifolius elegans* being the best. *Pentstemon Newbury Gem*, a bright scarlet of medium size was also included (silver Banksian medal).

Mr. Anthony Waterer sent two basketfuls of *Perpetuas* in profuse berry, with excellent variety in the colours (silver Banksian medal).

Mr. Waterer also had two beautiful examples, finely grown, of the Colorado Blue Spruce of a deep glaucous tint, the habit of growth close, sturdy and compact.

Mr. Wells, Redhill and Earlswood, had a large assortment of early-flowering decorative Japanese and single-flowered Chrysanthemums, the best of which were Miss Lilian Cope (flowers large), Gorgeous (after Sunflower), Louis Boehmer and Wm. Wells (yellow) of Japanese; also of singles, Kate Wells, a decorative bronzy-coloured variety of much promise, and Jane Wells, a pure white of large size. A bronze Banksian was awarded. The same award was made to another collection of Michaelmas Daisies, these being from Messrs. Shuttleworth



and Co., including as the best most of the kinds previously named. Reports of other exhibits must stand over till next issue.

The attention of the Council having been drawn to a difficulty in the awarding of certificates, &c., to plants which have received x x x at Chiswick, they passed the following minute:—

The Council request that in future whenever any plant (fruit, flower, seed, vegetable, &c.) shall have had x x x given it by a committee meeting at Chiswick, the superintendent of the Gardens will (if it be possible) bring it forward at the next (or nearest possible) general meeting of the Society at Westminster or elsewhere, in order that it may if still thought deserving receive a more definite award.

The Council also passed the following minute:—

The definite award made under the above minute of Council will be given (as all the Society's awards are made) to the plant in question, and the custody of the certificate or other award will vest in the person sending the plant, &c., to Chiswick for trial.

—W. WILKS, *Sec. R.H.S.*

### INTERNATIONAL FRUIT AND POTATO EXHIBITION, EARL'S COURT.

OCT. 5, 6, AND 7.

At this show were staged some of the finest dishes of fruit ever seen. Apples were truly magnificent and Pears very fine indeed. In the large collection or open class of 100 dishes, no less than 800 dishes were staged. Pears, though less numerous, were grand as regards colour, size, and finish; indeed, there was scarcely a poor lot in either the Apple or Pear classes, and so numerous were the entries, that many exhibits could not be staged at the last moment in the miscellaneous classes. Groups of plants were numerous, and Messrs. Laing's Begonias formed a grand bank of double and single varieties. Messrs. Veitch showed a choice collection of the various hardy fruits in cultivation. Messrs. Rivers had choice fruit trees in pots, and Messrs. W. Paul and Son, Waltham Cross, had a splendid collection of choice conifers. Potatoes occupied a great space, so did vegetables. In all over 5000 dishes of fruit and vegetables were staged.

In the open class for collections of Apples, dessert and culinary, not to exceed 100 dishes, orchard house fruit excluded, there was much competition, no less than eight entries. First, Messrs. G. Bunyard and Co., Maidstone, with regal fruit, the back row of dishes being superb. There were splendid dishes of Alexander, Cox's Pomona, Bismarck, Gloria Mundi, New Hawthornden, Golden Spire, Gascoigne's Seedling (very fine), Hollandbury Pippin, Dutch Codlin, Lady Sudeley, a fine lot, grandly coloured, and Ribston Pippin. Second, the English Fruit and Rose Co., Hereford, with smaller fruit, but of grand colour, the dishes of The Queen, Emperor Alexander, Golden Spire, Bramley's Seedling, Ringer, Bismarck, Worcester Pearmain, and Crown Apple being very fine. Third, Mr. J. Scott, Crewkerne, Somerset, with fruits little inferior to the second lot.

Collection of Pears not to exceed fifty dishes: first, Mr. H. Becker, Beresford St., Jersey, with very heavy fruits, some being of great size, but chiefly culinary varieties; indeed, as far as excellence of culture was concerned, the second lot was superior, having chiefly dessert kinds. The dishes of Catillac, Grosse Calebasse, and King Edward were of great weight. Van Mons Leon Leclerc, Beurré d'Arenberg, Louise Bonne of Jersey, and Forelle were very large and well coloured. Second, Mr. G. Woodward, Barham Court, Maidstone, with a splendid collection, chiefly dessert kinds of great size and very clear skins. His dishes of Glou Morceau, Doyenné Boussoch, Pitmaston Duchess, Duchesse d'Angoulême, Triomphe de Vienne, Louise Bonne of Jersey, Beurré Diel, Easter Beurré, and Superfin were excellent. Third, Mr. A. Thomas, Rodmersham, Sittingbourne, with a nice collection of choice varieties well grown. There was no entry for orchard-house fruit, but from the appearance of some of the varieties staged in the

fruit classes, we should say some fruits had been certainly grown under glass. For class four or trophy of vegetables there were only two exhibitors, but these were good—Mr. Pope, Newbury, first, with grand Wroxtan and Lord Keeper Onions, grand Celery, Leeks, Cauliflowers, Beans, very fine lot of Tomatoes and Artichokes. Second, Mr. Gibson, Carshalton, with good Potatoes, Turnips in variety, Beans, Beet, Cauliflowers, Sprouts, and Carrots.

In the classes for amateurs there was a very large number of dishes of hardy fruit. For the collection of fifty dishes of Apples, Mr. G. Woodward, Barham Court, Maidstone, was a good first, having splendid fruit, highly coloured. Second, Mr. Turton, with very large fruit of good colour and very even, much admired. Third, Mr. George Goldsmith, Horsham, with a good collection. For twenty-four dishes of Apples, Mr. J. Mackenzie, Linton Park, Maidstone, was first, with grandly finished fruit. Second, Mr. F. Smith, Loddington, Maidstone. Third, Mr. Turton, Maiden Erleigh, Reading. Collection of twelve dishes of Apples: first, Mr. George Woodward with large fruit. Second, Mr. A. T. Killick, Maidstone, with an even lot of grand finish. Third, Mr. G. Chambers, Maidstone, with fruit of great merit—these Kent collections being remarkable for high colour and size. Collection of Pears, twelve dishes: Mr. G. Goldsmith was a good first, with grand examples of General Toddleben, Pitmaston Duchess, Glou Morceau, Louise Bonne of Jersey, and others. Second, Mr. A. Offer, Crawley, with fruit of great size and well finished. Third, Mr. G. Nicholson, Chingford, with a fine dish of Princess, Louise Bonne of Jersey, and others. Collection of six dishes of Pears: first, Mr. R. Smith, Yalding, Kent, with six grand dishes of exquisite finish. Second, Mr. C. West, Salisbury. Third, Mr. T. G. Dean, Limsfield.

Collection of vegetables, twelve dishes: Mr. J. Wilkins, Inwood House, Dorset, first, with a superb collection, having grand dishes of Sutton's Solid White Celery, Intermediate Carrot, Autumn Mammoth Cauliflower, Globe Artichoke, Lyon Leek, Student Parsnip, Maincrop Onions, and fine Tomatoes and Potatoes. Second, Mr. R. Lye, Newbury, with fine Leeks, Sprouts, Onions, Potatoes, Turnips, Cauliflower, Celery, &c. Third, Mr. T. Friend, Godstone, with very fine dishes of choice varieties. In the classes for vegetables and fruit, with such an immense competition, the committee would have done well to award a few extra prizes, as there were some splendid examples worthy of notice. In the competition for Asters only one lot was staged, of no merit. Of Michaelmas Daisies, Mr. N. Davis, Camberwell, had a good lot of bloom of best varieties well put up, securing the premier award. Second, Messrs. Barr and Son, Covent Garden, with a nice collection. Third, Mr. G. Sage, Richmond. Messrs. Barr had a very fine lot of Sunflowers, and of great variety with their names, and received first prize. Second, Mr. Sage, with a smaller, but good lot of blooms.

Gold medals were awarded to Messrs. Veitch and Sons, Chelsea, for a very large collection of Apples, Pears, Plums, and other fruit, twelve large baskets of Apples of great merit, notably Peasgood's Nonsuch, Lane's Prince Albert, Wellington, Melon Apple, Sandringham, Bismarck, Seaton House, The Queen, Mr. Barron, Dr. Harvey, and Gold Medal. Messrs. Wm. Paul and Son, Waltham Cross, for a very fine lot of conifers in pots, hardy shrubs, and trees, some rare and of great beauty. To Messrs. J. Laing and Sons for a very fine group of Begonias; some of the newer kinds were of immense size and brilliant colours. The Begonias formed a solid bank with a ground work of Palms and other decorative plants, flanked upon each side by a very fine collection of Potatoes and Apples. To Messrs. Rivers for fruit trees in pot and in dishes, the Pears being very fine, and the trees carrying a heavy crop of large fruit. Silver-gilt medals were awarded to Messrs. Cheal and Sons, Crawley, for very fine collection of Apples, Grapes, Muscats and Black Hamburg and Lady Downe's, the fruit being of great excellence. Messrs. G. Bunyard and Co. for a great number of dishes of Apples and Pears; this collection had

twelve large baskets of Apples of great size and fine colour, the culinary varieties of immense size. Messrs. Deverill, Banbury, for a very fine lot of Onions of their Ailsa Craig, Wroxtan, Rousham Park, Lord Keeper, Jubilee, Anglo-Spanish, and other varieties. Messrs. C. Lee and Son, Hammer-smith, for a very good lot of Apples, their dishes of the newer varieties being very fine. Messrs. W. Paul and Son, Waltham Cross, for very large group of cut Roses, fruit, plants, and foliage. Mr. B. S. Williams, Holloway, for a grand lot of Crotons splendidly coloured, and of choice varieties, well grown plants, forming a pleasing feature in the centre of the hall. Mr. E. D. Shuttleworth, Peckham Rye, for Palms and other decorative plants with cut blooms of choice flowers. Messrs. H. P. Vilmorin, Paris, for a choice lot of salads, Endives in variety, Celery, Celeriac, and Dandelions.

Silver medals were awarded to Messrs. E. Ryder, Orpington, for thirty dishes of well-grown fruit of Tomatoes. Mr. Woodward for Peaches, a collection of varieties of great merit. Mr. Wright, Glewston Court, Ross, for collection of Grapes (very good bunches), Pears, Apples, and Peaches. Messrs. Jarman & Co., Chard, for vegetables and fruit, their Onions being of great weight and very solid. Mr. G. Wythes, Syon House, Brentford, for group of decorative plants and Chrysanthemums tastefully arranged. Mr. J. R. Chard, Stoke Newington, for his improved table decorations. Mr. Trotter, Ledbury, for dried fruits and vegetables. Messrs. Spooner, Hounslow, for collection of Apples and Pears. Mr. H. Becker, Jersey, for very large Pears. Mr. G. Reynolds for a very fine collection of Hero of Lockinge Melons. Mr. H. Wrede, Germany, for cut Pansies in collection of twenty varieties. Messrs. Barron & Sons, Derby, for cut foliage. Messrs. Barr & Son, Covent Garden, for cut hardy flowers. Mr. H. Rickwood, Twickenham, for very fine collection of Pears. Mr. W. Icton, Putney, for a grand lot of Gros Maroc Grapes, the collection, being most meritorious; and to Messrs. Lane & Son, Berkhamsted, for very fine Prince Albert and other Apples, fruits and Nuts in variety.

Bronze medals were given to Mr. C. Holden Ealing, for decorative plants grouped. Messrs. Peed & Son, Norwood, for Apples and Pears. Mr. Bythway, Llanelli, for collection of Apples. Mr. W. Wells, Crawley, Apples. Mr. G. A. Loveday, Pears of large size. Mr. Wallis, Keele Hall, Peaches. Mr. R. Dean, Ealing, Beans and Potatoes. Messrs. Waterer for fine plants of Blue Spruce (*Picea pungens glauca*). Messrs. Wells, Redhill, for a very fine lot of cut Chrysanthemums.

For the Covent Garden prizes there was not much competition. Messrs. W. Poupart, Twickenham, for Apples shown in half-bushel baskets, were first, with fruit of good quality; second, Mr. Jackson, Gunnersbury House, Acton. Pears: First, Mr. Becker, Jersey; and second for smaller collection of Apples, Mr. Wyatt, Hatton, Middlesex.

First class certificates were granted to Messrs. Laing for a very fine double Begonia of large size and brilliant colours named Lady Dunsany; to Messrs. Perkins and Sons for a new Cactus Dahlia, named Matchless; to Messrs. Jarman and Co., Chard, for their new Onion, named Hero, a cross between Rousham Park and Ailsa Craig, an immense variety, weighing nearly 2 lb. each; for Laing's Mammoth Red Celery, a variety of great excellence, tinged with pink, and of a beautiful flavour, an excellent autumn variety.

Messrs. Waterer, Knap Hill, Woking, exhibited some fine baskets of *Pernettyas*, covered with their bright berries; also shrubs, including the recently certificated *Picea pungens glauca*. Messrs. Lane, Berkhamsted, had a fine collection of Nuts with their collection of Apples. Messrs. Sutton staged a very fine collection of vegetables, their Onions, Cabbages, Kales, Kohl Rabi, and Carrots having been grown under ordinary field culture.

Whilst the display of Apples may well be regarded as one of the finest seen in London, the Potato exhibits, though presented in a very large way, could hardly merit the same compliment. Most certainly to many the Potatoes were a sort of revelation, but those who still remember the later exhibits of the International Potato Society at the



Crystal Palace will hold that there was then a higher average of merit than now exists. That one or two such exhibitions as that of the present week would soon make the Potato what it was at the Crystal Palace there can be no doubt. In very many cases the tubers were too large; many indeed were rather coarse. Still, of the best there were many very high-class dishes, and perhaps about as good as they well could be. The competition throughout was good, and the large and remarkably interesting collections staged by seed firms and others enabled all the best sorts in cultivation to be adequately represented. The chief competitive class was one for twelve varieties, nine tubers being shown in all cases. The prizes were also good, and gave those successful a liberal reward. Mr. Ridgewell, who took the first prize in this class, is an old competitor and knows what constitutes quality in Potatoes. Amongst his and other exhibits in this class, specially fine were Snowdrop, Reading Giant, Chancellor, Prime Minister, Cosmopolitan, Satisfaction, Triumph, Advancer, Windsor Castle, Come to Stay, of whites; and Mr. Bresee, Edgecote Purple, The Dean, Lord Tennyson, white blotched purple; Purple Perfection, Prize-taker, Reading Russet, Reading Ruby, and a pretty pale red variety named Pink Perfection. There were nine collections in a class for nine dishes. Mr. Simkins who came first had very fine handsome tubers; of his and others best in the class were Reading Russet, Satisfaction, The Dean, ruby coloured, and of white varieties, Stourbridge Glory, Abundance, Chancellor, and Snowdrop. There were twelve collections in the class. Then in the class for six sorts Mr. Simkins was again the best, and in his half-dozen was a dish of superb Reading Giant, which took the silver medal for the best dish of Potatoes in the show. The sorts already mentioned come over again and again here, and need hardly be now referred to. There were seventeen competitors in this class, pretty good evidence of its popularity with exhibitors. Then came the respective classes for three dishes of the diverse sections. Of white kidneys, Mr. Ridgewell was again to the front, having very handsome samples of Reading Giant, Snowdrop and Purity. Also in the class, Marvel, Chancellor and the Bruce were good; there were twelve entries, and in the class for white rounds there were ten entries. The best three dishes were London Hero, Abundance, and Satisfaction. Schoolmaster, Monarch, Windsor Castle, Best of All, Universal, Nonsuch, and Lady Francis were excellent. In the class for coloured kidneys, usually a weak one, the best are Mr. Bresee, Edgecote Purple, Reading Ruby, and Mottled Beauty. Then of coloured rounds, a good competition, the leading tubers were Pink Perfection, The Dean, Vicar of Laleham, Reading Russet, and Lord Tennyson. The best single dish of white rounds was a grand sample of London Hero; Satisfaction coming second, third, and fourth. In the single dish coloured round class the best was The Dean; Reading Russet, second and fourth; and Purple Perfection, third. The handsomest dish of a white kidney was Snowdrop, first and third; Chancellor, very good second; and Reading Giant, fourth. Of the coloured kidney class, Mr. Bresee came first; Edgecote Purple, second and third; and Beauty of Hebron, fourth. Then came classes for Potatoes put into commerce since January 1, 1886. For the six dishes fourteen lots were shown, Mr. Simkins taking first place with Daniels' Reliance, Abundance, Windsor Castle, Reading Giant, Sutton's Seedling, and Satisfaction. Of other sorts shown in this class very good were Rural New Yorker, Victory, Pink Perfection, Puritan, and Come to Stay. The duplicate class for three sorts brought good samples of Triumph, Lord Tennyson, Monarch, and others already named. There were thirteen lots in this class. There were also classes for seedling, or not in commerce, of white round and kidney and coloured round and kidney. To these various medals and certificates were awarded, the medal in each class representing the highest award. In the white round class, Mr. Jas. Lye was awarded the medal for Advance, a fine handsome Potato out of Reading Russet and School-

master; Mr. Wiles had a certificate awarded to Oxford Surprise; Mr. C. Ross to Recruit; Mr. Laxton for Murphy; and Messrs. Johnson and Sons, Boston, for Quantity and Quality, a fine Regent-like round. Of coloured rounds the best sample came from Mr. W. Kerr, Dumfries, in a purple seedling, fine and handsome, out of Abundance, and it was awarded the medal. Mr. Wiles got a certificate for Pink-eyed Perfection, and Mr. H. Fletcher for Lillie Langtry. Of white kidneys the medal was taken by Mr. Ridgewell, with New International, not a happy name, a fine handsome sort. Certificates were granted to Mr. Wiles for Oxford Giant, very fine; Mr. Howard for Lord Wolsley, and Mr. C. Ross for Rising Star. In the coloured kidney class the best was a fine Lapstone-like tuber, deeply blotched purple, and named Lord Raglan. This was from Mr. Chopping, and took the medal. Mr. Kerr had a certificate for a fine flattish red kidney unnamed. The gold medal for the most meritorious collection of Potatoes was awarded to Messrs. Sutton and Sons, of Reading, who made a splendid display, having literally hundreds of dishes of sorts, including some eighty seedlings, and also huge heaps of Satisfaction, Magnum Bonum, Abundance, Best of All, Windsor Castle, Ringleader, Reading Russet, &c. Mr. C. Fidler, Reading, who had a fine collection, including a grand sample of Reading Giant, had a silver medal for a beautiful collection. Awards were also made to Messrs. W. Johnson and Sons, Harrison and Sons, Leicester, Mr. W. Kerr, &c., for good collections. Messrs. Veitch and Sons, Exeter, showed their large white variety, Prodigious, both cooked and uncooked. Mr. Laxton, Mr. R. Fenn, Mr. R. Dean and some other raisers also exhibited collections of seedlings.

A list of awards will be found in our advertising columns.

#### Gardeners' Royal Benevolent Institution.

—The fifty-third anniversary festival dinner of this institution will be held on November 15 at the Hotel Metropole, when the chair will be occupied by Lord Brassey, K.C.B. Gentlemen desirous of being present should make early application for tickets to the secretary at 50, Parliament Street, S.W. The secretary also desires us to say that he will be obliged if friends who have not already done so will kindly send in their collecting cards before that date.

#### Royal Horticultural Benefit and Provident Society.

—The sixth annual dinner of this most deserving institution took place on Wednesday evening, October 5, in the Cannon Street Hotel, Mr. John Fraser, of Lea Bridge, in the chair, Mr. Marshall, vice-chairman. A numerous company of members and friends was present to the number of 130. Mr. John Fraser, in proposing the toast of "The Society," mentioned that at the present time there are on the books close on 500 members, with over 50 honorary members, and upwards of £7000 invested. In drawing attention to the benefits of the society, special attention was called to the convalescent fund which was started a few years ago by Mr. Sherwood. It is very pleasing to be able to chronicle that a great addition was made to the convalescent fund, a sum of close on £30 having been subscribed. A very interesting item in the meeting was the presentation by members and friends of the society of a handsome gold watch and chain with an illuminated address to Mr. Hudson, who has been treasurer of the society for the past ten years. Donations of fruit and flowers were sent in quantity by members and their friends, and the tables were beautifully decorated by Mr. Chard with his arcadian decoration now so well known.

**Stevensonia grandifolia.**—The flowering of this Palm at Kew is an event of some interest, seeing that it is the first time it has occurred with a plant under cultivation in this country. Although the species is by no means a common one in gardens, it has always been well known—at least by name—on account of its immense fronds and generally striking character. A specimen in the

Palm house at Kew has for many years been an imposing object. It is now 25 feet or more in height, its leaves being 12 feet long and 5 feet broad. It belongs to neither the palmate nor pinnate-leaved sections of the family, its leaves being simple, but with the margin cut into teeth several inches deep. It is this plant which is now in bloom, and it shows that the species may be added to the numerous Palms whose flowers materially increase their value from a decorative point of view. The main axis of the inflorescence is a little under a yard long, with the secondary branches confined to about a foot at the top. The flowers occur in long pendulous, cylindrical spikes, a foot or 15 inches long, the whole of the inflorescence being a soft yellow. Like the famous double Cocoa-nut Palm (*Lodoicea seychellarum*), the *Stevensonia* is a native of the Seychelle Islands.

## PUBLIC GARDENS.

**Public park at Colchester.**—Captain Naylor Leyland, M.P., has undertaken to give a handsome pair of entrance gates for the new public park at Colchester. Mr. Horace Egerton Green, J.P., will give another pair, and Mr. H. Laver has promised to erect a monument in the park to the memory of the Royalist generals who were executed after the siege of Colchester.

**Handsome gift to St. Albans.**—Some time since Sir J. B. Maple, M.P., whose country residence (Childwickbury) is about two miles from St. Albans, intimated that it was his intention to present to that city, in whose welfare he has always evinced the greatest possible interest, a public recreation ground and park, and he has now formally made the offer in a letter to the corporation. The land in question comprises 24 acres, and is conveniently situated, occupying a valuable site not very far from the centre of the town. Sir J. B. Maple has already presented the town at a cost of about £4000 with a large isolation hospital for infectious diseases, which is shortly to be opened.

**New park at Ramsgate.**—There was an imposing public ceremony last week at Ramsgate in connection with the taking possession of the new public park. The Mayor and Corporation and various public bodies went in procession from the pier yard to the park, which is situated in the Ellington suburb. Together with the mansion house, the finely-wooded park has been purchased for the sum of £12,400. The keys were handed to the Mayor at the entrance by Mr. Sydney Young, and the public were afterwards admitted. From a platform erected in the ground addresses were given by the Mayor, the Rev. N. Bartram, the Rev. Benson Evans, and Mr. Gripper Banks. Elaborate arrangements were made for the illumination of the town and park, but they were somewhat interfered with by the state of the weather.

**Winter-flowering Orchids.**—I should be glad of a list of the best Cattleyas to flower in November, December, January, February, and March. Can Lycastes be had to flower successively in those months? If so, which and by what treatment? My Lycastes are coming into flower now. I like winter-flowering Orchids—handsome flowers and button-hole varieties. In the summer I care less to flower Orchids, having a preference for Roses and choice Carnations. —H.

**Names of fruit.**—*Croydon*.—2, Emperor Alexander; 3, Blenheim Orange; 5, Reinette du Canada; 6, Comte de Lamy; 8, Duchesse d'Angoulême; 9, Passe Colmar; 11, Glou Moreau; 12, Dumelow's Seedling. —*T. R.*—1, Deux Sœurs; 2, Beurré Diel; 3, Beurré Bachelier; 4, not known; 5, Doyenné du Comice; 6, Duchesse d'Angoulême. —*W. S.*—1, not known; 2, King of the Pippins; 3, Beurré d'Amanlis; 4, Cellini; 5, Ribston Pippin. —*W. E. Bacon, Woking*. —2, Seek no further; 3 and 4, probably Mère de Ménage; others next week. —*J. G.*—Wellington (Dumelow's Seedling).



## WOODS AND FORESTS.

### OCTOBER WORK IN THE WOODLAND.

WHERE a great extent of planting has to be engaged in, the present and following months should be utilised to their fullest extent, so that the greatest bulk of the work may be well in hand before the winter sets in. There are very few soils or situations that may not be more successfully dealt with in autumn or early winter than by postponing the work to spring, and everyone who has noted the results of planting at both these times has by practical experience become convinced that the earlier the work is completed the more likely is success to crown the efforts of extensive planting operations.

Peat bog should not be planted in autumn, neither is it advisable to insert young trees at that time either by the seaside or on exposed and wind-swept hillsides, but these are about the only instances that can be quoted where early spring planting is decidedly preferable to the work being completed in autumn. On exposed ground it must be quite evident to everyone who has studied tree life that plants inserted in autumn and allowed to be tossed about for fully six months before growth commences and they get firmly established, cannot be in so fit a state to start away into growth as those freshly put in just as active circulation of the sap is coming about. Again, the difference between the winter period on most of our exposed grounds and the more genial temperature of the summer season, and during which time the plants get firmly rooted and gradually acclimatised before the stormy weather sets in, has a decided effect in settling either for the benefit or otherwise of the newly-inserted trees. The rocking and loosening of the trees before they have laid hold of the new situation has a decidedly injurious effect in that it strains and barks the tender rootlets, and so an unhealthy state of the plants is brought about. By the seaside I have repeatedly noticed that almost similar effects are produced, indeed even worse, as the saline blasts add to the original evil of wind-shaking. Peaty soil, too, acts injuriously from its antiseptic qualities on inactive roots, so that it is advisable to insert the plants in such a soil just as they are starting into growth.

These three instances are about the only ones that can be adduced in which spring planting is to be recommended in preference to that taken in hand during the late autumn and early spring-time. Quagmires might form an exception to the rule, but it being possible to partially reclaim these, they can be hardly included, while very stiff clays might come under the same heading.

From instructions given during the past two months, ground for planting should now be all but ready, the fencing and draining being long ago completed, and the burning of rough surface herbage and pitting of the ground being well in hand. Attention will first have to be directed to the lifting of the plants in the nursery, and here it may be well to state that a well-managed, well-stocked home nursery has so many advantages, that on every estate where planting is engaged at all extensively in the establishing and keeping of such is to be recommended. The lifting of young nursery stock is, however,

so frequently gone about in a slipshod fashion, that it may be well to direct special attention to the lifting and transmitting of the trees, in fact to their entire management until they are re-established in the woodland. To keep the roots in an uninjured condition should be the great aim of the nurseryman, and to do this special care in lifting is the point of first and greatest import. Do not, as is too often the case, by inserting and loosening the soil on one side, and by tugging and pulling on the other, take a plant from its position in the nursery border. It is mistaken policy to think that rapidity in lifting will compensate for root injury so enacted. Dig out a trench at fully a foot from the tree stems, or midway between the rows of trees and on each side, the trench being about 15 inches deep, and undermine the soil from beneath the stool of the trees. This should so disestablish the plant, that by carefully catching hold of it and gently pulling it may be taken out without the least injury to the roots. Should the trees not have to be removed to a great distance, do not shake any of the soil away, for the act of loading and disloading will of itself be sufficient to take away any surplus soil that may be adhering, while the rattling of the cart or van in the act of transit will greatly tend towards the same end being accomplished.

The next matter, and one of much moment, is the care of the plants from the time they are lifted in the nursery until they are again inserted in the woodland; and here I would suggest that if at all practicable, no more plants should be lifted on any day than will suffice for the following day's planting, as the shorter time that elapses between lifting and replanting will tell all the more markedly on the growth of the trees. Where, however, the commonly practised method of "henching" must, from distance or other cause, be resorted to, the plants should not be tied in bundles, but placed thinly in line and the roots carefully covered with soil. Between the time of lifting and planting, the drying and injurious effects of the wind should be sedulously guarded against, as by leaving the plants exposed and as they are taken from the cart, much damage may be brought about in a short time, particularly if the wind is dry and blowing from the east. A small quantity of damp litter placed around the roots of the outer circle of trees will even help wonderfully in retaining the amount of moisture that is so necessary for their after welfare, and this even though the trees are only to remain unplanted for a couple of hours.

These instructions may seem to many to be almost unnecessary, but with a large experience in extensive planting, my notes, collected at various times on various methods of procedure and their results, tend to point that the more carefully the roots of young trees are preserved during the time that elapses between lifting and planting, the more likely are they to succeed, and as the cost of so doing is as nothing, by all means see that the work is gone about in a practical and common-sense way. There can be no question, indeed it has been conclusively proved on numerous occasions that negligence both in lifting and storing plants has been the death of more than any other cause, if, perhaps, we except bad planting and planting the wrong kind of trees on the wrong class of soil. In any case the value of the plants and the cost of planting renders it imperative that everyone in charge of such should do his utmost to have it carried out in the most satisfactory manner, and certainly a great deal of success lies in the proper lifting and management of the trees before being again reinserted in the ground.

A. D. W.

### MANAGEMENT OF QUICK HEDGES.

ON page 266 there is some excellent advice upon the above subject, but there are also one or two things that I cannot agree with. First, I am not a believer in the planting of Quicks angle fashion 1 foot apart, both in the row and the plants also; the distance is too great; not only a waste of space, but as an increase in the labour in cleaning the bottom of the hedge. Weeds are not so easily cleaned from among the Quicks when in that form, and it is absolutely necessary to keep the ground about the plants quite free from weeds. Planted at this distance, a hedge 7 feet high takes up far too much space; 4 feet 3 inches wide at the base is the width mentioned. I have here a hedge growing at the north side of an orchard 10 feet high and but 2 feet wide in any part of it, and no better fence could be found. It would almost puzzle a rabbit to get through, and certainly a hare would have to go round. The hedge in question has been planted thirteen years. I do not think I should have allowed it to get up so quick from choice, but shelter for the fruit trees was required. However, now that it has reached its limit, we shall, by clipping the growth at least three times a year, have no trouble in making it a trifle stronger than at present: it gives a little with the force of strong winds. The ground was well trenched: some partly decayed manure was mixed with the surface soil. The Quicks, a little thicker than an ordinary cedar pencil, were planted 4 inches apart in a single row and on the flat early in November. The soil was made quite firm about them, a mulching of half-rotted manure was given, and early in the following February the plants were cut down to within 4 inches of the soil. The plants from the first grew vigorously, were often trimmed, with the result that we have a hedge which anyone might justly be proud of. Growing on the farm here is a Quick hedge 300 yards long that has been planted forty years; it is now not more than 5 feet high, quite impenetrable to cattle or biped either. This hedge is a single row of Quicks. The bottom is not quite so good as it might be. The lower branches are rather weak, owing to the fashion hereabouts in trimming the hedges with a much wider top than bottom; by this means the base of the hedge is deprived of light and a certain amount of moisture, owing to its being thrown off by the overhanging branches—a form of hedge cutting to be deprecated for these reasons. My other point of objection to the practice detailed by "F." was on the subject of waiting till the following year after planting before pruning the plants back. This, like the non-pruning of fruit trees for a year, is a waste of time—at least my experience leads me to say so. The wedge form of hedge is undoubtedly the best to adopt for Quicks, which can be kept narrower than perhaps any other plant, and still answer the purpose as a cattle fence also. In the case of young hedges it pays to take some trouble to cleanse the shoots of green-fly, which during a hot and dry spring sometimes attacks them and cripples their growth for that season at least. A thorough washing with the garden engine with tobacco water, soft soap, and clear water is the best remedy that I know for the extermination of green-fly—2 lbs. of tobacco paper soaked in 6 gallons of hot water, add  $\frac{1}{2}$  lb. soft soap and 40 gallons of clear water.

E. M.

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No. 1091. SATURDAY, October 15, 1892. Vol. XLII.

"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—Shakespeare.

## ORCHIDS.

### ORCHIDS FOR ROOM DECORATION.

UNDOUBTEDLY the artistic arrangement of flowers in our sitting-rooms adds in no small degree to the comfort of life. When weary with work which must have much in it to harass the mind, and perhaps to bring with it more than the ordinary share of disappointment, it is refreshing and delightful to be greeted with bright flowers and to find the room pleasantly filled with their fragrance. We have learned now-a-days to cover the walls with pictures, china and other beautiful things, but all these want the life and change and delicacy of varied colouring, which growing plants and Ferns and cut flowers can be made to produce so readily with a little care and management. Orchids are the very best things for the purpose, and as years go on they will be so much more grown, and the flowers consequently so much more plentiful, that there will be no difficulty in having cool Orchids in our rooms for their ordinary adornment. Two things have been hitherto in the way of the large use of Orchids for making our sitting-rooms beautiful with their lovely flowers—their price in the market and the supposed difficulty of growing them. Both these difficulties are rapidly disappearing. Cool Orchids can now be picked up at a low price, and we are beginning to find out that they are not much more difficult to cultivate than a Geranium. One reason for specially choosing Orchids for room decoration is that many of them last so long after they are cut, and it is well known to anyone who grows them that it is good for the Orchid itself to have the bloom cut soon after it is well developed on the plant. It wears out an Orchid to leave the flower on for many weeks until it naturally withers away. It was very many years ago when a well-known horticulturist, who used to write under the initial "D., of Deal," suggested the use of *Lycaste Skinneri* as a plant to grow in the house. Since that day *L. Skinneri alba* has made its *début* in the gardening world, and for some time fetched an extraordinary price, and is still an expensive plant. I believe it is as easily grown as the old and familiar *L. Skinneri* itself. My plants of the latter are just coming into bloom, and have not had any more care and attention than any common greenhouse plant. The one thing they have had is abundance of water, and in the growing season a good deal of guano water, and hence the flowers now produced are on tall stalks and stand up boldly under the long pale-coloured leaves of this Orchid. The flowers now coming will be succeeded by others until the winter is over; sometimes they go on into April or even later. Whether cut or left on the plant, it is well known that the flowers will last for a very long time, and in the room there is a certain amount of novelty about them which, added to their beauty, makes them attractive objects and well fitted for indoor decoration.

But Orchids in pretty teak baskets 5 inches or 4 inches square would look exceedingly well suspended on some of those artistic stands which are made either for placing against the wall or standing on the table. Some of the smaller Orchids which are so very pretty could

be utilised in this way, and would then be more constantly seen and more pleasantly brought before our eyes than in the dripping houses in which they are to be found. Perhaps it may be thought almost too wasteful to mention such a class of plants as the *Miltonias* for this purpose, and yet *Miltonia vexillaria* with its lovely pink flowers, or *Miltonia Roezli* with its sparkling little racemes, would thus be much more appreciated than they now are. But if these are considered too delicate or too costly for the purpose, the *Odontogloss*s could be suspended in the same way, and no objection can be brought against them on the ground either of costliness or delicacy. I think *O. Alexandræ* likes a certain amount of warmth, and I am sure it ought to have cool stove treatment (if I may use such a contradiction) at certain times, but that it will grow and flower well after exposure to the cold of an ordinary greenhouse there can be no doubt. I have a plant now coming into bloom, with a stalk 18 inches long, which has not yet had any fire heat, but is in a house with *Chrysanthemums* where the bottom and top lights are open all day long. Such a plant will endure while it is in flower the necessary ventilation of the sitting-room and its dry atmosphere, but possibly not gas; of that I have no experience. I turned gas out of my house long ago, or the flowers would not last in the sitting-rooms as they do. *Odontoglossum Rossi majus* is still more amenable to this sort of treatment, and what a beautiful plant it is, and just coming into flower as the winter draws on. This is one of the cheapest of cheap Orchids, and only requires care to keep it always damp and the *Sphagnum Moss* always growing, and it will reward us with its exceedingly pretty flowers very freely produced. Guano water is good for this also. I have seen it stated lately by a writer on Orchids that guano water will make Orchids seemingly flourish for a while, but later on they will begin to show signs of the mischief it has done, for the plants will go back even more quickly than they have advanced. All I can say is, such is not my experience. It seems to me that guano water given cautiously and in a weak solution when the plants are growing undoubtedly does them both present and permanent good. Of course, when resting, no one would think of stimulating with such strong food; but, when growing rapidly and coming into flower, Orchids will profit by guano as much as a Geranium or other growing plant. The great difficulty to be contended with in placing growing Orchids in the sitting-room is the necessity for keeping them sufficiently damp. This difficulty is, of course, specially against bringing in *Odontogloss*s. But after all it is no greater difficulty in their case than in that of Palms, or but little more so, and those who manage to keep their Palms healthy when grown for months together in the sitting-room, can do the same with Orchids, which are more tender certainly, but while they are in the house will submit to its normal conditions without much loss.

Orchids prove what they will endure by their long-suffering patience of alternate stifling heat and draught in our shows. Some beautiful banks of *Cattleyas*, *Lælias*, *Odontogloss*s and *Cypripedium*s are often placed on the ground by the tent door. A cold wind may be driving in upon them while the atmosphere is hot and close within. I often wonder how Orchid growers can be so kind as to send their best plants to be exhibited, considering how much they must necessarily have to endure even when treated with every precaution; but at all events it shows how much patient Orchids will

stand when they go forth to exhibit their loveliness to an admiring public. Another Orchid not mentioned above, but specially useful for taking indoors just at the present time, is the *Cypripedium insigne*. It is true it must be grown, so far as I know, in pots, but it throws up plenty of its beautifully spotted flowers, and when put into a basket with Moss around it, few things can look more attractive in the room. This *Cypripedium* is hardy enough to bear such treatment well. I wonder it is not more often seen in rooms, for it might be grown by anyone who has a greenhouse from which frost is excluded in winter.

A GLOUCESTERSHIRE PARSON.

***Dendrobium Phalaenopsis dellerse*.**—From W. Bennett, gardener to Mr. C. W. MacKillop, of the Royal Crescent, Bath, comes a lovely spike of this superb variety with ten flowers, each measuring nearly 4 inches across, the blooms being exquisite. Also one bloom of the rich dark-coloured form of the variety *Schroederianum*, but the two spikes of bloom marked *D. Phalaenopsis* look like fine forms of the variety *Statterianum*. Mr. Bennett says he sends this variety to show what a free blooming plant this is; it was in bloom in the month of June, and now again it has two spikes. This is a wonderful plant; there are so many varieties, and all are beautiful, *dellense* being one of the most chaste and charming. Mr. Cypher, of Cheltenham, writing to me by the same post, says: "*D. Phalaenopsis* is a splendid plant; we have now about 120 spikes open, which present a lovely sight."—W. H. G.

***Thunia Marshalliana*.**—G. Williams sends me a fine form of this plant, which was received from a son of his employer, who is serving with the army in Burmah, asking its name and my opinion of it. The name is given above, and my opinion of it is that it is one of the best varieties I have ever seen. There are several fine kinds of this genus, and the stems die the second year, so that you must be careful to preserve the plant sound through the winter months, and when you have got the young growth about half grown, cut the old stem up into pieces having about two joints and put these in as cuttings, keeping them in a warm frame until they have grown some little piece, when they will be quite safe. These plants will secure you a stock of this grand variety. The plant is flowering very late.—W. H. G.

**The Dove plant** (*Peristeria elata*).—Referring to the figure and the remarks of W. H. Gower, which you published in *THE GARDEN* for October 8, page 324, allow me to say that there is a magnificent specimen of this plant in flower at the present time in the collection of Orchids at Norton Manor, Taunton, the residence of Mr. W. G. Marshall. I have been acquainted with this particular specimen for some years past, and it appears to me that it improves considerably the older it gets. Last year a little earlier than this I counted as many as eight spikes of flowers upon it, each spike having numerous blossoms. It is probably the largest plant in the country, and is now in perfect health. A plant of the new *Cypripedium Chamberlainianum* is also in flower at the present time in this collection, and it proves to be a very desirable and distinct variety.—J. C. CLARKE.

***Cypripedium insigne*.**—To many amateurs the name Orchid invariably carries with it the impression that costly structures, skilled labour, and abundance of fire-heat are very essential items in their successful cultivation. In a great many cases this is undoubtedly the fact. But I think when we come to a group or even a single species or variety that may be grown with only ordinary care, and such as may be grown in a cold frame in the open during many weeks in the summer, the fact cannot be too widely known. Just such an instance as this have I seen to-day in Mr. Cypher's nurseries at Cheltenham, where the forms of the above useful and well-known plant are grown during the summer months in cold frames. The



system is by no means new in these nurseries, having been practised for years past, and the plan's were still in the frames when I saw them on September 30. The exceeding vigour of the plants amply testifies to the correctness of the treatment. Thus grown they are but little trouble, and the plants in question are certainly more robust and healthy-looking than are those kept in the greenhouse all the year round. This group of *Cypripediums* is now an important one, and, being easily grown as well as free-flowering, should be exceedingly popular with all those whose accommodation for Orchid growing is limited. Not the least worthy feature of this group is the length of time the flowers remain fresh after they are fully expanded.—E. J.

**Flowers from Lypiatt Park, Stroud.**—Mr. Cypher, the gardener, sends me some excellent varieties of good things, amongst them being an extraordinarily fine form of *Dendrobium Lowi*, a fine rich golden yellow—by far the brightest-coloured form I have ever seen, and Sir J. E. Dorrington must be proud of possessing so fine a variety. This plant was discovered by Mr. Hugh Low in Borneo upwards of thirty years ago. He sent it home to his brother, then the head of the Clapton firm. It has always been a rare plant, but during the past year or two I have had flowers from various readers. There also come flowers of *Vanda Kimballiana*, which are very beautiful, white sepals and petals and rich magenta-crimson lip. These, however, are not so fine as the variety sent me a year or two ago by the same correspondent when he had charge of the choice collection of Mrs. Studd in Bath. A figure of a very nice form of this plant appeared in *THE GARDEN*, April 5, 1890 (p. 322); also a fine and very highly-coloured form of *Vanda Sanderiana*. Curiously enough, whilst this plant has been figured in the *Botanical Magazine*, t. 6983, Sander's "*Reichenbachia*," ii., t. 62, Williams' "*Orchid Album*," iii., t. 124, and other works under the name of *Vanda*, I am inclined to think it is no *Vanda* at all. Its lip is not furnished with a spur, and other reasons incline me to put this plant into Blume's genus *Arachnanthe*. With this comes a very dark-coloured variety of *Lælia Dayana*, which I have noted in another place.—W. H. G.

### SHORT NOTES.—ORCHIDS.

**Mormodes macranthum.**—Has anyone growing plants of this, of which such a lot was imported in 1885 from Central America under the name of *M. Colossus*? If so, I should like to see a bloom; its season of blooming is spring and early summer.—W.

**Cypripedium Saundersianum.**—This fine hybrid is now in flower at Mr. Wm. Bull's establishment. It is a very rare and choice form, and was purchased by Mr. Bull when the Downside collection was dispersed. It still remains as scarce as ever.

**Cypripedium Sedeni.**—"G. H. B." sends a flower of this species which is perfect saving in wanting the petals. Such a freak I cannot say is usual, but I have noted it before both in the true *Cypripediums* and also in the *Selenipediums*, with the latter most frequently. I cannot offer an opinion respecting it.—W. H. G.

**Oncidium incurvum albiflorum.**—What a pretty thing this is when it flowers; it is still, however, rare in collections. I noted this plant flowering in Mr. Williams' nursery when looking round for novelties. The first time I had seen the variety was in the nursery of Mr. Garden at Argenteuil, near Paris, some four years ago, where many novelties were gathered together.—W. H. G.

**Dendrobium growing from root.**—"S. G. L." sends asking for reply through *THE GARDEN*, but he so entwined my address with Woodbine, that the letter went astray. No, I cannot say that I ever had a similar plant, but wait and see if it really does turn out to be a growth. However, I do not see why *Dendrobiums*, as well as other plants, should not be allowed to throw up suckers.—W. H. G.

**Cattleya Warocqueana.**—This plant is now flowering in Mr. John Laing's collection at Forest Hill, and it proves to be a very fine form of Lindley's *C. labiata*, well deserving of its name, for *M. Warocque*

is a great and enthusiastic lover of Orchids. Why do people, in speaking of the true *labiata* of Lindley, designate it *C. labiata autumnalis*? This is not Lindley's name for the grand old species.—W. H. G.

**Brassavola acaulis.**—"D. M." sends a flower of this species for a name. One seldom sees it now-a-days, but it always was a great favourite of mine; the leaves are erect and deep green, the flowers being solitary, large, the sepals and petals narrow and about 3 inches long, greenish white. The lip is large and creamy-white, with a few spots of rose at the base. The flowers will remain for some time in good condition.—H.

### NOTES OF THE WEEK.

**Aplopappus pulchellus.**—Mr. T. Smith, Daisy Hill Nursery, Newry, sends us flowers and leaves of *Aplopappus pulchellus*, which he terms a striking composite from North America.

**Vine roots (C. B.).**—We can see no insects; the roots are apparently cankered and need lifting into better soil. The other plants seem to have been infested with red spider and thrips, but there were no insects on them when received. The red colour of the *Sedum* is natural.

**Nemesia strumosa Suttoni.**—We have pleasure in sending you by this post a box containing a small bunch of flowers of the above plant, which, we think, you will be interested to see. These flowers were picked in our trial grounds this morning, and have been in bloom now for more than four months. You will remember that we exhibited this annual at the Royal Horticultural Society's show on July 26 last, and obtained a first-class certificate, and we think it will interest your readers to know that the plant is still flowering freely so late in the autumn.—SUTTON AND SONS.

**Crocuses and Colchicums.**—I send you *Colchicum Sibthorpi*, a new kind, varying a good deal in brightness, yet handsome and good, but I think quite eclipsed by *C. speciosum maximum*, fine in colour, large in size, and of great substance; *Crocus iridiflorus majus*, the most distinct, perhaps, of all autumn-flowering species, and *C. speciosus Aitchisoni*, probably the largest of all the introduced species. The segments of the specimen sent are more than 2½ inches long, giving a very large flower when fully open; the delicate blue colour with deeper lines is very beautiful.—T. SMITH.

\* \* The *Crocuses* are charming, especially the purple one. The *Colchicums* are very fine, but there is something very unpleasant in the colour of these, and we think they are not nearly so pleasing as the autumn *Crocuses*. M. Max Leichtlin also sends blooms of *Colchicum Sibthorpi*.—Ed.

**Royal Horticultural Society.**—The next meeting of the society will be held in the Drill Hall, Westminster, on Tuesday, October 18. In the afternoon at 3 o'clock, Mr. W. Curruthers, F.R.S., chief of the Botanical Department at South Kensington Museum, will deliver a lecture on "Cycads," to which interesting class of plants he has devoted special attention. Growers of Apples, Pears, and Grapes who intend to compete for the prizes offered in the society's schedule are requested to communicate the nature of their exhibit to the superintendent, Royal Horticultural Society Gardens, Chiswick.

**R.H.S. Gardens, Chiswick.**—A number of the later species and varieties of perennial *Asters* are now blooming in the R.H.S. Gardens, Chiswick, where there is to be found probably one of the most complete collections of these plants in the world. They are worth a visit from all lovers of the Starwort family. The collection of Apples has been stored in the fruit room, and as each variety is correctly named, the attention of Fellows and others interested in the cultivation of the best kinds suitable for particular purposes is called to the fact. The Grapes in the large conservatory are now ripe, and the hanging clusters present a remarkable fine appearance.

**Nerine sarniensis.**—A very constellation of flower beauty comes to us from Messrs. van Tubergen, who send a box of six beautiful and brilliant autumn-flowering bulbs called *Nerine*.

The colours are delightfully varied and soft, as well as most intense and splendid. One of the scarlets has a wonderful metallic appearance.

**Single Dahlia.**—We beg to submit for your approval and opinion a few blooms of our new decorative single Dahlia.—DOBBIE & Co.

\* \* These are really very pretty single Dahlias, and we hope the words beautiful and pretty and others of the kind will be considered sufficient for the purposes of our gardening language. The word "decorative" in the sense of beautiful is not at all necessary or correct, and, moreover, false in its teaching, as it implies that decorative and beautiful are different. These Dahlias are more star-like and open than the old Dahlia, and as such we think certainly worthy of attention.—Ed.

**Hedychium Gardnerianum.**—This fine plant is usually more associated with the greenhouse than the outdoor garden, but in the milder districts of England it will remain out unharmed with a little protection, such as afforded by a small heap of cinder ashes piled over the crowns of the plants. Where it is thought advisable to lift them, treat the roots in the same way as those of the *Canna* or *Dahlia*, the great point being to store them in a dry place away from frost. We saw a few days ago a very charming bed of it in the Royal Horticultural Society's gardens at Chiswick. The plants each carried a free display of the regular spikes of pale lemon-coloured, sweet-scented flowers, conspicuous for the protruding style. Their fragrance is delicious, and the beautiful *Canna*-like leaves clasp the stems, which grow from 3 feet to 5 feet in height. It forms a very handsome bed, and may be used by itself or in association with other sub-tropical plants. The month to plant it out is May, and use a rich loamy soil, with which a good quantity of manure has been incorporated; in fact, the plant needs similar treatment to the Dahlia. Although introduced from East India as far back as 1819, it is not often that the plant is used in summer gardening.

**Notes from Baden-Baden.**—*Vallota purpurea* can, quite as well as other plants, by selection and evolution, change the form, size, and colour of its flowers. It is, moreover, not possible to fertilise it by pollen from *Amaryllis Belladonna*, because the pollen grains are too differently shaped. Had Mr. Nix considered the enormous difference in the form of the seeds of these plants, he would at once have been convinced that the attempt was in vain. For ten years I have been working scarlet *Lobelias*, and have now obtained splendid varieties. In some the colour of the flowers surpasses that of *Firefly* in brilliancy, and in others the flowers are nearly double the size of the typical plant. I hope within a year's time to get plants with more compact spikes, showing at once a large number of flowers just at their best. *Agapanthus maximus Krelagei* is freely flowering now. It is late to do so, but this is a valuable property. The flowers are very large, of perfect shape, and of a deeper blue colour than any other. Laden with its crimson-scarlet fruits, *Cratægus tatarica majus* (syn., *Cratægus Korolkowi*) is very striking. The fruits, in clusters of from six to sixteen, each of large Cob-nut size, show off in great beauty from the massive dark green foliage. It is an introduction of Messrs. Jas. Veitch and Sons. Now that autumnal dews and rains have come, *Colchicum Sibthorpi* is at its best. Strong bulbs that have been left undisturbed for two years throw off six to eight flowers, making a massive bouquet 8 inches across. The bright deep purple flowers are now highly coloured. In colour and size it is superior to *C. speciosum*; at least, the strain here is so. In some parts of Greece inferior varieties occur. Half an hour's sunshine is sufficient to unfold the massive flowers of *Romulea rosea* var. *Leichtlini*. They are the size of a half-crown-piece and deep satiny rose coloured.—MAX LEICHTLIN, Baden-Baden.

All of our readers who are interested in the improvement of cottage homes are invited to help us to make *Cottage Gardening* known. It is published at the very lowest price to meet the wants of those for whom it is intended, and copies will be sent for distribution, free, by the publishers, Messrs. Cassell and Company, La Belle Sauvage, Ludgate Hill, E.C.



## FLOWER GARDEN.

## FLORAL DECORATIONS.

## A VASE OF DAFFODILS.

For the spring season, nothing in the way of hardy flowers lends itself so readily to, or is so amenable to, varied forms of floral arrangements as the extensive family of Daffodils. From the time the earlier kinds expand their flowers whilst snow and frost are still occasionally seen, onwards until the spring has considerably advanced, they may be had, thus saving choicer flowers from under glass, or dispensing with them entirely. The intrinsic value of the Daffodil should recommend itself more and more for use in a cut state. Not only is the season a long one, but the diversity in form, colour and size affords such a varied scope for one's ingenuity in arranging the blossoms in a cut state.



Green glass vase of Daffodils.

The choicer kinds, as they become better known and more extensively grown, will undoubtedly be much sought after. For instance, there is that comparatively new variety sent out by Messrs. Barr and Son, and called Queen of Spain, of a graceful form of growth, with distinct sulphur-coloured flowers. Bicolor Horsfieldi is another beautiful sort, with its immense golden-yellow trumpet and white perianth, one of the finest and most stately of its section. This fine variety may be fairly called the king of Daffodils. Both Emperor and Empress are noble kinds, with their broad, strap-like foliage. Other choice kinds are Nelsoni major, Barri conspicuus, Princess Mary, with its immense silvery white perianth and spreading yellow crowns; Poeticus ornatus and the varieties of Leedsii. The list could be lengthened out almost indefinitely, but particular care should be taken so as to exclude the small or minor forms. Narcissus cyclamineus and N. minor are both little gems in their way; then there are N. Bulbocodium (in various shades) and N.

nanus, somewhat after N. minor, but distinct therefrom. Without entering into the Polyanthus section as suited to pot culture, mention should be made of the Jonquils, which are well suited to accompany the foregoing. The large single Campenelle, the single sweet-scented and the Silver Jonquil are all excellent for cutting. In the cutting of Daffodils note should be taken of the fact that the flowers will develop well after they are cut. They may, therefore, be taken as the blossoms are expanding; this in some instances is an advantage, particularly where more than one bloom comes from the same bulb, for it thus relieves the same in good time. For arranging with Daffodil flowers as a foliage accompaniment there is nothing to surpass or even equal their own leaves, some of which can easily be spared from the commoner kinds. Fresh green Moss is a good addition in some cases, as, for instance, when sand is used in rather broad receptacles,

or in smaller ones when the minor varieties are to be arranged, as they at all times should be, by themselves. Beware of overcrowding the flowers in any case; this, besides spoiling the effect, is utter waste. By changing the water every few days they will last much longer.

G. H.

**Tritoma R. C. Affourtit**—This is a comparatively new kind which I believe originated in Holland. It is said to be a highly coloured seedling of T. corallina, and a glance at the flower-spike suffices to convince one of its parentage, for the form of the spike, size, shape and colour of blossom resemble those of that species. It differs, however, in this respect that it is a much stronger grower. The little corallina must be kept in sight and away from its vigorous kindred, or it would soon be smothered and lost. The kind under notice, although only planted this season, has shown its vigour, and the flower-spikes are a yard or more in height. It has already become very popular with some of the Dutch growers, who describe it as the most free flowering of all, blooming con-

tinuously from summer till late autumn. Its parent has this desirable habit of sending up its spikes in succession, and therefore it is not improbable that the characteristic may have been handed on to its offspring. Our plants will need to be more established before they give confirmatory evidence of the fact. It is very cheap, and therefore can be had by all who desire it, which is more than can be said of some of the new hybrids, whose price is so high as to be quoted only on application.—A. H.

**Ivy-leaf Geraniums** as window-box plants.—Over the front porch entrance to The Court, Cockington, Torquay, the residence of Mr. Mallock, M.P., is the finest example of Ivy-leaf Geraniums that I ever saw. The variety was Marie Crousse, growing in a large box on the flat roof of the porch. The shoots were trained upwards and allowed to hang downwards also, presenting a mass of bright pink on the green background of its leaves—a truly striking sight when viewed from the carriage drive. Being in an open situation, abundance of sun was obtained and an ample water supply was given. The result was a fair quantity of foliage, but a profusion of flower.—E. M.

## THE FLOWERING SEASON OF CARNATIONS.

If the date of the London Carnation Show is fixed to suit southern growers, as Mr. Rowan informs us on page 295, it is a remarkable fact that not a single southern grower appeared in the competition for the prizes offered for outdoor kinds. Bath is in the west of England, and the other competing lots came from the eastern counties. Either there are few growers of outdoor Carnations in the south, or else they had no flowers to show. If the seasons have been late, and this Mr. Rowan admits, why has the usual date of the show been adhered to? Mr. Rowan will doubtless remember that last year, through the postponement of the Martin Smith competition a fortnight, the result was a magnificent display of outdoor Carnations the second week in August. Certainly in Suffolk, on a warm light soil, I have flowers earlier than they appear in a Sussex garden, with which we are both acquainted, where the soil is heavy. The remarks I made, therefore, do not apply merely to my own locality, nor do I see any need to modify the opinions I previously expressed. Mr. Rowan even says that he has had plants in the borders bloom earlier than those in pots, but his experience in Clapham would be totally different from that of growers in the country. A small town garden would be warmer. Even this year a friend in Chiswick had Countess of Paris in full flower before the buds upon my plants were showing colour. Another thing must be taken into consideration. I was writing of Carnations that are permitted to bear and open every bud that they produce, and I have not the least doubt some of my plants would have thirty; whereas upon Mr. Rowan's, grown for show, even if in the border, there would be found only three or four, or a small number in any case.

As regards fringed edges, some of our present-day florists are a little more tolerant, but, all the same, I noticed both this year and last that in awarding the prizes in the class for the best border Carnations the judges had singled out and made their awards to varieties with smooth-edged petals. Why was it done? Last year Mr. Turner's Queen of the Bedders was admittedly the best garden Carnation in the show, but it had no award. This year a charming kind named G. H. Sage was shown perfect in form, most distinct in colour, but with flowers as much fringed as those of the old Raby Castle. It was a perfect garden Carnation, but it had no recognition from the judges. Some of the flat smooth-petalled varieties that the judges have selected during the past two years would, if grown in the exposed terrace garden where I grow Carnations, present a sorry spectacle after a windy day. If the fringed edge was not regarded unfavourably, why should such marked preference be shown for varieties of an



opposite character? I can understand and appreciate what Mr. Rowan calls the "scientific reasons underlying it," say in regard to the bizarres, because he would wish to study such a flower in all its varied markings. I love the Carnation for its fine effect in the garden, and when garden kinds are concerned I do not like to see them judged from a false standard, or according to presupposed ideas with which they must conform. A. H.

### PLANTING DAFFODILS.

In the hardy plant department at the present time there is nothing so important as the planting of Daffodils; therefore no time should be lost in getting them into the soil. Many kinds are already exhibiting that ever-welcome sign to growers of Daffodils, namely, the widening week by week of the clear white ring at the base of perfectly healthy bulbs, than which there is no truer sign existing. It is from this point that the new roots issue year by year, and if all is well here, the bulbs can hardly fail to produce satisfactory results hereafter. Amateurs, and beginners in particular, may accept this as an unerring guide when selecting the bulbs, for having a good crop of roots at the commencement is one of the most important aids to success. This excellent sign will almost sure to be accompanied by bulbs firm in texture; and if to these be added weight in proportion to size, then you have all that could possibly be desired. Where bulbs are large and light in proportion to their size, it may be taken for granted that they have been over-fed—treated, in fact, to too much manure—which always results in a certain amount of flabby tissue, a grossness of growth at once unnatural and undesirable. Purchasers of fresh supplies of bulbs should be on the alert and see that their bulbs are quite free from a scabby base, a brown rusty excrescence which impairs root action in a greater or less degree—in fact is one of the worst forms of basal disease. Badly affected bulbs seldom do any good, and unless it may be a valuable kind, it is better to discard them altogether. On the other hand, if the bulbs are only slightly affected, something may be done to assist recovery if taken in time, thoroughly clearing away the diseased portions every year. Where many kinds have to be planted I would recommend a start being made with the poeticus section, as these perhaps more than any other group stand less in need of drying or lifting, though, of course, for commercial purposes this latter must be done. At the present moment I have a large quantity of the ornatus variety awaiting replanting, and which were lifted as soon as the foliage exhibited signs of maturing. Many of the bulbs have still upon them the tuft of roots as lifted, but what strikes me most is the vitality that many roots still retain, while the roots of all other kinds lifted about the same time and dried under precisely similar conditions quickly shrivelled upon being exposed to external influences. Left in the soil year by year, this variety, I believe, never loses its roots entirely, as do many kinds, but continues to produce them in successional batches as it were, and for these reasons I maintain that such kinds should only be disturbed when necessity compels. I draw attention to this fact now because to such as may be left in the soil undisturbed for several years, more room may be given when planting, so as to allow for future increase and development. Generally speaking, the whole of the Poet's section may be regarded in this light, unless the soil be very heavy or badly drained. In either of these instances I would suggest setting a bed apart for the general collection, treating it in a special manner with a view to accommodate as many varieties as possible, though it must not for a moment be supposed, however elaborate the preparation of the bed may be, that anyone in any given garden can hope to cater with an equal amount of success for all the varieties of this great and varied family. Some there will be of a surety a decided and complete success, and others—though these, happily, are comparatively few in number—are just

as sure to fail. Nor can these failing ones be coaxed into good health by supplying them with this or that soil, because if such was the case the difficulty would be easy to overcome; but it is not so, for there is an all-powerful influence hovering round; it may be locality or position, or atmosphere, or all these combined, or, what is equally difficult to surmount, an inherent weakness in particular kinds. But, as I have said, the failures are so few and the number of varieties so numerous, that one is almost tempted to advise putting the weakly ones aside and making a beginning with those whose vigorous constitution and bold, handsome flowers appear fitted to give general satisfaction. Some of those kinds which appear generally to fail in English gardens are Mary Anderson, Henry Irving, spurius, Ard-Righ, pallidus, precox, Orange Phoenix, obvallaris, and others; indeed it would be difficult to meet an instance of those named being all successfully grown in any one garden; yet, notwithstanding, in certain localities some of these varieties give no trouble whatever. That last named is a case in point, and in this portion of Middlesex its cultivation is a complete success, while three or four miles off it cannot be grown at all. The soil of this district in fact is suited to many kinds, or, to put it another way and possibly in its more correct light, it should read that the atmosphere of this locality is suited to the requirements of many kinds. One variety, however, that fails hereabout is the double white Poet's Narcissus, that is to say, we fail to flower it satisfactorily, yet are able at the same time to produce bulbs apparently of the finest quality—a peculiarity which is, so far as I am aware, confined to this particular kind. The plant produces its flower-spike and bud, and these bear every evidence of proper maturation by their robust character and development to a certain point, but beyond this, instead of any further development of petals and swelling of buds, the bud shrivels and withers, while if examined the petals will be found to have decayed also. Now all this is extremely disappointing, especially to those who may have purchased this variety for the first time, and, having obtained flowering bulbs, would no doubt blame the source from whence the bulbs came rather than attribute the cause, as I fully believe it to be, to some local influence. From time to time a variety of suggestions have been offered as probable remedies, but I have tried them all with no better results than formerly in so far as my own case is concerned. I know also that the failure is more or less general, though I have found by inquiries that this blindness is much less frequent in the cooler northern districts, and particularly where a heavy moisture-holding soil obtains, and a soil capable of growing and producing first-class crops of Raspberries seems well suited to this useful and fragrant Narcissus. The failure coming at the very moment when the flowers should be expanding leads one to suspect that atmospheric conditions are to be blamed, for I think had it more to do with the soil or the food supplied, that the bulbs would not perfect the buds they do. Sickness in the Narcissus family is generally indicated very early in the season by their leaves, the points of which appear to be scorched or dried, but in the double white Poet's Narcissus we have none of these signs. I strongly recommend planting this one in heavy soils and about 6 inches deep as one of the most probable means of overcoming blindness, to a certain extent at least.

Another plan which may assist in the same direction is that of planting the bulbs in slightly sunken beds, and, from the time the flower-spathe is visible in spring, give the bed frequent delugings with water till the flowers are fairly well towards expansion. It may also be worth while where this kind is grown in quantity for its flowers alone to place frame lights over the beds or a portion of them when the flower-spike appears, to see if any benefit resulted. Sometimes I have thought that the cold withering winds of spring may have to do with this failure, though I confess that after much thought and many years of watching, it is to me at least as great a puzzle as ever. I once grew

some in pots in a cold pit, but these were even worse than those in exposed beds, notwithstanding they were selected bulbs. The most vexing part of the whole business is the fact that the spathe attains its maximum, and up to this point everything appears healthy and well, and frequently even the base of the scape seems tolerably firm, as if to indicate all was well within, and indeed this is so, for I have at this stage opened many, only to find every indication of health. It is from this stage that no progress is made, and presently the petals will be found quite brown, withered and useless—"blind," as they are frequently called. It is therefore some absent or present condition of soil or atmosphere, something within the narrow limits of a few days, that renders void the whole work of a year, and if this difficulty could be surmounted, we have left to us a variety of considerable worth, the pure white and fragrant flowers with long natural stems being well suited for decorative purposes.

In my opening remarks I have hinted that for gardens with heavy or wet soil a special bed should be set apart for Daffodils, and in this particular instance a bed raised a foot above the surface would suit many kinds. Thus placed, the naturally wet surroundings would not interfere with their free growth, or what would meet the case equally well would be a thorough drainage below of bricks-bats and the like. Many years ago I had just such a soil to contend with—an adhesive water-holding clay—a very difficult soil to deal with for many hardy bulbs; but by adopting the drained bed, that is, excavating the whole of the original soil 18 inches deep, filling in first with a 6-inch drainage and covering with rough material to render its purpose perfect, and filling in with lighter soil mixed with a portion of the old and plenty of leaf-soil and sand, the bulbs were a perfect success. It is, of course, more expensive to deal thus with them; but if properly done it needs doing only once, and certainly saves a great amount of disappointment year after year, when no return is forthcoming for the outlay. Where a free-working loamy soil exists, so much the better, for here a host of varieties may be grown with only ordinary care. In all such as this let the soil be well trenched, and if manure is needed, let it be thoroughly decomposed and buried nearly a foot deep, or so placed that it is 6 inches or 8 inches from the bulbs, the object being rather to enrich the soil below for the future sustenance of the bulbs, the roots of which in well-tilled ground descend to a considerable depth. Where a bed is set apart specially for these, the bulbs may be planted at from 3 inches to 5 inches deep, so that they may have as great a depth to root in as possible; the greater depth for the largest bulbs, as Emperor, Empress, Sir Watkin, princeps, and the like, while the lesser depth will be suitable for ornatus, obvallaris and many of those producing medium-sized bulbs. Some cultivators object to shallow planting, as being calculated to excite an unnaturally early growth, but I have never observed that shallow-planted bulbs appear above the surface any earlier than deep-planted ones; indeed, I had an opportunity of witnessing this very thing some year or two ago with some of the Tenby Daffodil that a predecessor had planted fully 1 foot deep in the earth, with the result that they appeared above ground just about the same time as those only planted a third their depth. When lifted, the deeper planted ones were inferior in appearance, and instead of the well-formed, short-necked bulb so characteristic of this kind as usually seen, the bulbs were considerably elongated. I remember a large grower of Daffodils informing me that he had produced precisely similar results by heavily mulching with manure in winter, and he abandoned it in future. We find wild Daffodils often deeply imbedded in the earth, but it really appears to me that by shallow planting, a more thorough ripening of the bulbs must ensue by reason of their nearness to the surface, while to the specialist in Daffodil culture, shallow planting means a great saving of labour in lifting or planting. But there is one phase of gardening where I often urge the more frequent use of these flowers, and this is the



flower or terrace garden surrounding the dwelling. Here, however, they should be regarded as permanent subjects, and for this purpose deeper planting than that usually prescribed should be indulged in. Supposing, for instance, a series of such beds existed; nothing would constitute a more pleasing change than by planting good distinct kinds of Daffodils instead of the usual arrangement of Tulips and Hyacinths, giving a bed a separate variety. In such a case the following varieties should be prominent, viz., Emperor, Empress, Grandee, Horsfieldi, Golden Spur, obvallaris, Sir Watkin, ornatus, Leedsi, Burbidgei, incomparabilis, Cynosure, Santa Maria, a fine golden trumpet, princeps, and such like. Plant these 8 inches deep in early autumn and cover in as usual. The surfaces of such beds may be thinly planted with tufted Pansies of various colours, taking care that these latter do not clash with the colours of the Narcissus. Beyond the effect which the Pansies will in themselves produce in spring, they will also prevent the flowers of the Daffodils being splashed by heavy rains, and the latter appearing above them should produce good results. But Daffodils are seen best when established, and a few beds such as this left to themselves for three or four years should be a picture, as each bulb would by that time be capable of producing three or four flowers. Then it is that one begins to realise how cheap are those bulbs that can be grown year after year, increasing the while in strength and numbers, and producing more flowers each succeeding year. At the end of the third or fourth year these bulbs should be lifted, when a decided increase will be noticeable, and these when divided will afford material for more extended operations in the same direction. During the summer months these Daffodil beds may have a carpet design on the surface, or be planted with tuberous Begonias, Ivy-leaved Pelargoniums pegged down, or many other things which if carefully done need not interfere in the slightest with the Daffodils, while if any fear arose of impoverishing the soil, such may be remedied by a few doses of liquid manure in winter-time when the Daffodils would be rooting freely, but where the soil is in good heart at the commencement, little assistance will be needed during their stay. E. J.

**Polygonum sachalinense.**—Few persons who have not seen this Knotweed growing by the side of a partly-shaded lake can form any idea of its great beauty. As a waterside plant, where it can have full scope to develop its growth and thus produce a full crop of blossoms, it is seen at its best. Such a clump can be seen growing by the lake in Mr. Mallock's wild garden, The Court, Cockington, Torquay; it measures fully 15 feet across and about 8 feet high, or perhaps more, and it is profusely flowered as well. The soil and site appear to suit this plant to perfection. I have many times seen it growing in less suitable spots in which its beauty was not brought out so strikingly as here.—E. M.

**Covering tree stems.**—That the trunks of many trees form a capital site for introducing certain climbing plants with good effect no one, I think, will dispute. Many a single tree growing on our lawns might be beautified in this way. Two examples of this have lately come under my notice. Both were Plane trees, branchless for fully 30 feet up the stem. One was covered with the Virginian Creeper and Clematis Jackmanni; the other with Aristolochia Siphon. The former two subjects harmonised exceedingly well, especially at the time when the creeper changed the colour of its leaves to a bright red. The massiveness of the Aristolochia leaves gave quite a tropical appearance to the whole surroundings.—E. M.

**Tree Carnations.**—It is important where not already done that these plants should be placed in their winter quarters at once, as at any time frost may be experienced sufficiently severe to injure the buds, and so mar the prospect of their flowering in due season. Those rooted in the autumn of last year will have required attention earlier, while

those rooted in the early part of the present year will be pushing forth spikes very freely. See that the pots are clean and free from slugs before putting in the plants, otherwise much damage may be done to young growth and buds after they are housed before they may be noticed. Where a continual supply of Carnations in bloom is required, it will not be advisable to rely on one batch of plants, but to grow plants from autumn and spring cuttings also. By the adoption of this system the latter will be coming into bloom about the time the others have produced their first crop of flowers, and thus there will be no break. After the plants are housed air should be freely admitted them day and night, except in case of frost, keeping them well supplied with water at the root. Any cuttings that can be obtained should be now inserted in sandy soil and kept in a close frame or pit. If detached with a heel, these will root quite freely without any fire-heat whatever, and if heat of any kind be employed, let it be that from a gentle hot-bed, such as a manure frame. I much prefer a cold frame, however, at this season of the year.—E. J.

#### VIOLETS.

If hopes for plenty of flower can be based on the luxuriance of plants, then are we likely to score this season, for I never remember to have had a better lot of plants. This may be partially accounted for from the fact that the runners received no check, but went away quickly. It was rather dry when they were inserted in the border, but a mulching of short manure, followed by a good watering, settled them in their quarters, and they were thoroughly well established by midsummer. Of the various sites suitable for a batch of Violets that are to be lifted commend me to a south-west border; other southerly aspects are a little too hot in the majority of summers, and I do not find them satisfactory. On borders ranging east or west from north here there is insufficient sun. The third week in September is a good time for housing. The plants, having been previously cut round with a spade, should be lifted with a good ball and transferred immediately to their new quarters. Nine inches square is a good distance to plant unless they are extra large. To keep them well up to the glass, to give plenty of air, and a little warmth in the pipes in dull foggy weather are three essentials to success. A thorough watering must be given as soon as the planting is finished sufficient to find its way to the base of the plants. For soil there is nothing better than a heap of road sidings packed closely around that forming the ball of earth lifted with the plant. If a few are required for pot work they can be potted as lifted and stood for a time in the Violet pit on pieces of slate. The chief enemy is red spider, and if this is troublesome at lifting time, the plants must be dipped in a weak solution of insecticide before they are consigned to the pit. Of the winter enemy, mildew, it may be safely asserted that, given heated pits, its presence is due to want of judgment in giving air and neglecting to dry the glass by warming the pipes.

I said that plenty of air is an essential feature, but it must be remembered that sound judgment should be exercised even in this simple matter. For instance, it would be folly to ventilate very freely in heavy foggy weather; just enough to cause a nice circulation and a little dry warmth is the point to be aimed at in such a case. Marie Louise is decidedly the most useful Violet. A white as free and as early would be a decided acquisition. I have grown Venice and Patria, but they are no improvement on Marie Louise. I had a few rows last year of Wellsiana (single), and found it an excellent variety, of good constitution and very free. E. BURRELL.

Claremont.

**Lilium cordifolium.**—The Japanese Lily of which a sketch by Mr. Parsons occurs on p. 309 is *L. cordifolium*, one of the two species belonging to the sub-genus *Cardiocrinum*, the other being the Himalayan *L. giganteum*, which is a much larger

and better-known plant than its Japanese relative. *L. cordifolium* is an uncommon, but by no means a rare Lily, for importations of it usually reach this country from Japan during the winter months in company with numerous other species. The bulbs travel well when hermetically sealed in balls of clay, as is done in the case of all of the Lilies from Japan. There is, however, very little demand for *L. cordifolium*, as the blooms are not sufficiently showy to please the average flower dealer, and consequently it is rarely met with outside the gardens of some Lily specialist or lover of uncommon plants. In addition to being a much smaller grower than *L. giganteum*, this Japanese form differs from it in several other distinctive features, the leaves being of a much deeper green, and in their young stages more or less tinged with red, while in *L. cordifolium* the flower-stem is quite bare for some distance; then there is a whorl of six or eight leaves forming a kind of rosette, and above that is another length of stem on which the rather large leaf bracts remain attached for some time (as may be seen in the above-mentioned illustration). After flowering the bulb dies, as in *L. giganteum*, the plant being perpetuated by offsets that are formed around the parent bulb. This species first flowered in this country at Kew in 1877. It succeeds best in a moderately shady position and where the soil is fairly moist. The flowers emit an uncommon, but pleasing fragrance.—H. P.

#### TALL FLOWERS OF AUTUMN.

ALTHOUGH agreeing with "A Gloucestershire Parson" in the main, I must differ from him as to annuals being so much trouble. It may be he is thinking of the more tender kinds. According to my observation and experience, some of the very best annuals take but little trouble to raise. Having a large garden to manage and needing a quantity of material for filling beds, borders, &c., for decoration and cutting from, I grow some of the best annuals, with a large quantity of hardy border plants. For years past I have given up relying on tender plants for the supply for such work, as many of them are far too tender and not satisfactory in our uncertain climate. What can surpass for filling vases, &c., the many beautiful kinds of Dianthus, continuing as they do for many months in bloom, or Phlox Drummondii? Scabious, Cornflowers and such fine Stocks as East Lothian and Princess Alice are most welcome. I quite agree with "A Gloucestershire Parson" as to Dahlia Juarezii being the very best Cactus form. It is a farce to call many of those sent out Cactus Dahlias. I, too, should be glad to know of a white kind as good as Juarezii. I find no difficulty in blooming Galtonias. I have them growing in a variety of situations, as also in pots, and in every case they bloom most profusely. I counted on one bulb three spikes, and many are from 3 feet to 4 feet high. This plant looks well growing up amongst a bed of dwarf red Fuchsias, and the covering that the latter need in winter to protect the stems appears to suit the former. This plant, although tall-growing, needs nothing in the shape of stakes, which is a great recommendation. Stakes in the garden when seen are always an eyesore, and to grow tall-growing plants and keep them together and upright without the stakes being seen is not an easy task. But even this can be accomplished if proper positions are selected and due thought brought to bear in providing the material for the work during the winter. I have a long border here from 6 feet to 8 feet wide in which I grow a great selection of hardy plants, including many tall-growing plants, such as Michaelmas Daisies, perennial Sunflowers, Delphiniums, and the valuable Chrysanthemum latifolium, and yet you could not see a stake of any kind. J. C. F.

**Phlox Drummondii.**—The autumnal value of Drummond's Phlox is so great, that it is difficult to appraise it too highly. Only a few days ago, at the trial grounds of Messrs. Hurst and Sons, the wholesale seedsmen of Houndsditch, there was to be seen a great breadth of Phlox Drummondii that



was remarkably effective, and in the wealth of its floral beauty contrasted most favourably with many things about it disfigured by frost and storm. This Phlox, like the Verbena, is among the few subjects that go on blooming through the late summer and autumn till cut down by frost. The Phlox Drummondii excels the Verbena in what may be termed the recuperation of its floral energies. Anyone instituting a comparison between the Verbena and Phlox Drummondii will find that a bed of the latter will renew itself much more quickly than one of the former. Then the flowers are larger, more striking and varied in colour, the mass of bloom being denser also. It is enough to sow the seeds in spring and transplant to the flower-beds, planting out in good soil. Peg down the leading shoots at the outset, so as to form a good foundation, and then when the bed is in full bloom pick off the decaying trusses of bloom, and so assist the plants to produce an abundance of bloom, and relieve them of the task of maturing seeds. Some of the varieties of Phlox Drummondii—the maroon, the rich vermilion-crimson splendens grandiflora, which is far ahead of any Verbena ever raised; the purple, the rose, the pink, and the white—all these are admirable bedders. There are parti-coloured varieties as well as those which are striped, but the latter are so far somewhat dull-coloured and capable of improvement, though they impart variety in a collection.—R. D.

## TREES AND SHRUBS.

### CONIFERS AS HEDGE PLANTS.

WHEN in Perthshire and other counties in the eastern parts of Scotland I was much struck by the use to which the common Spruce was put in the forming of big hedges or wind-breaks, particularly around farms and stock-yards, and to shut out unsightly views from the lawn and garden. Probably few other trees could fulfil all the requirements of a screen or shelter fence as well as the common Spruce, the thickly-produced branches, loaded as they are with foliage, and neat twiggy nature being all points of first importance. Then for withstanding wind and giving a great amount of shelter the tree is certainly one of the best, it forming great banks of the thickest of foliage through which even the hardest hitting storms have great difficulty in gaining access. Another point of great importance in a screen tree is that it should bear trimming and pruning, beheading and hard cutting back, and in none of these is the Spruce in question wanting. You may cut over the head and trim in the side branches of an isolated Spruce tree and you will only make it all the more twiggy and all the thicker. Now, as to how to plant a Spruce hedge for the special purpose of shelter-giving, no great amount of cunning is required. Simply give the individual plants plenty of room—side room and top room—until a uniform height of 10 feet or so has been attained, when they may be allowed to encroach upon each other with their side branches, and so, by meeting, form the foliage barrier that is required. In other words, the Spruce plants should not stand closer than 8 feet or 9 feet; they may be planted at half that distance at first, but every alternate one should be removed as the encroachment of branch tips commences. By so doing a far more lasting hedge will be produced than if the young trees were planted and left at the usual hedge distance of 2 feet or 3 feet.

Let the fence thicken out well, and allow of no side pruning until a thickness or branch-spread of about 9 feet has been attained, after which the tips may be shortened back as they get beyond the prescribed dimensions. This will be found in about eight years as good and lasting a screen and shelter fence of the common Spruce as could well be desired.

But the Spruce is not the only conifer that may be used in this way, for I have formed equally good hedges, in the way of shelter and far more ornamental, with the Lawson's Cypress

(*Cupressus Lawsoni*) and the giant Arbor-vitæ (*Thuja gigantea*). Both, owing to their close twiggy habit of growth, but particularly when brought under the pruning hook, soon form banks of almost impenetrable foliage and of the richest tint that we find in any of our woodland trees. Clipping and trimming the side branches of these two only tend to thicken the growth, for a branch wherever cut back forks out into a number of shoots, all of which have the desired effect of massing the foliage and preserving the densest growth. But the Lawson's Cypress, if left to its own free growth, soon develops into a fence of the most graceful and easy style, the long whipcord-like shoots hanging limp and lithe, imparting an effect that is simply charming. Indeed, it would be better, for appearance sake and if room could be spared, to leave the unutilized Cypress alone, for the bark of glaucous blue and the very opposite of rigid foliage and shoots are thus seen in their natural beauty. By patience such a screen fence could easily and very inexpensively be brought about, for one would only need to watch for the first few years of their growth that the trees were kept far enough apart so as to prevent maiming the lower side branches, and this could be done by taking out every other specimen until those in the permanent line stood, say, at the average distance of 12 feet apart. Then the side branches could be allowed to run into each other and so form a line of unbroken verdure. I have seen such a fence, and proud the owner was of it. For rapidity of growth the giant Arbor-vitæ will beat the Cypress, but it is far more harsh and stiff of growth, and wanting in the soft shade of green that has made the latter so popular. Nevertheless, for a barrier fence anywhere the Arbor-vitæ is of the greatest value, and neither is brittle or readily affected by the wind.

For a neat garden hedge of small height the various kinds of *Retinospora* have perhaps no rivals, the growth being thick and stiff and the foliage tint simply remarkable. What amongst conifers at the present time, or at any time for that matter, can compare with the green and gold of *R. plumosa aurea* or the lovely metallic sheen of *R. pisifera* and the typical *R. plumosa*? Of course, these are only suitable for lawn and garden hedges and where no access can be obtained to them by farm stock. They should be planted 3 feet apart and left so. I have seen a fairly neat and efficient hedge of the American Arbor-vitæ, but it must be clipped, and clipped carefully, or the shear marks are anything but pleasant to look at. Pruning out the longest shoots with a pocket knife is the preferable way.

Formal growing fastigate conifers will not do for hedges, the foliage of the neighbouring plants never blending as one could like. I thought that Ellwanger's *Thuja* would have done; but no, it is too stiff and upright of growth, although otherwise a desirable acquisition. I saw not long ago a rather enviable hedge of the common Larch, but the specimens were young, about twenty years' growth, and how they would look at forty years or fifty years I can only imagine. Both *Thujopsis borealis* and *T. dolabrata* do well as hedge plants, the former in particular, it growing away rapidly and forming dense banks of foliage. Junipers are to be recommended for the purpose in question, at least such dense growing kinds as *Juniperus virginiana*, *J. chinensis*, and *J. sphaerica*, all of which bear trimming and look neat and pretty. The adaptability of the common Yew as a hedge plant is well known, and there are several other conifers that I have seen used successfully, such as *Cupressus macrocarpa*, *Biota elegantissima*, and the black Spruce (*Abies nigra*).

Where evergreen hedges and wind screens are wanted, we cannot do better than plant some of the tried conifers, they succeeding well in greatly diversified soils and situations, and bearing pruning or shearing as well as could be expected. A. D. W.

**The Siberian Crab.**—With us the fruit of this Crab is distinctly yellow. Although the tree obtains an ample quantity of sun, there is not a tinge of red about one single fruit which our tree

bore this year, and that could not be less than ten bushels, so heavily was it laden. There was really too much fruit, several branches giving way under the weight. The tree is fully 30 feet in diameter and as much in height, and as it stands alone on the lawn it is a splendid object either in bloom or fruit. As I saw (p. 296) "A. D. W.'s" remark that it has a beautiful red cheek, I was wondering why our tree has not the same characteristic mark.—E. M.

**Aralia canescens.**—At the present time this is one of the most showy subjects of the shrubbery, and certainly much too scarce in private gardens. As a rule the plants run up with a single stem for at least 6 feet in height, when numerous side growths push forth. These every year are surmounted with its peculiar panicles of flower, generally ten in number on each shoot; the individual panicles range from 1 foot to 2 feet in length, according to the luxuriance of growth which characterises the trees. The colour is white with a slight tinge of grey in it. The finest inflorescence I have ever seen of this Chinese *Aralia* was in the public garden in Torquay, not more than 50 feet from the sea.—E. M.

**Blue Hydrangeas.**—The finest group of *Hydrangea hortensis* with blue flowers it has been my privilege to see is now growing in the wild garden at The Court, Cockington, Torquay. The bushes, of which there are several, are not less than 8 feet in diameter, some possibly more, the flower-heads large and intensely blue, some with a distinct purple shade. The soil in which they grow is red loam, overlying rock of that colour. The situation is a moist one, among large forest trees. The colouring of the flower-heads of this *Hydrangea* when growing in pots is a simple matter, but to see them growing as they are here is truly a wonderful sight, showing plainly that some chemical action in the soil is having a decided effect on the flower trusses.—E. M.

**Tansy-leaved Thorn** (*Crataegus tanacetifolia*).—I was interested by "A. D. W.'s" remarks on the Tansy-leaved Thorn as being worth cultivation. There is a large specimen growing here which is considered by nurserymen and gardeners as remarkable for its size. Its dimensions are 33 feet high, 39 feet broad, 8-foot stem; at 1 foot from the ground its circumference is 6 feet 6 inches. My object in writing is to ask what is the size of the one named by "A. D. W." as growing in the Glasgow Botanic Gardens. Perhaps some correspondent will favour THE GARDEN with the size of any trees that may be known by them. The tree here is almost yearly covered with blossom, which is a conspicuous object, and every other year it fruits freely.—R. DRAPER, *Seaham Hall Gardens, Sunderland*.

**Leycesteria formosa.**—In selections of autumn-flowering shrubs this *Leycesteria* is apt to be passed over, yet it is very ornamental, and besides that quite distinct from anything else in our gardens. It is a native of the mountainous districts of Northern India, where it occurs at considerable elevations, and in this country it may be regarded as quite hardy, for if cut during exceptionally severe winters even to the ground, it quickly recovers, and pushes up numerous shoots from the base as a herbaceous plant does. The shoots are clothed with bright green bark, and terminated as well as all the minor branchlets by drooping racemes of blossoms. The showiest part of the inflorescence is not the flowers themselves, which are white, but the large reddish-purple bracts, that subtend the flowers and partially hide them. Ornamental as these bracts are, they never in this country acquire the richness of colouring natural to them when in their Himalayan home, and it is perhaps owing to the fact that its early anticipations have not been quite realised that the *Leycesteria* is not more generally grown for ornament. The flowers are succeeded by berries, which when ripe are of much the same tint as the bracts. It has been often recommended as a covert plant, and it certainly possesses several features that stand it in good stead for such a purpose. In the first place it is easily increased by seeds, layers or



cuttings, while frequently a plant can be split up into several after the manner of a herbaceous subject; next, the berries afford food to game, while it is of quick growth, and will succeed under the shade of trees better than many shrubs. Besides all this it does not form too dense an undergrowth so as to interfere with the free passage of game.—T.

## KITCHEN GARDEN.

### SPRING CABBAGE.

Nor till we have a bad failure do we fully appreciate the value of some of our winter and spring vegetables at least such would appear to be the case. Last spring good Cabbage was remarkably scarce, only a few well-sheltered plants surviving the winter, and in all probability this complete failure—for that is what it amounted to in most gardens—will have had the effect of determining those responsible to take greater precautions against a repetition of last season's experience. We cannot, it is true, control the weather—that is to say, we are very

already named, but there are other medium sized and small varieties that have done good service in former years and ought not to be too readily discarded. Among these I would include the old Cocoa-nut (see illustration), Early Etampes, Wheeler's Imperial, Reading All Heart, Early York, Nonpareil, and Hill's Dwarf Incomparable. None of these require to be planted more than 15 inches apart each way, and on good firm undug ground they may be disposed nearer together by about 3 inches. The smaller forms are, or ought to be, most generally preferred, but those who like larger hearts will find Early Heartwell, Mammoth Beef-heart, Enfield Market, Early Rainham, and Matchless all hardy and fairly reliable. Any one or two of both small and large forms are usually to be had from those who raise and advertise Cabbage plants largely for sale, and it is far better to purchase and put out plants now than to be without Cabbages of any description next spring.

Whether or not the hearts are tender and mild in flavour is largely determined by the cultivation given. They may be grown too

second time and put out with a dibber, they are very slow indeed in recovering from the check. Novices are warned against "hanging" Cabbage plants. If deep holes are made with the dibber, the roots of the plants not touching the bottom, and the stems be fixed about the collars only, their roots are hung, and very rarely do plants thus treated ever make any progress. This is no unnecessary caution, as I have seen numerous instances of Cabbage plants being hung, the blueness of the leaves being an almost sure indication of what has taken place. Let the roots touch the bottom of the hole, and be further fixed by having the soil pressed down on to them with the point of the dibber. If the weather is at all dry give them a watering, a second supply of water being given in a few days. A strong autumn growth is most undesirable, but it sometimes takes place, and if a successional batch has not been put out, it is advisable, rather than run any risks, to partially lift and replant, this giving the desired check. In the spring, growth may be hastened by freely loosening the ground between the rows, and a liberal surfacing of soot or some other kind of quick-acting nitrogenous manure washed down by rains will promote a still more active growth. In much exposed positions it is a good plan to mould up the plants, this steadying them, and also saving a good many from being twisted out of the ground. Especially ought those with long stems to have some soil drawn up to them from both sides.

Ambury or club-root is very difficult to contend with in some gardens, and on some soils, but is the least likely to be troublesome when the plants are put out on ground previously well sooted for Onions. Any excrescences or galls containing a maggot found on the underground stems of young plants when drawn from the seed-beds should be cut cleanly off, and well coating the roots with a thick puddle made of clayey soil, soot and water is one of the best preventive measures that can be tried. A complete change of site is absolutely necessary, and a free use of soot, charred rubbish and ashes most desirable. M. H.



Cocoa-nut Cabbage.

much at the mercy of the elements, but if failures are unavoidable owing to unfavourable weather, those who have done their best to succeed with their crops have the satisfaction of feeling they are in no way to blame. What I would term doing my best to succeed with Cabbages, consists of making at least two good sowings of seed, one being either during the second or third week in July, the earlier date answering well in the case of that very superior form, Ellam's Early Dwarf, and another a fortnight or three weeks later. Both sowings turning out well, and an equal number of plants put out from each, the chances are, one if not both of the batches will do good service. Sometimes the earliest sown either heart in or run to seed prematurely, while not unfrequently the latest raised plants behave the worst in this respect.

It is too late to sow seed now, and what my readers who may need advice have now to do is to put out plenty of plants, whether these be raised early or late, on the place or elsewhere. The variety that ought to be the most extensively planted, as being the most reliable, and also of very superior quality, is that I have

rankly, the hearts being objectionably coarse, and, on the other hand, the ground may be too poor, slow growth and badly cooking hearts being the inevitable result. Ground heavily and freshly manured and then dug deeply and roughly is not the best preparation, though it may answer well if the precaution is taken to break down the lumps to a good depth, and to trample all firm prior to planting. Where the hardiest, neatest plants and the best hearts are grown is on ground just previously cleared of spring-sown Onions. The latter ought now to be quite fit for removal and harvesting, and if not, it is doubtful if they ever will be. After the Onions are cleared off, all that is necessary is to well hoe the surface of the ground and rake off all weeds and rubbish, the Cabbage plants being then drawn direct from the seed-beds if such exist and replanted with a dibber. I prefer to raise the plants thinly in the seed-bed, so as to obviate the necessity for pricking out in nursery beds till such times as the plants are strong enough to trust in the open. Those that of necessity have been pricked out must be transplanted with a trowel, as should they be drawn a

### FRENCH BEANS IN AUTUMN AND WINTER.

To get Beans during November and December requires skilful cultivation. Undoubtedly the best method is from seed sown in pots and planted out, or sown in boxes and transplanted. This, however, is not necessary if a good command of bottom-heat can be secured. Much can be done to eke out the supply by sowing in pits during August or early in September, and if the pits are heated they will give a long supply and damp can be got rid of. When in cold frames they give a nice supply for a time, but as the sun's rays decrease the danger from damp increases. For this late supply a large Bean is not suitable. Excellent varieties are Fulmer's Forcing, Syon House and Williams' Prolific, to which may be added Osborn's Forcing—all good and reliable for winter work, and, though they do not give a heavy crop in December, a few dishes of Beans at that period are welcome. It is well known that French Beans require light and sun to secure a free set, but even then the plants must be fairly strong, and there is less difficulty in getting strong plants if sowing is done early in the autumn and the plants are encouraged to grow freely before the dark short days. Sowing late and forcing hard with little light usually end in a poor crop; indeed, it will not pay for the room taken up. It is surprising how good a crop may be secured by sowing in good loam. I prefer to sow in pots and plant out in a shallow border, not too rich, facing full south, and to get a strong growth and the Beans set by the time those protected by frames or mats are over. French Beans at that late



period of the year, of course, do not mature so quickly, and they last longer, and with careful management are fairly prolific, paying well for room occupied, especially if a good top-growth is secured before it is necessary to force hard. One advantage of early sowing is that less fire-heat is required, therefore less trouble with red spider, but this pest is sure to attack weakly growths before robust ones; therefore a few days gained in the early autumn are important to the crop. It is also necessary, to continue the supply, to make another sowing at the end of September or early in October in small pots, and to reserve the lightest place for this late lot; and though these will not give so much weight as those sown earlier, they will provide a few dishes in December, one of the varieties named being used for the purpose. More care will be required in watering, planting, and airing than with those giving a supply through October and grown more hardily. Planting out will give the best results, provided there is bottom-heat and an equable temperature at top and bottom (a night temperature of 60° or 5° lower on cold nights with 10° rise by day) and the plants near the glass, keeping the glass as clean as possible to admit all the light; but as there is always danger of red spider in heated pits, syringing with tepid water and placing weak liquid manure in the hot-water troughs will do good in all cases. Keep the plants free from insects up to the flowering period, when less atmospheric moisture will be required. Good crops may also be grown in pots and shallow boxes provided they get room, as crowding means weak foliage and few roots. In all cases grow near the glass, use good loam and not too much manure, make the soil firm at planting, and do not over-water in dull weather. Winter Beans may often be grown in much smaller pots than are frequently used. I have seen fair crops when grown in 6-inch and 7-inch pots, three Beans in a pot.

G. WYTHES.

#### OUTDOOR TOMATOES.

WHILST in many directions the sharp white frost which occurred on the morning of the 18th inst. denuded outdoor Tomato plants of their leaves and practically destroyed the crop, I found on calling upon Mr. Richard Clarke, of Twickenham, a few days later that of his thousands of plants, all of which are bearing freely, hardly one seemed injured. His plan is to have Strawberry rows 3 feet apart, and the Tomatoes, having been pushed on either singly in 3-inch or else in pairs in 4½-inch pots, are planted out in couples at about 2 feet apart in the rows. They are kept hard pinched and finally stopped at 2½ feet, so that the free head-growth so constantly permitted, and which seems to be productive only of roots and leaves, is firmly checked. Whether the practice will please all or not, certainly it would be impossible for anyone, and I have seen many breadths of Tomatoes from time to time, to secure a heavier crop than Mr. Clarke has. The earliest gathering took place on August 30, and ever since there have been heavy ones. So soon as the fruits are of full size and show the least evidence of colour they are gathered in half-sieves, that is, baskets which hold 12 lbs. of fruit, and in these are stood in a warm sunny greenhouse for a few days to finish. If the weather becomes dull and cold, a little fire-heat can be given after the fruits have coloured. Other baskets are lined with blue paper. The fruits are then sampled into best, seconds, and small, covered down, and in that way sent to market, and although prices are not high they are remunerative. As the plants come between every second pair of rows of Strawberry plants, the following year the planting comes into the now vacant rows, so that the soil is to some extent changed. A heavy dressing of manure is during the winter forked into the soil which has carried the Tomato crop, and really fine crops of Strawberries are also taken from the ground. The soil is not mulched, although it would have helped to some extent to save the huge clusters of fruits from being splashed, as they come so near to

the soil. Not only are the best fruits large, but many clusters before any are gathered average from 2 lbs. to 3 lbs. in weight. Mr. Clarke has long since given up the old market red. Earliest of All is found to be the best for early work because it ripens its fruits fully ten days before any other form. Magnum Bonum is an immense cropper, carrying large fruits. As seen at Twickenham it would seem practically impossible for plants to produce heavier crops.

A. D.

#### TOMATOES IN WINTER AND SPRING.

THERE is no difficulty in keeping up a good supply of these fruits till the end of the year if a good number of plants are grown, as even with ordinary frame or pit culture they will last some weeks after gathered if kept on shelves in a dry, cool house. I grow a number planted out in frames during the late summer months and trained as single cordons, supported 2 feet above the soil by Bamboo canes. As the frames are required in November for Strawberries, the Tomatoes are then picked and give us plenty of fruit till the end of the year, as though green when cut if full-sized they ripen up well on shelves. To get Tomatoes through January, February, and March is more difficult. To succeed the late lot in frames, that is, to keep up the supply early in the year, I have found it best to rely upon plants in pots, as these if raised early in August are nice plants 3 feet to 5 feet high by the end of October, and should have been grown as hardy as possible after the second or final potting. I prefer 8-inch pots, though 10-inch ones would be none too large for robust plants. If 10-inch pots are used, three shifts will be necessary, but in the smaller I prick the seedlings into 5-inch, and when ready shift into 8-inch, using good sound loam with some half-inch bones for drainage, and a sprinkling of Thomson's Vine manure in the compost. Too much manure causes leaf growth, but it must be borne in mind that the plants have to make their growth at the time of year many plants are going to rest, so that a quick sturdy growth must be made till a good set of fruit has been secured. I keep the plants as hardy as possible till a good set has been obtained, a low pit or small house just suiting them with plenty of air. When grown in more heat with me, there are few plants left after a severe fog. By having a good quantity of fruit set in October there is no difficulty in getting it to swell, as the roots being in a confined space may be liberally fed, but it often is most difficult to get a crop of fruit by artificial fertilisation late, that is, in November and December, especially near large towns. Crowding should be avoided, and I prefer the single cordon system to any other, keeping the side laterals closely pinched out. In case the flowers do not set freely, they should be gone over every day with a camel's-hair brush, as if a good set is secured in October there will be a succession of fruit for some time. Conference is an excellent variety for this work, also Acquisition, a dwarf growing variety of stout growth and a free setter. Unlike other varieties, it makes fewer laterals; thus there are less stopping and training, the fruit being bright red, smooth, and nearly round, and of good flavour. The old red or ribbed variety is one of the best for winter if sowing has been delayed or the plants are small. As soon as the weather gets cold care should be taken to keep up the night temperature to 55° with air on the top ventilators, as there is nothing gained by starving. When the plants are a good size and furnished with bloom, a free circulation of air with warmth will assist

in getting the bloom set for the late fruiting. To continue the supply through the spring till those sown early in the year commence to fruit, more care is required, as the plants must be kept growing through the winter. I prefer cuttings struck in August or early in September and potted on into 6-inch pots. Should the pots get full of roots before the end of November, another shift into 8-inch pots should be given. Early in January the plants, if not grown in too high a temperature, say 50° at night and 10° higher by day, will commence to show bloom, and should get all the light possible. The fruits set freely during February, and by plunging the pots in a mild heat and liberally top-dressing, a good succession can be kept up. I like the old red, being a freer setter than the smooth kinds. Horsford's Prelude is also good, as it ripens up more quickly than any variety I have tried. It is not a large fruit, but useful on account of its earliness and free-setting qualities. These plants, if plunged in soil and the stems built up round with good loam and horse droppings, will give a heavy crop all through the summer—indeed, may be had in fruit from March to August if extensive feeding and stopping are attended to after the first crop has been cleared. The plants may be a little bare at the base, but this is soon remedied, as another cordon or two may be trained up from the bottom, and this will in time take the place of the one that has borne fruit, in all cases allowing ample space for extension. It is necessary to plunge the fruiting pots in good soil as the spring advances, as they soon suffer from drought, being in smallish pots and full of roots. The greatest trouble with these plants during the winter is damp and insect pests; they often damp at the collar, and white-fly is most troublesome. If attacked by damp, powdered charcoal with a little sulphur will do good. A dressing of fresh wood ashes is also beneficial, and may with advantage be given frequently as a fertiliser. For white-fly, dustings with flour of sulphur is sometimes effective, but if allowed to increase, syringing with tobacco water on a fine day, allowing the plants to dry before dark, will soon destroy it. Of course, syringing should be avoided when in bloom.

G. WYTHES.

**Tomatoes.**—An experience this year with outdoor Tomatoes, corroborated in a remarkable manner during a recent hurried inspection of the grounds and gardens of Gunnersbury House, leads to the suggestion whether the Tomato might not be far more successfully grown out of doors if the plants were at the outset inserted in the poorest of soil. In my case this year a bit of poor leaf-soil some 15 inches wide by 4 inches deep was placed on a hard path in the front of some Peach houses for a few early Potatoes, and when the latter were lifted, the Tomatoes were put out in the same compost, the base of the ball resting on the hard ground. Very little strong growth was made, but they have fruited capitally, and we have been picking for some time. The secret of outdoor Tomato-growing would seem to point to the encouragement of early flowering and setting as opposed to rank growth, and so soon as a set is obtained, to push them along as rapidly as possible. Something of the kind is absolutely necessary, when we consider the little time they have from the first planting until the advent of early autumn frost in which to do their work. At Gunnersbury House, Mr. Hudson's plants were even more than mine apparently flourishing in poverty, as they were planted in nothing but a bed of ashes that rested on a solid bottom and were quite covered with very fine even fruit in the various stages of ripening. There is one point connected with outdoor Tomato culture that needs looking to—the acquisition of earlier varieties, and there is no reason why care-



ful selection and hybridising should not give us as much difference in Tomatoes from a season standpoint as we find between, say, Ashleaf and Bruce Potatoes, or Early Beatrice and Late Admirable Peaches.—E. FURRELL, *Claremont*.

## ORCHARD AND FRUIT GARDEN.

### AIDS TO COLOURING FRUIT.

THERE is no need to enlarge upon the superior value of fruit that is well coloured over that which lacks colour, this part of my subject having been very frequently discussed in the pages of *THE GARDEN*. What I am most concerned about is whether or not anything, other than measures usually in vogue, can be discovered or recommended that will materially aid the cultivator in producing highly-coloured fruit of varieties which are rarely if ever seen with any or much colour on them. My remarks have special reference to Apples and Pears, and what can be done in the way of improving the appearance, and it may be the quality also, of these. Plenty of highly-coloured dishes of the former in particular are to be seen at most autumn fruit shows, but these far from represent the state of the crops generally. Those very superior samples may either have been specially cultivated, perhaps under glass, or may have been the pick of hundreds of fruits. As far as my experience goes, in spite also of the great increase in the number of growers, the principal markets are still far from being well supplied with a class of fruit that will readily find purchasers. Some few varieties of Apples there are that are naturally prone to colour very freely, among these being included Red Quarrenden, Astrachan, Worcester Pearmain, Baumann's Red Reinette, May Queen, and the old Tom Putt; but the bulk of other sorts usually fail to colour unless fully exposed to all the light and air going. It is much the same with Pears. Of the choicer varieties, Louise Bonne of Jersey colours the most surely and beautifully, pyramids and bushes heavily laden with fruit last year presenting quite a blaze of colour—the Trout Pear also being very showy. The second-rate Beurré Clairgeau frequently colours in a most attractive manner; so also does Beurré de Capiaumont, and doubtless this list might be slightly augmented.

In how many instances, however, can it be said that Doyenné Boussoch colours even better than Louise Bonne of Jersey? Or, again, how many growers can aver that they have either grown or seen Pitmaston Duchess other than grass-green till the time arrives for the colour to change to a pale yellow? With me the first-named rarely fails to produce good crops of large well-formed fruit, but the most exposed only lay on a few faint stripes of colour, while Pitmaston Duchess never departs from the typical green and yellow. At Cote House, Westbury-on-Trym, near Bristol, Mr. W. Bannister has succeeded not only in colouring Doyenné Boussoch to perfection—a fruit that has been in my possession several weeks now being nearly covered with a bright red colour—but Pitmaston Duchess has also coloured cheeks to such an extent as to defy recognition by those not in the secret. If such handsome fruit of Doyenné Boussoch could be more generally produced, they would more than hold their own in the markets against all comers, and I have no doubt Pitmaston coloured would also please both salesmen and buyers who attach the greatest importance to a showy exterior. Double grafting would appear to be the secret of Mr. Bannister's success, but to me it is not quite clear how it comes about. I have frequently contended that, as far as either quality or appearance is concerned, it is physiologically impossible to impart the good qualities of a superior variety to an inferior sort by means of grafting, and this I maintain. Mr. Bannister's experiments notwithstanding. Mr. Bannister is an enthusiast in hardy fruit culture and more than ordinarily successful in winning prizes, the highly-coloured Doyenné Boussoch being a strong dish in some of his collections shown of late years. These

are obtained from a bush tree originally of Knight's Monarch, this being headed down and grafted with Doyenné Boussoch and Pitmaston Duchess. The tree is one of a row located at the foot of a well-drained north border, and therefore, to quote Mr. Bannister, not a very favourable position. The soil is heavy, the subsoil being yellow clay. Now Knight's Monarch is not remarkable for colour, very little of it being traceable in any that I have seen, and yet this is the undoubted cause of the Doyenné Boussoch colouring richly. The latter is supposed by Mr. Bannister to have communicated some of its blood or, I should say, colour to the Pitmaston; but this I do not consider the right solution. Knight's Monarch I have always found to be only a moderately strong grower, being, in fact, more prone to productiveness than vigorous growth. But for its unfortunate trick of casting its fruit prematurely, it would be one of the most valuable Pears in cultivation. As it is, the best use that it can be put to is to re-graft with such naturally vigorous growers as Doyenné Boussoch, Pitmaston Duchess, and I would add Doyenné du Comice. It would give a wholesome check to the vigour of these, this inevitably resulting in the production of abundance of fruit, smaller it may be than the type, but certainly more highly coloured and of good quality. By way of corroboration, I may add that the most highly coloured fruit of Doyenné du Comice I have ever seen were grown on a comparatively stunted tree on the Quince stock. With me a healthy tree on the Pear stock yields finer fruit, but it is only during the more favourable seasons, with which I would include that of 1892, that these lay on colour to any appreciable extent. Double grafting has long been practised by certain of our leading nurserymen, presumably with a view to give some varieties the benefit of the restrictive action of the dwarfing stocks, and which fail to unite properly without the aid of an intermediary variety. Now if it could be proved that this double grafting has the direct effect of causing the fruit to colour more freely, then ought the practice to be more freely resorted to. My contention, as before hinted, is that the dwarfing of certain varieties, in addition to making them more productive, results in the crops being much more exposed to the natural colouring effects of the wind and sunshine, and that there is nothing in the short length of intermediate stem of some other variety to affect either the quality of or colouring process in the fruit borne by the scion. Mr. Bannister's experience points to a different conclusion, and it would be of interest to many readers of *THE GARDEN* if more facts bearing upon the effects of double grafting could be forthcoming. Surely those who have experimented largely in the direction of re-grafting fruit trees ought to be able to tell us something that should be of some benefit to fruit growers generally, and if it can be shown that Mr. Bannister's views are right and mine wrong, those who prove this will have my best thanks.

W. IGGULDEN.

### FRUIT-PACKING COMPETITION AT EARL'S COURT.

TO THE EDITOR OF THE GARDEN.

SIR,—“A. D.” in his article on fruit-packing competitions in the issue of September 10, p. 238, implies that competitors in the class for a basket of Grapes of 12 lbs. ought to have known what the executive meant when framing the schedule. I was under the impression, and am so still, that competitors in exhibiting were to exhibit according to the schedule as printed. I must beg to differ from “A. D.” It is all very well for an exhibitor who has previously shown in such a class to know what was meant, but I maintain that a new exhibitor would be led to believe by the schedule if his basket travelled by rail the stipulated distance, and was delivered by railway officials as passenger's luggage, he would be exhibiting according to the schedule. I exhibited a basket and was disqualified, as no way-bill came with mine, although labels from Streatham to

Croydon and Croydon to Earl's Court were on the basket when opened by the judge. My basket was delivered by a railway porter from Earl's Court Station to the executive, which I maintain was complying with the terms of the schedule. It is very obvious that there was something wrong in the framing of that class for six competitors to be disqualified out of nine or ten who exhibited, some for one cause and some for another. I protested against my basket being disqualified at the time, but was told it was not exhibited according to the schedule. I should be glad if some of the other exhibitors in that class who were as unfortunate as myself would answer “A. D.” as to their reading of the class in question, and why they were disqualified.—W. HOWE, *Park Hill Gardens, Streatham Common*.

\* \* We consider that the disqualifying in your case was quite correct. The schedule was never meant to imply that an exhibitor, living at the stipulated distance (10 miles), could pack his Grapes, take them into the railway carriage with him, and at his destination hand them over to a porter for delivery to the managers of the show. The schedule required that the Grapes be sent as merchandise, and be delivered by the railway company in the usual way.—ED.

### FRUIT TREES IN THE LANDSCAPE.

FRUIT trees in the landscape are of no uncommon occurrence in the west of England, and especially in the counties of Herefordshire and Worcester-shire, particularly the former, where for the last century or two Apple trees for cider and Pear trees for perry have been extensively planted. Even before the time of Thomas Andrew Knight, an old pomologist, a name all fruit-growers should honour, trees were being extensively planted of all the best kinds for the purpose for which they were intended, i.e., the manufacture of cider and perry. Now it is these old kinds which have such a fine effect in the landscape, growing, as some of them do, to a large size. Many of the Pear trees are more like timber trees. Of course it takes years for them to grow to this size, but then the varieties themselves are ideal for the purpose. Autumn now coming on reveals untold beauty among the ripening fruit, changing as it does from green to red and glowing crimson; also the yellows and russets—colours which very few other varieties grown for edible purposes possess. What can have a finer effect than the brilliant colour of the old Fox-whelp, Forest Styre, Cherry Norman, Skyrme's Kernel, and Strawberry Norman? True, they are only cider Apples, but then for beauty of effect in the landscape, quality of fruit for edible purposes should not take precedence. Another advantage is their pleasing natural contour and also their very pretty effect when in bloom, as this is as beautiful and diversified as the fruit itself. Therefore from the time of the unfolding of the buds until the fruit is all gathered in there are beauties for the lover of Nature to behold. There is no period of special gathering, as they are allowed to hang until they fall readily from the branches, which is very often not until late in the autumn. Not being gathered until this time, it is astonishing what brilliant colours the different kinds will take on.

I expect originally these trees were not planted for effect, as they are the remains of old orchards. It was also the practice to plant in hedgerows, as numbers of trees are seen growing in such positions. With these it has been the survival of the fittest, until now they stand out in the landscape and give picturesque effect through the different periods of the year. Talking of picturesque effect, there is an old Pear tree in the vicarage garden at Holme Lacey which is truly one of the vegetable wonders of the world. This tree, although now shorn of much of its former effect, still stands out as a relic worthy of notice. It has been described as the travelling Pear tree, as, quoting from memory, it has travelled considerably over an acre of ground. Incredible as it may appear, this is nevertheless a fact, as the stems are plainly in evidence, or were a few years since. Portions of the tree could be



seen in different parts of the grounds standing erect, the underground stems, or rather above-ground stems, reaching from one to the other, except here and there where removed. The manner of growth taken on by this remarkable tree was that the stems grew in a sloping direction, and after it had become top-heavy it would topple over, there take root like a layer, and the stem grew up again and formed another tree until its time came to topple over. In the above manner it went on until it had travelled over the space above-mentioned, and will no doubt keep on travelling until its career is ruthlessly cut short. This remarkable tree was at one time—I forget the date, but upwards of a century since—found so worthy of note as to have a reference in the parish register. The above notice may be excused in an article on landscape effect of fruit trees; the fact referred to is worthy of being placed on record in the pages of THE GARDEN.

I quite agree with the observations of Mr. Iggulden and "D. T. F." as to the planting of fruit trees for effect in the garden landscape. What we want are varieties that are free fruiters and have effect whilst in bloom. The bloom, however worthy, is only fleeting, but the fruit hangs for months, and the higher the colour the better. Large-fruited kinds are not needed, but small brilliantly coloured sorts, as these give the most effect. Standards are also the best to plant, be they Apples, Pears, or Cherries. These are what are seen in the counties above-mentioned, and when in bloom during the month of May they are a sight to behold. These counties are extremely undulating, and the effect when viewed from an eminence is very striking, for as far as the eye can reach it is a wealth of floral beauty. Of course, isolated specimens, too, are very pleasing. The Quince must not be forgotten, nor the Medlar, the latter having a very fine effect while in bloom. The Cherry Apple, commonly known as the Siberian Crab, is a charming tree for the pleasure grounds. We have several young trees, and no other hardy flowering tree could possibly have a more pleasing effect while in bloom than this subject. The pretty rose-tinted petals wreath the slender shoots with floral beauty, and are followed by the small Cherry-like fruit. Of course, there are other pretty subjects, although they cannot very well be termed fruit trees in the true sense.

Y. A. H.

**A good Apple.**—There is at Claremont an old standard tree which, when I recently saw it, was carrying a heavy crop of good medium-sized Apples, generally about one-third larger average size than is Cox's Orange Pippin, and which Mr. Burrell regards as either Golden Russet or Egremont Russet. The fruits are very firm and will keep well till March. The eye is small and closed, the stalk short, stout, and rather deeply inserted; the skin is rough and russety in patches, and on the sunny side carries streaks of bright red. Some of the most exposed fruits are very handsome. This is one of the varieties of Apples that is not generally found mentioned in select lists, but at Claremont has the reputation of being a constant and oftentimes a heavy bearer. It would seem, judging by appearances, that it deserves to rank amongst the best-grown late-keeping dessert Apples.—A. D.

**Spot on Grapes (*T. B. F.*).**—Defective root-action is most probably the cause of the bad state of the berries. When Vines have been rather roughly handled at the roots, that is to say, have been nearly or quite replanted, as in your case, they ought to be very lightly cropped during the following season. If the average number of bunches is left on the rods to mature, these completely paralyse the root-action of the Vines, the latter as a consequence not being equal to the strain put upon them at the most critical period. Both the crops and the wood suffer from the want of sustenance, and I should say the spotted berries are one of the signs of this. The crops ought to be lightened as quickly as possible in order to give the Vines a better chance to form fresh roots and partially recoup their strength. Also use space

frame or pit lights, shutters or corrugated iron for warding off heavy rains. Next season it will be advisable to lay in a fresh cane from each rod, and also to allow more foliage to form generally, with a view to substitute fresh rods for the old ones, and also to promote an early and strong root-action.—W. I.

#### PLANTING AND SELECTION OF HARDY FRUIT TREES.

THERE is no better time than the end of September to visit well-known fruit nurseries and make a selection of the fruit trees required for the coming planting season. Objection may be raised to this early planting on the score that growth is not complete, and that no trees should be lifted till the leaves have fallen, but I have never seen any bad results follow. Of course, the flow of sap if stopped by early removal is injurious to the trees, but the grower will not send the trees out till they are ready, and in the case of Peaches or other trees which at times hold their leaves, no harm will result if they are not kept out of the soil too long. This last remark is often overlooked, as it



Full-grown leaves of *Cercis Siliquastrum*.

is of the greatest importance that trees should be planted and staked as soon after they recover as possible. Much time can be saved by the preparation of soils, trenching, or removal of useless or worn-out trees in advance of the planting, as when this is done the new body of soil gets settled and the roots of the trees when planted do not get below their proper level, as is sometimes the case in newly-trenched ground. In the preparation of soils I have purposely omitted manures, as if these are given in quantity, a rank and unfruitful growth is the result. I am well aware that poor soils must have some manure, but excess of this means rank growth, little fruit, and other evils. I have seen Peaches and Nectarines, Cherries and Plums make so much wood from this cause that the trees never did well. Good loam with such materials as mortar rubble, charcoal refuse, wood ashes are very valuable. Bones or such materials as are rich in phosphates and ammonia given in moderation will also produce good results. I often think that when early planting is objected to we have only to look at the Peach or other stone fruits and see how well they do when lifted or transplanted as soon as the fruit is gathered. Could this be done with young trees from the nursery, there would be a saving of time to raiser and planter. I do not give a list of trees suitable, as the planter can decide for himself if he sees the trees in a fruiting state. Besides, much depends upon soil

and situation. It is always advisable to grow those that are known to do in certain localities, as fruit, like other things, vary much in different localities. In small gardens Apples are best on the Paradise stock and produce fine fruits. Again, some varieties are best double-worked. Pears in limited areas are best on the Quince stock, and invariably give the finest fruits and regular crops. In the case of Plums much depends upon the stock.

G. WYTHES.

#### GARDEN FLORA.

##### PLATE 879.

##### THE JUDAS TREE.

(WITH A COLOURED PLATE OF *CERCIS SILIQUASTRUM*.)

THE genus *Cercis* comprises four or five species, three of which are in cultivation in English gardens; the one represented in the coloured plate is *Cercis Siliquastrum*, the so-called Judas Tree. According to Loudon, this was introduced to England in 1596. Gerard (Johnson's edition, 1428) says it may be called in English Judas Tree, for it is thought to be that on which Judas hanged himself, and not upon the Elder tree, as it is vulgarly said. It is a native of Southern Europe, and extends from Asia Minor to Afghanistan. In an old state it makes a low tree with a flat, spreading head, and planted under suitable conditions a single specimen or a group may be turned to excellent account by the landscape gardener, as the tree is both beautiful and picturesque. The deep rose-coloured blossoms appear in May before the leaves are developed, and are produced in profusion from the twigs and even large branches and trunk. Later on, the pods, which when fully grown attain a length of 6 inches and are coloured a deep red, form a striking contrast to the smooth, roundish, heart-shaped leaves, which are a pale bluish green on the upper surface and sea-green below. When the leaves have fallen, the pods remain on the trees and give them a singular appearance during the winter season. There are varieties of *Cercis siliquastrum* with flowers varying from whitish to deep rose, and one with variegated leaves.

The Judas Tree is not so frequently grown as it should be. It is perfectly hardy and is readily raised from imported seeds (seeds are rarely ripened in this country). Now and then very fine specimens are met with in old-fashioned gardens. The late Mr. George Berry (THE GARDEN, Feb. 16, 1878) gives an account of one at Bath which he believed to be 300 years old, the trunk girthing upwards of 6 feet.

\* Drawn for THE GARDEN by Gertrude Hamilton from flowers sent from Gunnersbury House, May 31, 1892. Lithographed and printed by G. Severeys.





CERCIS SILIQUASTRUM







Dr. Aitchison, in his "Botany of the Afghan Delimitation Commission," remarks as follows: "The shoots, which are a deep purple or almost black in colour, are employed largely in the manufacture of baskets, sieves and strainers, especially in Persia, where the plant is also very common."

*Cercis canadensis* is not, as its specific name would imply, a native of Canada, but of the Central and Southern United States, where it is known under the appropriate name of "Red Bud." It is hardy in England, but the flowers—with us at any rate—are hardly so showy as those of *C. Siliquastrum*. Mr. Jack, in *Garden and Forest* (1889), thus writes of this tree:—

The Red Bud is in bloom (May 18). It is one of the most beautiful flowering trees of the North American forest, and there are few more beautiful objects than the great masses of this tree in some parts of the south or south-west, notably along the

portions, but in some parts of China it makes a valuable timber tree 50 feet high, with a trunk sometimes 12 feet in girth. In general aspect it very nearly approaches *C. Siliquastrum*. It is sometimes met with in gardens under the name of *Cercis japonica*.

N.

## THE WEEK'S WORK.

### HARDY FRUITS.

**GATHERING APPLES.**—There are heavier crops of Apples in many localities than at first anticipated, and, what is equally satisfactory, the quality of the fruit is decidedly superior. It cannot be too often pointed out that there ought to be no wholesale clearance of the trees, but, instead of this, due regard to the early maturing character or otherwise of the respective varieties. According as the fruit is found to part freely from the trees or the seeds have changed to a brown colour—wholesale



Flowering and fruiting branches of *Cercis Siliquastrum*.

eastern borders of the Indian Territory and in Eastern Texas, when they are covered with their purple flowers in very early spring. There the Red Bud becomes a tall tree with a stout trunk; further north, although nearly always arborescent, it never attains the size developed in the more favourable climate and more generous soil of the south. It is remarkable that so fine a plant should be neglected by our horticulturists, who hunt the remotest corners of the earth for novelties to embellish their gardens, and pass native species which cannot be matched anywhere. *Cercis canadensis* is rarely planted in gardens in these days, and yet a plant in flower standing out alone before a dark background of Hemlocks or of Pines, or where it can contrast its purple flowers with the white floral leaves (the two plants flower here together) of the Flowering Dogwood (*Cornus florida*), is an object which fully satisfies the imagination, and one which is not easily forgotten. The Red Bud, although not a native of Eastern New England, is perfectly hardy here. It grows rapidly, and is an object of beauty from the time the abundant flowers cover the naked branches until the late autumn, when the red-brown pods are ripe.

*C. chinensis*, a native of China and Japan, is also a beautiful plant. In this country it has not yet had time to attain its full pro-

portion, however, being forestalled—gather carefully and store. About the 21st of this month very strong equinoctial gales are usually experienced, and where it can be done without actually dragging the fruit off the trees gathering should be carried out before the winds have an opportunity of damaging the bulk of the crops. At the same time it is better to run a few risks of storms than to gather immature fruit, which will inevitably shrink or shrivel badly, or to such an extent as to be quite spoiled. Some that are among the latest to mature are Golden Knob, Court Pendu Plat, Cockle Pippin, Sturmer Pippin, Brownlee's Russet, Lord Burghley, Winter Greening, and Besspool.

**STORING APPLES.**—Pears being generally scarce, it is more than probable that very many gardeners who have well-fitted-up fruit rooms will be tempted to store their choicest Apples in a single layer on the latticed shelves where Pears are usually placed; but these are far from being well adapted for the purpose. The surroundings of stored Apples ought certainly to be both clean and sweet, but those dry airy shelves to be found in the majority of fruit rooms are not conducive to long keeping, the fruit ripening earlier than it is wanted and shrivelling prematurely. Apples ought to be kept nearly or quite as cool as store Potatoes, and if the light and currents of air are well excluded, so much the better. Thatched structures on the north side

of a wall are well suited for storing Apples in, an equable and rather low temperature short of frosts answering well. They also keep better stored in heaps than in single layers. Those without the convenience of a cool room or shed might well adopt the plan of storing Apples in boxes, barrels, tubs, and paper-lined hampers, these being left open for a few days in order that what little moisture is evaporated may escape readily, and then kept closely covered and arranged one above another if need be in a cool loft or spare room. In each and every case the gathering should be done carefully on dry days if possible, and none but the sound, uninjured fruit should be stored. Neglecting to sort them over usually ends in the early decay of all that are in the least bit unsound or bruised, and, it may be, the loss of much sound fruit that comes into contact with it. On no account place either straw or hay under Apples, nor should it come into immediate contact with them as a protecting material. If used, it quickly becomes damp and musty, and the Apples will be tainted quickly and surely. Latticed shelves and floors of rooms can be lined with clean paper only.

**PEARS.**—There being so few of these, the chances are that over-anxiety to preserve all there are will have led many growers to gather before they are really fit. By all means anticipate dropping, but do not spoil the late varieties by dragging them from the trees. If they are not properly matured when gathered, many of them will refuse to ripen either with or without the aid of artificial heat, shrivelling taking place prematurely. When these hints were being penned (October 4), Marie Louise, Louise Bonne of Jersey, Vicar of Winkfield, Beurré Hardy and Doyenné Boussoch had already been gathered and stored; but Doyenné du Comice, Passe Colmar, Beurré Diel, Conseiller de la Cour and Beurré Clairgeau were still ungathered, for the simple reason that they still clung hard to the trees. As soon as they part more readily when raised out of the perpendicular, the fruit will be gathered and stored. Josephine de Malines, Winter Nelis, Chaumontel, Beurré Rance, Ne Plus Meuris, Glou Morceau, Easter Beurré, Bergamote d'Esperen, Mme. Millet and Olivier des Serres are still later in maturing, and in all probability will not be fit to gather in most places before the third or last week in October. Cold and damp have a most deleterious effect upon Pears, impairing both their flavour and keeping properties. Therefore store them in a rather dry, warm room, where, if possible, a little fire-heat can be given whenever cold frosty weather prevails. Some may not ripen at all unless subjected to a little extra warmth. Store in a single layer, stalk end uppermost, either on shelves or in drawers. Those damaged by birds rarely keep long after they are gathered, and these, therefore, should soon be sent to the kitchen for the purpose of being stewed. Properly treated they will keep well after being stewed.

**PEACHES AND NECTARINES.**—The crops generally have ripened earlier than usual this season, but there are still good samples of Peaches that would pay well for being taken extra care of. Sea Eagle, Walburton Admirable, Lady Palmerston, and Salway are among the latest to ripen, the last named not unfrequently keeping good till the middle of November. None of them are of particularly good quality when ripened so late, but they assist to form a good variety on the dessert table. The fruit ought not to be any longer exposed to all weathers, and if there are no copings and blinds to protect them with in bad weather, frame or pit lights should be firmly fixed over the trees. The fruit, if gathered before it is damaged in any way, and placed in a cool dry room on cotton wool faced over with soft paper, will frequently keep a fortnight or longer, and if dropping commences, the more forward fruit should be kept gathered and so stored till required for use. The weather of late has been very favourable for the work of partially lifting, root-pruning and the renovation of borders, and open-air Peaches and Nectarines pay well for this timely attention. Avoid overdoing the process. The young trees are still very green at the tips, and wholly moving



these is not yet advisable, though there is nothing to prevent carrying out the process of root-pruning if this is considered desirable.

W. IGGULDEN.

### THE KITCHEN GARDEN.

**WINTER PARSLEY.**—Parsley being in daily demand care must be taken that the supply does not fall off when greatly needed. This is very likely when the ground is covered with snow, and at such times Parsley is very difficult to procure when precautions have not been taken beforehand. Whether there will be a supply of Parsley at all times throughout the winter will depend greatly upon the treatment adopted through the late summer months, by late sowing, cutting over strong plants, so that the after growth will be of a sturdy description, and also by affording suitable protection. Protection need not commence too early, as, if the weather keeps mild and open, the longer it is kept off the better. Besides frosts and snow, cold rains have also to be reckoned with, and they very quickly cause the leaves to rot away wholesale. Glass lights, of course, form the best covering and should be had in readiness, but a wooden framework erected, to be covered with mats or oiled canvas, will ward off a lot of frost, damp, and snow. Snow is a bad enemy to Parsley, as when once the plants become battered down decay is not long in setting in afterwards.

**STORING CARROTS.**—Carrots if left in the ground much after this run risk from frost, and are besides apt to split and become badly eaten by grubs, when, of course, the quality is deteriorated. A dry day having been selected for the work, fork them up carefully, as Carrots are easily bruised and broken. A cool shed is the best place for storing; if at all warm and arid, the tops would start into growth or shrivel. Small mounds rather than large heaps are the best, and the precaution should be taken to sprinkle sand among the roots to keep them plump and fresh. Carrots may also be stored like Potatoes in pits in the open air, a few being taken out at weekly intervals for the supply.

**TURNIPS.**—Unless these are taken up when large enough, they are apt to split and become spongy, as well as liable to injury from frosts. There are exceptions to this rule where the roots are of small size through late sowing, and especially with the varieties Orange Jelly and Chirk Castle Black Stone. Medium-sized roots of the latter are very hardy, and the quality is better when they are left in the open ground. Where the supply is not likely to meet the demand, and where the majority of the roots are fit for pulling, the smaller should be allowed to remain, as they will grow larger and come in very useful in the early spring months. Turnips should be stored like Carrots, and they also keep well when placed in a cool shed and covered over with straw.

**BEETROOT.**—Upon the proper storing of Beet will depend its quality, and extra care must be taken, as the least injury will cause the Beet to bleed, when of course the colour is extracted. There are various methods adopted for preserving Beet. It is sometimes allowed to remain in the ground where growing and merely earthed up well, mounding the soil sufficiently to ward off frost. The best course is to take up the roots and store in a perfectly cool shed. Here the quality is preserved and the roots are easily procured when wanted. Warm and dry sheds are the worst storage place of any. Failing any suitable position under cover, they may be stored in the open air. Lift the roots carefully, taking care that they are not broken in the least, the tops being screwed off by the hand 2 inches from the crown. Arrange them in layers, the tops pointing outwards, and also take the precaution of sprinkling a little sand or fine earth between the layers. Whenever severe frost is imminent, a covering of dry straw or a few old mats will keep all secure. In the open air select a position under trees for choice. Small mounds are the best, the crowns pointing outwards, there being further pro-

ected by a layer of straw, to be well mounded over with soil to throw off wet, and to act as a safeguard from frost.

**WITLOOF.**—Witloof or Chicory is quite hardy, and may be left in the ground until wanted for forcing, although the best course is to anticipate the supply by taking up a portion, lest the ground should be frost-bound at a time when roots are wanted. A layer of leaves or clean litter is, however, generally sufficient to enable one to get at them at any time. They are safe for some time longer, and so need not be even protected with litter, the tops being still quite green. Moreover, Witloof forces better when left in the ground, so as to receive a thorough rest preparatory to forcing. When taken up, store between layers of sand, as in the case of Beet, so as to prevent shrivelling.

**PARSNIPS, &c.**—Parsnips, Salsafy, Scorzoneria, and Jerusalem Artichokes, being perfectly hardy, are of better quality when left in the ground and dug as wanted for use. Later on, when the soil is likely to become frost-bound, a layer of litter will make digging possible. Of course a few roots may be taken up to last for a week or two, but they must be carefully stored in sand, so as to prevent them from shrivelling, which would happen if they were left exposed in a dry shed.

A. YOUNG.

### ORCHIDS.

I WROTE last week about removing the shading from all the houses. Every bit of it has been removed from our own houses, all three divisions, but I am reminded that some growers do not remove the shading. They leave the blinds and the rollers, so that they may be let down on frosty nights and rolled up again in the morning. We had a difficulty in very cold frosty nights to keep up the temperature of the warmest house in one garden where I had charge of the Orchids, and as an aid to the hot water we left up the blinds for the winter, but it was so much trouble to get them up and down, owing to their being constantly soaking wet either with rain or hoar-frost, that I gave it up, and would never use them again unless it was absolutely necessary to save the plants. It is also very expensive, as the strongest blinds get worn out by wet and friction. As an amateur, the Rev. F. D. Horner is very successful in growing the warm house Orchids, and, further, the house in which he grows them is not over much heated, and he finds that it is a great advantage to use a rather thick covering on unpromising nights when severe frosts may be expected before the morning. He believes the plants thrive better with a covering over the roof on very cold nights, and in that cold northern district it is doubtless an aid to the hot-water pipes. I feel that THE GARDEN is likely to find its way into districts far removed from the county where my lot is cast at present; therefore my experience north of the Frith of Forth is quite as useful to me in this respect as that gained near London. As an illustration of the difference of climate in the north of England, the post has just delivered me a letter from near Morpeth, in Northumberland, from a good gardener there, in which he says: "We have had a most bitterly cold and wet summer. The ground is now (October 5) soaking wet; an inch of rain fell yesterday. The rainfall for August was 5.52 inches. We have not gathered a French Bean out of doors this year; they are nearly perished. Fields of corn are standing out yet; so you may judge what a climate we have to battle against." I do know well what it is, and am quite ready to admit that it may not only be worth while, but be quite necessary to use some sort of protecting material over the glass roofs of Orchid houses in such a bleak climate; but, independent of the trouble and wear and tear, we must also take into account the loss of light, for the shading has to be down sometimes an hour or two after daylight comes in, and the plants get all too little in winter, even if not a ray is intercepted. A good grower in the south of England objected to use shading at night, because "it reversed the

day and night temperature, or at any rate caused the latter to rise too much." He evidently overlooked the fact that it was easy enough to have less artificial heat. The point with most good growers who use protecting material in winter is that it saves fuel and causes a better and more congenial atmosphere for the plants. One point of vital importance is that the plants need all the light they can get in winter, and near London I believe that they are better without any covering at night, that is, if everything is considered. At this season the Orchid cultivator must ever have in his mind the fact that his plants need preparation to pass through the winter well and come out in good condition on the other side; and where such plants as *Lælia purpurata* are grown in the Cattleya house, we must not allow the temperature to get too low, because the growths of these fine plants are not yet made up, and, on the other hand, the flower-spikes of *Cattleya labiata* (syn., *Warocqueana*) are pushing out of their peculiar double sheaths, and they both need 55° to 60° at night. *C. Bowringiana* is also about pushing up its flower-sheaths, needing the same temperature, and nearly the entire group of summer-flowering Cattleyas are better with this temperature as yet. By and by, when we are well into November, an alteration will be necessary. This is a good time of the year to repot such plants as *Cymbidium Lowianum*. Some growers who really ought to know better still continue to cultivate this and kindred species as if they were Cattleyas, when they would be much more successful with them if they would grow them in soil that might well be adapted for soft-wooded greenhouse plants. There is no need to grow them in a house warmer than that in which the Cattleyas do well, say in a minimum winter temperature of 55°. I have frequently found the thermometer down to 50° on cold mornings in the house where our plants are, and they grow so vigorously, that in a little while we have no room for them. We have two plants now in 12-inch pots which will be repotted into 15 inch. The flower-pots are well drained by placing clean potsherds with the convex side undermost and laying each piece in separately, so that the maximum amount of drainage may be obtained from the quantity of crocks used. In a 15-inch flower-pot there ought to be 3 inches of drainage. Over the drainage place the fibrous portion of partly decayed yellow loam from which the greater portion of the clay particles has been shaken out. About 2 inches of the prepared compost should be put over this and pressed in rather firmly, and the remainder of the potting soil should be put in firmly around the ball of roots, which are usually a solid mass of healthy white fibres. The potting compost that we use for this species, and also for *C. eburneum*, *C. Mastersi*, &c., is one of two parts good yellow fibrous loam, one part brown fibrous peat, and almost as much quite decayed stable manure as peat; some coarse sand and clean potsherds are mixed with the whole to keep it open. The plants should be potted in the same way as a *Fuchsia* or *Pelargonium* is repotted, leaving a spare depth of about an inch between the surface of the compost and the top of the rim to allow for watering. It is an error to make a raised and rounded surface, as is done in the case of *Lælia* and *Cattleyas*.

J. DOUGLAS.

**Caryopteris mastacanthus.**—The note by "T." on p. 309 calls attention to a pretty shrub that is sometimes very charming, but which cannot be generally recommended for the majority of gardens. I first made its acquaintance in a favoured garden on the south coast, where I saw it in full blossom on a warm autumn day, and its effect was lovely. It was a large bush, and the shoots of that season's growth had a spike of flowers clustering in the axil of every leaf, the mass of blue relieved by the grey-green foliage. "T." omitted to mention one of its charms, the fragrance of its leaves resembling that of *Lavender*. Here in Suffolk, however, it has disappointed me. I thought it might succeed in a sunny raised border of warm, well-drained soil where *Eurybia*



and Cistuses were growing freely, so I gave it a trial. It has withstood the two past winters without any protection, but both this year and last towards the close of summer the edges of the leaves have turned brown and dead, whilst the flowers, which are only now opening, will be too late to make much display, unless October is exceptionally fine.—A. H.

## ROSE GARDEN.

### HYBRID PERPETUAL ROSES IN POTS

AFTER perusing Mr. Grahame's most interesting article upon this class of Roses, I was led to the thought that a few hints upon their culture in pots might be of service, and would certainly be seasonable at the present time. "If you do not plant a Rose properly, how can you expect it to grow away freely?" is one of Mr. Grahame's remarks, and I may echo this with the alteration of "pot" for the word plant. The very best Roses are spoiled by bad planting and potting. Hybrid Perpetual Roses are not so suitable for turning out into a border in the greenhouse as are those of the Tea-scented and Noisette classes. But they are so exquisitely scented, and produce blooms of such dazzling colour and contrast to the more delicate Teas, that few can afford to be without some flowers, if only as a set off and improvement to the lighter colours of Niphotos, Catherine Mermet, Mme. Falcot, &c. By cultivating these so-called perpetual Roses in pots, you can readily remove them to the open air and to some sheltered spot as soon as their crop of bloom is secured. It is of little, if any, use keeping this section of Rose under cover with the view of a second crop of blooms, as by the time these are produced there will be ample supply from the open ground, and generally of far better quality. Nor does this class produce secondary crops to anything like the same extent and quality as the Teas and Noisettes. Probably there could not be a more seasonable time for a few remarks on pot Roses than the present, as whether they be plants already established or those from the open ground ready to be potted up for future use, a considerable amount of work may be done to great advantage now. To deal with the established plants first. These will be much better now if removed to some pit or frame for a time. Too much wet with the risk of hard frosts at any time are not advisable, and the slight protection of an old light and mat will soon be needed if you are to have satisfactory and early forced flowers. Remove any dirt from the drainage holes with a small stick, and, if the holes cannot be cleared out satisfactorily in this manner, turn the plant completely out of the pot and re-crock it. Take off a little of the surface soil, if it can be done without injuring the roots (not otherwise), and replace with a rich compost of loam and well-decayed manure. A few of the ripest plants may be pruned at the same time. This should be done a little harder than you would for the same plant and variety if growing in the open border. I do not like the very strong-growing Perpetuals in pots, because they require so much room. These kinds must have the whole of their long wood left intact if you are to realise their full crop of bloom. Even if you tie them around sticks in the same way as many climbers are done you do not secure so satisfactory a pot plant of these varieties as of the climbing Teas and Noisettes. Therefore I prefer such free-flowering and uniform growing Roses as General Jacqueminot, Fisher Holmes, A. K. Williams, La Rosière, &c., when cultivating this section in pots.

The only reason I would grow Hybrid Perpetuals in pots is for their brilliant and dark red colours, so thoroughly in contrast with the Teas. Baroness Rothschild, Mme. Gabriel Luizet, La France, and other grand Roses of this section I would discard from pot work altogether, because we can obtain much the same shades of colour and with a much better selection and perfume from among the Teas, and these latter will produce treble the quantity of bloom. Provided you grow the plants on steadily during the earliest stages, there is no more difficulty in forcing Hybrid Perpetual Roses than in forcing the bulk of other hardy flowering shrubs. You must work on exactly the same principle as if you were forcing Spireas, Deutzias, Azaleas, &c., and all growers of these know how very superior they bloom if brought on steadily and in a more natural manner.

After pruning I would still allow the plants to remain in the frame or pit for at least a month or six weeks, shutting them up during cold or inclement weather only. Gradually increase this care and they will soon respond by filling out their most prominent eyes and starting steadily into growth. They may now be removed to the greenhouse with advantage and given a temperature of 50° to 55°. I would not increase upon this until the plants were fairly into growth, when it might rise another 5° to 10° according to the weather. At this stage the plants will benefit very much from a rather liberal application of liquid manure. Of course, due care must be taken to keep down all insect pests, and a slight syringe occasionally will do much towards this end. Upon all bright or even fairly fine mornings the plants should have a slight syringing with soft water of about 70°. It is well if this always contains a slight amount of soft soap or other simple and safe insecticide. The atmosphere that Roses are growing in should never be dry and hot, nor should it be too moist. What I like to see of a morning upon going into the house is a few decks of moisture upon the serrated edges of the foliage. But this must not be too prevalent, nor should the moisture hang on them after about ten o'clock. If it does not disperse naturally, I would increase the fire-heat slightly and afford a little ventilation. When the spring is advanced, such night moisture may be induced by damping down the walls and walks at night, but a watchful eye must always be kept to guard against overdoing it, and causing damping or decay of buds and extra double blossoms. There is no flower more pleasing early in the year, and while winter is still with us, than a good bloom of some dark Rose, such as A. K. Williams or General Jacqueminot, with glowing colours and exquisite scent. With a few words about the proper potting of these sweet Roses I will close.

Pot early; in fact, there could not be a better time than the present. Choose plants that have a good base and are worked well down upon the roots of the stock. Unless you get these two good points you cannot possibly have the most satisfactory success. It is also very essential that they be carefully lifted—not so many of their most valuable and fibrous roots either mutilated or left in the ground. Although a strong turfy loam is by far the best compost you can pot in, it is by no means absolutely necessary. It is difficult to procure, and fortunately a mixture of fairly good garden loam, leaf-soil, sand, and well-decayed manure will answer the purpose admirably. Thoroughly decayed matter from the refuse heap, with a little loam and sand, is also a grand

compost for pot Roses, and almost equal to turfy loam. There is one point I cannot warn growers against too earnestly, and that is not to mix the compost too strong and rich. Roses, more especially freshly potted plants, cannot get a successful start in the excessively rich composts that many use. I admit that the Rose likes a rich soil and generous treatment, but this is often overdone at first, and is the cause of the plants making weak and puny growth. To confirm this, let my readers pot a plant into very rich soil, and one into a compost of more ordinary quality, and then compare the roots of the two plants after an interval of six weeks. They will find those of the first have scarcely made any growth, and that this growth is not of the same strong and healthy character produced upon the roots of the plant potted into a more porous and rather poorer soil. Pot the plants deep enough to have the collar well covered. I prefer to use as small a pot as possible without undue cramping of the roots, as they benefit very much from a shift into slightly richer soil later on. Plunge the pots at once after potting, and pay attention to keeping the wood of the Roses in a plump and moist condition. Protection must be afforded them against hard frost, but I would not attempt to force them the first season if it can be avoided. Under no consideration should they be started until February or March, as these newly-potted plants cannot possibly have gained sufficient strength to stand the strain of early forcing. There is another point in their culture that is not sufficiently borne in mind. That is, not to turn them out of doors prematurely after their crop of flowers has been secured. As a general rule, especially with these later plants, the weather will be favourable for standing them out if a sheltered position be chosen. But the plants forced early will often require the slight protection of a covered pit or frame for a few weeks after flowering. To grow a plant on in what is equivalent to a summer temperature, and then to suddenly turn it out into the cold winds and nights of March and April, is so wrong that one might well imagine there was no need to warn against such treatment. Still it is so often done, that I repeat this warning. These latter remarks apply with equal force to many things besides Roses.

RIDGEWOOD.

**Rose classes.**—On p. 289 Mr. Grahame endorses an opinion of mine, and one which is steadily growing stronger with me, when he says that the name "perpetual" is a misnomer applied to that section of Roses known as Hybrid Perpetuals. Some twelve months ago I suggested that all of these, together with the Hybrid Bourbons, Hybrid Teas and Hybrid Chinas, should be classed under the name of Hybrids of Roses. The word "perpetual" I would leave out entirely, as it is so unsuitable to the former of these classes as a whole. Certainly there are a few varieties that deserve the name, notably La France, Baroness Rothschild, and others. Augustine Guinoisseau, Viscountess Folkestone, Souvenir de la Malmaison, &c., are far more entitled to this distinctive name, and really should come under the same heading as La France and others. It is very confusing and difficult to decide to which class many Roses really belong; and now that they have been so crossed and intercrossed, I think Hybrids of Roses would be a much more applicable term than any they at present possess. Mr. Grahame mentions Mrs. John Laing and General Jacqueminot among Roses that are not perpetual, and that "do not usually bloom after the month of August." Of course he is speaking from his own experience, but I feel the remark must not go unchallenged, because with me and with many others Mrs. John Laing and General Jacqueminot are among the finest of all autumn



Roses, and fully equal to those he mentions as true perpetuals. With this one exception, I fully agree with Mr. Grahame's remarks, and have much enjoyed a perusal of them.—R.

**Roses amongst autumn flowers.**—I am sorry I have hurt "A. H.'s" feelings by the incidental reference to Roses in my short article on "Autumn Flowers." Roses hardly come properly under that category, as when we speak of flowers of a particular time of year we refer to those more especially connected with and in their full glory at that season. Most things are comparative in this world, and when I wrote of Roses "being few and far between," I wrote in the sense of their quantity, and quality too, as compared with the wealth of bloom at an earlier period properly called the time of Roses. My standard of what a Rose should be is that of an exhibitor, and many of the Roses which we gather at this period can hardly be recognised as representative of their class or variety; many of the buds, of which "A. H." has (and I have also) large quantities, never develop properly, but in the uncertain autumn weather become pulp, not Roses.—CHAS. J. GRAHAME, *Croydon*.

#### CONSTRUCTING A ROCKERY.

IN the case of an oblong structure, the ends pointing north and south (other conditions presenting no objection) will afford the best aspects. In constructing a rockery there may be said to be the essential features and the ornamental or fanciful ones. The latter are entirely a matter of taste, and of course a deal can be done in a tasteful manner to in no way intrude upon the essential conditions, which in the end will contribute much to the beauty or effectiveness of the structure when grown over. At the same time I will leave out much that might be said otherwise than on the essentials. To begin with, the form of the proposed rockery should be roughly outlined or shaped by the mound of earth; then the building, by means of stones and a better class of soil for the more immediate surface and interstices of the stones, should proceed from the base upwards, until the stony part reaches the various levels or peaks intended.

All stone should be laid on its natural bed, and each stone should be so fixed that it cannot well catch upon another, otherwise the soil settles underneath that point and leaves a vacuum, such air holes being deadly to plants. Further, each stone should be so fixed that artificial watering will be rendered quite unnecessary. This is done by giving the stones a pitch inwards, just the reverse of the pitch of tiles on a roof; then we throw the water in. By this system of fixing stones it will be found that each strip of soil between the stones on the surface will be a continuous seam of soil connected with the main or inner body. This should be effected at all costs.

The soil should be of various qualities, according to the sections of plants intended to be grown. For instance, it would be well to have one slope and the opposite slope prepared for lime-lovers, such as the Pink family and the Crucifers, and that part might be mixed with limestone chips or chalk nodules. Another section might be made of strong loam to accommodate the Ranunculads at the lower parts of the rockeries or the dips of the upper parts. Another section might be formed of sandy loam or silky loam, and yet another with boggy peat and sand, and running out to drier peat and sand, with some loam for the accommodation of ericaceous species. Of course, all this trouble need not be gone to if a more rule-of-thumb style would be more convenient, and subsequent chances of success or non-success were taken into account. All this, too, may seem a deal of detail, but it is really very simple in practice to one who knows the way about it, and in any case the thing should be well studied out. Let me further hint that it would be desirable to avoid the too-heaped-up form of rockery; it is much better for the plants, and in better taste following Nature, to keep a rockery somewhat broadly based, and for my own part I

would not care to pitch higher than a proportion of one in height to three of base. It would also be desirable in some parts of the rockery to form a slight dip on the very top with a little surrounding flatness. The miniature watersheds like this at such points have the effect of collecting rain-water and conducting it naturally into the very heart of the structure. Unless you look well after the matter of catching moisture naturally, you may afterwards have a deal of trouble in watering plants, which is both a very injurious and tiresome process in summer, for then the water runs off as from a duck's back, and carries down the soil from the upper part, exposing some plants and burying others at the bottom.

The planting of a rockery is hardly less important than its structure. Each plant should be set on a firm bed of either soil or stone. This is easily done by sending down the trowel at a sharp angle of 45°, and it will also be found to be the easiest way of planting. Throw the soil upwards, bed the plant firmly, then fetch down the soil, leaving it somewhat flat; then the rain coming from the upper part will naturally find its way down to the deeper roots. If you do not have a contrivance with this end in view, you will often find your plants to sit very uncomfortably, with the extreme points of their roots actually higher than the crowns of the plants. Thousands of alpine plants have been "droughted" to death by such a thoughtless mode of planting.

Woodville, Kirkstall.

#### FERNS.

##### PTERISES.

MANY of these plants, commonly known as Ribbon Ferns, are extremely handsome, easily grown, and the majority of the kinds are sufficiently hardy to allow of their being used successfully for the decoration of apartments or for any purpose where green fronds are admissible. It is in this genus, too, that most of the variegated Ferns are to be found, and in most instances these variegated forms are highly decorative, such plants as *P. argyrea*, *P. cretica albo-lineata*, *P. cretica Mayi*, *P. nemoralis variegata*, and the new kind sent out by Mr. Bull, called *P. Victoriae*, being extremely beautiful. *P. aspericaulis* and *P. tricolor* are more difficult to grow, but when the last-named is nicely done it forms a lovely picture, to which no one can do complete justice with either pencil or pen. I have even found a variegated variety of our common *P. aquilina*. This, however, proved a difficult plant to remove, and it did not survive. They are strong-rooting plants, and good pot-room should be accorded the large-growing kinds. These should be potted in about equal parts of loam and peat made tolerably sandy, whilst for the more delicate kinds about one-third light turfy loam should be used, the other portion being peat and sharp sand. The pots must be well drained, as they require an abundant supply of water, and they should be well shaded from the sun's rays, or the fronds, which should be green, turn yellow and have a sickly appearance. The following are all handsome kinds:—

**P. ARGUTA.**—Although this is a broad-fronded, tall-growing plant, it is seldom seen in our plant houses. Being a native of the island of Madeira, the Azores, and the Canaries, it stands admirably in our greenhouses. The fronds are from 1 foot to 5 feet or 6 feet high, and half of this is bare stem, the colour being bright light green. It is a fine plant for corridors or any large place, and as it comes readily from spores it may always be kept in stock. Care must be taken that it does not grow up away from the soil, as if it does this it is apt to catch its fronds in another plant and receive a wrench, which is generally fatal.

**P. CRETICA** produces fronds from a foot to 18 inches long; these are pinnate and bright green. This is a plant that is very widely distributed, and it will withstand any amount of rough treatment with impunity. When well grown it forms a very handsome specimen.

**P. CRETICA ALBO-LINEATA** is a charming form of the species, having the centre of each pinna broadly streaked with white, which renders it very ornamental. The plant is almost hardy.

**P. CRETICA MAYI.**—A much handsomer plant than the last named, raised by Mr. May, of Tottenham. The fronds are all banded in the centre of the segments with white, bordered with dark green. A lovely plant and highly decorative.

**P. KINGIANA.**—This plant has some resemblance to *P. arguta*, but its broader pinnae render it very distinct, and another distinguishing character is its short sori. It makes broad fronds some 4 feet long, and it forms a very handsome large specimen.

**P. LONGIFOLIA** makes a specimen of great beauty; the fronds are from 1 foot to 2 feet long, pinnate, and deep green. This plant grows far prettier in the cool house than it does in warmth, and it forms a beautiful ornament in any position.

**P. QUADRIFURCATA.**—A common Fern throughout India. It grows some 3 feet high. The pinnae lengthen out into tail-like points, and their colour is rich bright green. Although a native of India it will succeed admirably in the cool house or the sitting room.

**P. QUADRIFURCATA ARGYREA.**—This is a fine bold plant, having the centre of its fronds all of a bright metallic white, and the margins of a deep rich green. It is a most conspicuous and striking plant in the fernery; it is more telling and effective in the warm house, but it thrives and does well in the temperate house.

**P. SERRULATA AND ITS VARIETIES.**—The typical plant is well known in gardens, the varieties being all of garden origin. Some of them are very fine; all are of dwarf habit, seldom exceeding a foot in the length of the fronds, some of which are pendent and beautifully crested and tasselled, and others erect in habit; indeed, plants of this species may be found suitable for any position where a plant may stand, and the varieties form beautiful objects in a Warden case.

**P. SEMIPINNATA** is a fine erect-growing plant, making fronds 2 feet or more in length, the lower side of the pinnae only being pinnate; the colour is rich green. This plant is more beautiful in the stove than in the cool house.

**P. SCABERULA.**—In this we have a very fine dwarf plant suitable for the Warden case, or it makes a beautiful specimen for the cool house. It is best grown in a shallow pan, well drained, as it then has a better opportunity of getting nutriment for its creeping rhizomes. The fronds are a foot or more long, cut into very fine and delicate segments, the colour being a cheerful green.

**P. TREMULA.**—This is a most common Fern, which makes spreading fronds some 3 feet or 4 feet in length. The colour is a bright and pleasing green. It will thrive under the most adverse circumstances, but is very apt to go off suddenly through getting strangled, as before mentioned, unless kept down close to the soil.

**P. TREMULA SMITHIANA** is a very great improvement upon the typical plant, and I look forward to its making one of the most beautiful decorative Ferns and first class market kinds. The fronds are more erect than in the type, and all are crested. This does not, however, make a confused mass of the plant, but a handsome and symmetrical specimen.

W. H. GOWER.

**The Honey Locust** (*Gleditsia*) is a capital town tree, and thrives even in the most smoky districts. I have seen it do well in London and in Manchester in places where the number of things that will do well is not large. The pretty flowers and the curious seed-pods add to its value. It is very hardy, thrives in almost every soil; it is rather too spreading, but this is not a serious fault when its other good points are taken into consideration.—W.



# LIST OF PLATES IN "THE GARDEN"

TO THE END OF 1891.

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- Abelia floribunda.**  
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triflora.  
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- **vexillarium.**  
1890, Mar. 22; Vol. XXXVII., p. 274.
- **vitifolium.**  
1883, March 10; Vol. XXIII., p. 224.
- Abutilons**, group of seedling.  
1881, May 21; Vol. XIX., p. 524.
- Acacia leprosa** and **A. lineata.**  
1885, Nov. 21; Vol. XXVIII., p. 540.
- Acantholimon glumaceum.**  
1887, April 16; Vol. XXXI., p. 350.
- **venustum.**  
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- Achillea rupestris.**  
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- Adenocarpus decorticans.**  
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- Adonis vernalis.**  
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- Aerides Lawrenceae.**  
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- Æthionema grandiflorum.**  
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- Agalmyla longistyla.**  
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- Agonis flexuosa.**  
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- **Hendersoni.**  
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- **violacea.**  
1890, Mar. 8; Vol. XXXVII., p. 224.
- **Williamsi.**  
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- Allium pedemontanum.**  
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- Alstroemeria aurantiaca** and vars.  
1884, Dec. 27; Vol. XXVI., p. 540.
- Alstroemerias**, hybrid.  
1886, April 3; Vol. XXIX., p. 304.
- Amaryllis Belladonna.**  
1888, Mar. 24; Vol. XXXIII., p. 268.
- **Hendersoni coccinea.**  
1875, April 24; Vol. VII., p. 346.
- **Mrs. Garfield.**  
1883, April 7; Vol. XXIII., p. 312.
- **Nestor and Splendent.**  
1887, Sept. 17; Vol. XXXII., p. 250.
- **O'Brieni.**  
1879, July 12; Vol. XVI., p. 36.
- **varieties of.**  
1878, October 12; Vol. XIV., p. 332.
- Amasonia punicea.**  
1885, Feb. 14; Vol. XXVII., p. 130.
- Andromeda fastigiata.**  
1885, Sept. 19; Vol. XXVIII., p. 292.
- **japonica.**  
1877, Nov. 3; Vol. XII., p. 424.
- Androsace foliosa.**  
1883, October 6; Vol. XXIV., p. 294.

- Androsace lanuginosa.**  
1886, July 31; Vol. XXX., p. 100.
- Anemone alpina** var. **sulphurea.**  
1889, Jan. 5; Vol. XXXV., p. 10.
- **blanda.**  
1878, August 31; Vol. XVI., p. 200.
- **Fennini.**  
1888, Sept. 1; Vol. XXXIV., p. 202.
- **fulgens.**  
1877, March 17; Vol. XI., p. 214.
- **japonica.**  
1886, August 21; Vol. XXX., p. 172.
- **nemorosa**, large white, and **Robinson's blue.**  
1887, Oct. 15; Vol. XXXII., p. 344.
- **palmata alba.**  
1882, Nov. 25; Vol. XXII., p. 466.
- **Pulsatilla.**  
1887, Nov. 19; Vol. XXXII., p. 466.
- **ranunculoides** and **A. thalictroides.**  
1889, May 4; Vol. XXXV., p. 408.
- **vernalis.**  
1884, April 19; Vol. XXV., p. 320.
- Anemones**, **Chrysanthemum**-flowered.  
1886, Oct. 2; Vol. XXX., p. 316.
- Angræcum caudatum.**  
1891, May 9; Vol. XXXIX., p. 436.
- Annuals**, two new.  
1877, December 15; Vol. XII., p. 568.
- Anoiganthus breviflorus.**  
1891, July 18; Vol. XL., p. 54.
- Anthemis Aizoon.**  
1883, Oct. 20; Vol. XXIV., p. 342.
- Anthericum liliastrium** var.  
1876, January 1; Vol. IX., p. 12.
- Anthurium Andreanum.**  
1880, July 31; Vol. XVIII., p. 108.
- **Rothschildianum** and vars.  
1886, Nov. 13; Vol. XXX., p. 454.
- **Scherzerianum Wardii.**  
1878, January 5; Vol. XIII., p. 12.
- Antirrhinums**, group of.  
1889, Feb. 2; Vol. XXXV., p. 100.
- Aphelandra fascinator.**  
1878, Sept. 7; Vol. XIV., p. 222.
- Apple**, **Cornish Gilliflower.**  
1876, November 4; Vol. X., p. 446.
- **Cox's Orange Pippin.**  
1876, May 27; Vol. IX., p. 500.
- **Stone's.**  
1882, March 18; Vol. XXI., p. 180.
- Aquilegia alpina.**  
1876, April 22; Vol. IX., p. 384.
- **cærulea.**  
1877, February 3; Vol. XI., p. 90.
- **cærulea** and hybrids.  
1879, Sept. 20; Vol. XVI., p. 264.
- **glandulosa.**  
1879, April 5; Vol. XV., p. 278.
- **Stuarti.**  
1888, Oct. 13; Vol. XXXIV., p. 344.
- Araucaria at Dropmore.**  
1876, January 22; Vol. IX., p. 84.
- Arctotis acaulis.**  
1889, Nov. 23; Vol. XXXVI., p. 480.
- **aureola.**  
1882, Oct. 14; Vol. XXII., p. 336.
- Arenaria balcarica.**  
1886, Jan. 16; Vol. XXIX., p. 50.
- Arisæma speciosa.**  
1890, June 21; Vol. XXXVII., p. 576.
- Aristolochia elegans.**  
1886, June 19; Vol. XXIX., p. 576.
- Armeria setacea.**  
1878, Sept. 21; Vol. XIV., p. 266.

- Arnebia echinoides.**  
1880, Aug. 28; Vol. XVIII., p. 201.
- Arum triphyllum.**  
1883, July 14; Vol. XXIV., p. 24.
- Aster acris.**  
1890, Mar. 15; Vol. XXXVII., p. 248.
- **Amellus** and **A. linarifolius.**  
1889, Feb. 23; Vol. XXXV., p. 172.
- **Stracheyi.**  
1889, March 16; Vol. XXXV., p. 240.
- **Townsendii** and **A. hispidus.**  
1880, April 17; Vol. XVII., p. 346.
- Asters**, a group of perennial.  
1881, May 14; Vol. XIX., p. 493.
- **new China.**  
1878, April 20; Vol. XIII., p. 361.
- Auricula**, forms of the florist's.  
1878, Nov. 2; Vol. XIV., p. 398.
- **Golden Queen.**  
1890, Aug. 2; Vol. XXXVIII., p. 108.
- Auriculas** **Chas. Perry, Mrs. Moore** and **Prince of Greens.**  
1887, Oct. 1; Vol. XXXII., p. 296.
- Azalea crispiflora.**  
1880, Sept. 18; Vol. XVIII., p. 280.
- **Deutsche Perle.**  
1888, May 19; Vol. XXXIII., p. 460.
- **mollis.**  
1877, May 26; Vol. XI., p. 428.
- **Rollissoni.**  
1880, Sept. 11; Vol. XVIII., p. 254.
- Azaleas**, a group of hardy.  
1879, April 19; Vol. XV., p. 318.
- **group of new Indian.**  
1879, Sept. 13; Vol. XVI., p. 242.
- **new hybrid.**  
1886, June 12; Vol. XXIX., p. 559.
- **occidentalis** vars.  
1888, Nov. 3; Vol. XXXIV., p. 416.

## B

- Barkeria Lindleyana** var. **Centene.**  
1885, May 2; Vol. XXVII., p. 396.
- Batatas paniculata.**  
1881, Dec. 24; Vol. XX., p. 610.
- Beaufortia splendens.**  
1883, May 5; Vol. XXIII., p. 404.
- Beaumontia grandiflora.**  
1887, Sept. 24; Vol. XXXII., p. 272.
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— *new hybrid*.  
1880, April 3; Vol. XVII., p. 306.

- Gladiolus* The Bride and *G. cardinalis*.  
1885, Nov. 28; Vol. XXVIII., p. 566.  
— *Mrs. Bates*.  
1879, March 22; Vol. XV., p. 240.  
— *Saundersii*.  
1877, July 21; Vol. XII., p. 64.  
— *sulphureus*.  
1890, July 19; Vol. XXXVIII., p. 58.  
*Gloriosa superba*.  
1890, Dec. 20; Vol. XXXVIII., p. 576.  
*Gloxinia maculata*.  
1891, April 18; Vol. XXXIX., p. 364.  
*Gloxinias*, new varieties of.  
1879, Feb. 22; Vol. XV., p. 162.  
*Grape* Early Ascot Frontignan.  
1876, Feb. 19; Vol. IX., p. 180.  
— *Pearson's Golden Queen*.  
1877, Dec. 22; Vol. XII., p. 600.  
*Griffinia hyacinthina*.  
1889, Oct. 26; Vol. XXXVI., p. 386.

## H.

- Haberlea rhodopensis*.  
1886, Aug. 28; Vol. XXX., p. 196.  
*Habranthus pratensis fulgens*.  
1878, Dec. 7; Vol. XIV., p. 514.  
*Habrothamnus Newellii*.  
1888, Aug. 4; Vol. XXXIV., p. 106.  
*Hæmanthus Kalbreyeri*.  
1879, Nov. 15; Vol. XVI., p. 438.  
*Hamamelis arborea*.  
1891, June 13; Vol. XXXIX., p. 546.  
*Helenium autumnale pumilum*.  
1886, Feb. 27; Vol. XXIX., p. 190.  
*Helianthemum algarvense*.  
1887, March 12; Vol. XXXI., p. 234.  
*Helianthus multiflorus major*.  
1885, Jan. 24; Vol. XXVII., p. 66.  
*Hellebores*, a group of spring-flowering.  
1879, July 19; Vol. XVI., p. 60.  
*Hemerocallis Dumortieri*.  
1887, March 26; Vol. XXXI., p. 280.  
*Hepaticas*, a group of.  
1884, July 12; Vol. XXVI., p. 24.  
*Heuchera sanguinea*.  
1884, Oct. 25; Vol. XXVI., p. 360.  
*Hibbertia dentata*.  
1888, July 28; Vol. XXXIV., p. 82.  
*Hibiscus grandiflorus*.  
1885, Feb. 7; Vol. XXVII., p. 108.  
— *rosa sinensis fulgens*.  
1888, Feb. 4; Vol. XXXIII., p. 96.  
— *rosa-sinensis* var.  
1891, Mar. 7; Vol. XXXIX., p. 216.  
— *schizopetalus*.  
1879, Nov. 29; Vol. XVI., p. 486.  
— *Trionum* (the Venice Mallow).  
1889, Jan. 12; Vol. XXXV., p. 32.  
*Hunnemannia fumariæfolia*.  
1887, June 11; Vol. XXXI., p. 536.  
*Hyacinthus azureus*.  
1889, Aug. 10; Vol. XXXVI., p. 126.  
— (*Galtonia*) *candicans*.  
1881, Jan. 15; Vol. XIX., p. 70.  
*Hydrangea paniculata grandiflora*.  
1876, Sept. 9; Vol. X., p. 264.  
— *the new white*.  
1879, Jan. 18; Vol. XV., p. 58.  
*Hymenocallis macrostephana*.  
1880, July 10; Vol. XVIII., p. 36.  
*Hypericum oblongifolium*.  
1886, Sept. 4; Vol. XXX., p. 220.  
— *olympicum*.  
1887, April 2; Vol. XXXI., p. 302.  
— *patulum*.  
1877, Sept. 22; Vol. XII., p. 280.  
— *triflorum*.  
1883, Feb. 17; Vol. XXIII., p. 158.  
*Hypocalymna robustum*.  
1882, Sept. 9; Vol. XXII., p. 230.

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- Iberis gibraltaria*.  
1876, Sept. 16; Vol. X., p. 288.  
*Illicium floridanum*.  
1889, Aug. 17; Vol. XXXVI., p. 150.  
*Imantophyllum miniatum* Martha Reimers.  
1882, Oct. 21; Vol. XXII., p. 358.  
*Impatiens Hawkeri*.  
1887, March 19; Vol. XXXI., p. 256.  
— *Sultani*.  
1882, Sept. 2; Vol. XXII., p. 208.  
*Ipomœa Horsfalliae*.  
1887, Aug. 20; Vol. XXXII., p. 512.  
— *rubro-cœrulea*.  
1885, May 23; Vol. XXVII., p. 472.  
*Ipsa speciosa*.  
1882, Aug. 26; Vol. XXII., p. 188.  
*Iris aurea*.  
1887, Jan. 15; Vol. XXXI., p. 52.  
— *Bakeriana* and *I. Bornmülleri*.  
1890, May 17; Vol. XXXVII., p. 462.  
— *Darius* and *I. florentina* var.  
1879, July 26; Vol. XVI., p. 82.  
— *English*.  
1887, March 5; Vol. XXXI., p. 212.  
— *fimbriata*.  
1885, Aug. 1; Vol. XXVIII., p. 120.  
— *Histrio*.  
1888, June 16; Vol. XXXIII., p. 558.  
— *iberica*.  
1876, Dec. 2; Vol. X., p. 526.  
— *Kämpferi* var.  
1876, May 20; Vol. IX., p. 476.  
— *Kämpferi* vars.  
1882, June 17; Vol. XXI., p. 424.  
— *Kolpakowskiana*.  
1888, June 16; Vol. XXXIII., p. 558.  
— *Korolkowi*.  
1885, Nov. 7; Vol. XXVIII., p. 484.  
— *ochroleuca* and *I. Monspur*.  
1890, Nov. 15; Vol. XXXVIII., p. 462.  
— *orientalis*.  
1881, Sept. 10; Vol. XX., p. 272.  
— *pallida*.  
1888, Jan. 14; Vol. XXXIII., p. 32.  
— *paradoxa*.  
1887, Dec. 24; Vol. XXXII., p. 584.  
— *Pavonia* and *P. cœrulea*.  
1890, Dec. 6; Vol. XXXVIII., p. 530.  
— *persica*.  
1888, June 16; Vol. XXXIII., p. 558.  
— *reticulata*.  
1881, July 30; Vol. XX., p. 112.  
— *Robinsoniana*.  
1891, Oct. 3; Vol. XL., p. 312.  
— *stylosa*.  
1883, July 28; Vol. XXIV., p. 68.  
— *susiana*.  
1891, April 11; Vol. XXXIX., p. 340.  
— *tingitana*.  
1889, Sept. 28; Vol. XXXVI., p. 294.  
— *Victorine*.  
1878, Jan. 26; Vol. XIII., p. 80.  
*Irises*, a group of beardless.  
1879, Dec. 20; Vol. XVI., p. 558.  
— *a group of hardy*.  
1878, July 6; Vol. XIV., p. 12.  
— *a group of winter-flowering*.  
1878, Nov. 30; Vol. XIV., p. 490.  
— *a group of Spanish*.  
1881, Oct. 29; Vol. XX., p. 442.  
*Ismene Andreana*.  
1884, May 31; Vol. XXV., p. 454.  
*Ixias*, a group of.  
1884, Oct. 18; Vol. XXVI., p. 340.



**Ixiolirion** Pallas.

1880, Oct. 16; Vol. XVIII., p. 382.

**Ixora** Daffi.

1878, April 6; Vol. XIII., p. 312.

**J.****Jasminum** pubescens (gracillimum).

1881, June 18; Vol. XIX., p. 628.

**Johnsonia** laurifolia.

1883, Feb. 13; Vol. XXIX., p. 142.

**K.****Kæmpferia** rotunda.

1888, Aug. 18; Vol. XXXIV., p. 154.

**Kalmia** latifolia.

1882, July 1; Vol. XXII., p. 6.

**Kennedy** coccinea.

1886, March 6; Vol. XXIX., p. 214.

**—** *Marrattiana*.

1885, July 18; Vol. XXVIII., p. 60.

**Kniphofia** aloides var. *glaucescens*.

1889, Nov. 16; Vol. XXXVI., p. 458.

**—** *carnosa*.

1881, May 23; Vol. XIX., p. 548.

**L.****Lachenalias**, a group of.

1880, July 17; Vol. XVIII., p. 60.

**Lælia** albida.

1889, April 6; Vol. XXXV., p. 314.

**—** *anceps*, varieties of.

1884, June 28; Vol. XXV., p. 534.

**—** *autumnalis atrovirens*.

1880, April 24; Vol. XVII., p. 368.

**—** *autumnalis venusta*.

1884, May 3; Vol. XXV., p. 366.

**—** *elegans alba*.

1880, Feb. 7; Vol. XVII., p. 132.

**—** *harpophylla*.

1883, Aug. 11; Vol. XXIV., p. 116.

**Lapageria** rosea, varieties of.

1878, Oct. 26; Vol. XIV., p. 376.

**Lathyrus** latifolius vars.

1878, June 8; Vol. XIII., p. 546.

**—** *odoratus* var.

1878, Jan. 12; Vol. XIII., p. 44.

**Leonotis** *L. onurus*.

1885, April 25; Vol. XXVI., p. 368.

**Leptospermum** lanigerum.

1881, Jan. 8; Vol. XIX., p. 42.

**Leschenaultia** biloba major.

1884, Oct. 4; Vol. XXVI., p. 298.

**Leucojum** vernum.

1875, Feb. 20; Vol. VII., p. 156.

**Lewisia** rediviva.

1887, Feb. 5; Vol. XXI., p. 124.

**Lilies**, three new: 1, *L. maritimum*; 2, *Bolanderi*; 3, *pardalinum luteum*.

1890, Oct. 25; Vol. XXXVIII., p. 396.

**Lilium** auratum cruentum.

1879, Dec. 27; Vol. XVI., p. 576.

**—** *Batemanii*.

1879, May 17; Vol. XV., p. 456.

**—** *canadense* vars.

1886, May 8; Vol. XXIX., p. 426.

**—** *giganteum*.

1875, Dec. 11; Vol. VIII., p. 504.

**—** *Hansonii*.

1880, Jan. 31; Vol. XVII., p. 108.

**—** *Henryi*.

1891, Nov. 7; Vol. XL., p. 422.

**—** *Humboldtii* and var.

1881, Dec. 10; Vol. XX., p. 568.

**—** *japonicum*.

1886, April 17; Vol. XXIX., p. 350.

**—** *Krameri*.

1876, August 12; Vol. X., p. 426.

**—** *Leichtlinii*.

1882, April 8; Vol. XXI., p. 236.

**Lilium** longiflorum Harris.

1886, August 7; Vol. XXX., p. 124.

**—** *Martagon album* and *L. dalmaticum*.

1883, Jan. 13; Vol. XXIII., p. 32.

**—** *neilgherrense*.

1885, April 18; Vol. XXVII., p. 342.

**—** *nepalense*.

1889, Jan. 19; Vol. XXXV., p. 54.

**—** *nepalense* var. *ochroleucum*.

1890, April 19; Vol. XXXVII., p. 368.

**—** *pardalinum* and its varieties.

1881, Nov. 26; Vol. XX., p. 526.

**—** *pardalinum* var. *Warei*.

1886, June 5; Vol. XXIX., p. 524.

**—** *Parkmannii*.

1879, June 7; Vol. XV., p. 456.

**—** *Parryi*.

1880, Dec. 25; Vol. XVIII., p. 652.

**—** *polyphyllum*.

1881, Feb. 12; Vol. XIX., p. 180.

**—** *pomponium verum*.

1881, Oct. 22; Vol. XX., p. 420.

**—** *speciosum* var. *Melpomene*.

1884, Feb. 2; Vol. XXV., p. 82.

**—** *speciosum rubrum*.

1889, Nov. 9; Vol. XXXVI., p. 434.

**—** *superbum*.

1886, July 3; Vol. XXX., p. 8; and

1890, Nov. 29; Vol. XXXVIII., p. 510.

**—** *Szovitzianum*.

1876, Feb. 26; Vol. IX., p. 204; and

1891, Mar. 14; Vol. XXXIX., p. 242.

**—** *Thompsonianum*.

1877, Aug. 11; Vol. XII., p. 136.

**—** *Thunbergianum* var. *Alice Wilson* and*L. van Houttei*.

1890, Nov. 8; Vol. XXXVIII., p. 440.

**—** *tigrinum splendens*.

1885, Feb. 21; Vol. XXVII., p. 152.

**—** *Wallichianum*.

1876, Oct. 28; Vol. X., p. 426.

**—** *Washingtonianum* and *L. rubescens*.

1881, Nov. 12; Vol. XX., p. 484.

**Limncharis** Humboldtii.

1887, May 21; Vol. XXXI., p. 468.

**Linaria** alpina.

1885, July 25; Vol. XXVIII., p. 90.

**Linum** arboreum.

1886, March 27; Vol. XXIX., p. 282.

**—** *viscosum*.

1878, March 23; Vol. XIII., p. 260.

**Lisianthus** glaucifolius.

1881, April 23; Vol. XIX., p. 424.

**Lonicera** sempervirens minor.

1888, Sept. 29; Vol. XXXIV., p. 300.

**Lycaste** Skinneri and var. *alba*.

1884, May 17; Vol. XXV., p. 410.

**Lychnis** Haageana.

1889, June 1; Vol. XXXV., p. 508.

**—** *Lagascæ*.

1884, June 21; Vol. XXV., p. 514.

**M.****Mackaya** bella.

1879, Aug. 16; Vol. XVI., p. 150.

**Magnolia** conspicua.

1888, Sept. 22; Vol. XXXIV., p. 276.

**—** *Halleana*.

1878, June 15; Vol. XIII., p. 572.

**—** *Lennei*.

1876, June 10; Vol. IX., p. 548.

**—** *parviflora*.

1883, Dec. 8; Vol. XXIV., p. 508.

**—** *Soulangeana nigra*.

1884, April 5; Vol. XXV., p. 276.

**Malus** floribunda.

1876, Oct. 14; Vol. X., p. 384.

**Malva** lateritia.

1886, July 17; Vol. XXX., p. 52.

**Maranta** Warscewiczii.

1880, June 26; Vol. XVII., p. 560.

**Marica** coerulea.

1888, Jan. 21; Vol. XXXIII., p. 58.

**Mascarenhasia** Curnowiana.

1882, Feb. 11; Vol. XXI., p. 98.

**Masdevallia** Lindenii.

1876, Sept. 2; Vol. X., p. 240.

**Masdevallias**, a group of.

1878, Feb. 2; Vol. XIII., p. 102.

**Maxillaria** Sanderiana.

1887, July 23; Vol. XXXII., p. 60.

**Meconopsis** Wallichiana.

1881, March 19; Vol. XIX., p. 303.

**Megasea** purpurascens.

1881, Sept. 3; Vol. XX., p. 242.

**Mertensia** sibirica.

1880, Nov. 20; Vol. XVIII., p. 514.

**Mesospinidium** vulcanicum.

1882, April 29; Vol. XXI., p. 292.

**Micromeria** Piperella.

1887, Feb. 5; Vol. XXXI., p. 124.

**Milla** laxa and var.

1881, Jan. 22; Vol. XIX., p. 98.

**Miltonia** spectabilis and var. *Morelana*.

1887, April 23; Vol. XXXI., p. 374.

**Mina** lobata.

1891, Feb. 14; Vol. XXXIX., p. 144.

**Modiola** geranioides.

1882, Jan. 28; Vol. XXI., p. 60.

**Montbretia** Pottsi.

1880, Jan. 24; Vol. XVII., p. 84.

**Montbretias**, new hybrid.

1887, May 28; Vol. XXXI., p. 490.

**Morisia** hypogæa.

1891, Sept. 12; Vol. XL., p. 244.

**Moss** *Roses*, bouquet of.

1880, July 24; Vol. XVIII., p. 84.

**Muscari** neglectum, *M. Heldreichii*, *M. contaminatum*, and *M. botryoides album*.

1884, Aug. 16; Vol. XXVI., p. 136.

**Mutisia** Clematis.

1889, July 27; Vol. XXXVI., p. 78.

**—** *decurrens*.

1883, Dec. 22; Vol. XXIV., p. 552.

**—** *ilicifolia*.

1876, Aug. 5; Vol. X., p. 134.

**Myosotidium** nobile.

1886, Dec. 18; Vol. XXX., p. 566.

**Myosotis** dissitiflora grandiflora.

1885, Oct. 24; Vol. XXVIII., p. 430.

**—** *rupicola*.

1877, Feb. 17; Vol. XI., p. 130.

**N.****Narcissi**, a group of.

1879, March 8; Vol. XV., p. 202.

**—** 1, *Gloria Mundi*; 2, *Princess Mary* ofCambridge; 3, *Leedsii* Beatrice.**—** 1889, Sept. 7; Vol. XXXVI., p. 222.**—** *new hybrid*.

1883, Oct. 13; Vol. XXIV., p. 318.

**—** *of the poetic group*.

1880, March 27; Vol. XVII., p. 286.

**Narcissus** bicolor Horsfieldii.

1888, Sept. 8; Vol. XXXIV., p. 226.

**—** *Broussonetii*.

1888, June 30; Vol. XXXIII., p. 610.

**—** *cyclamineus*.

1888, Aug. 25; Vol. XXXIV., p. 178.

**—** *incomparabilis* var. *Sir Watkin*.

1885, Oct. 31; Vol. XXVIII., p. 458.

**—** *maximus*, *N. Empress*, and *N. Emperor*.

1883, Sept. 15; Vol. XXIV., p. 226.

**—** *odorus* and *N. Jonquilla*.

1887, Oct. 29; Vol. XXXII., p. 394.



- Narcissus Tazetta** vars.  
1887, Nov. 26; Vol. XXXII., p. 488.  
— *triandrus* var. *albus* and *N. cyclamineus*.  
1888, Aug. 25; Vol. XXXIV., p. 178.
- Nectarines**, three new.  
1876, March 11; Vol. IX., p. 246.
- Nepenthes Dormanniana**, *N. Williamsi*, and *N. Henryana*.  
1885, May 30; Vol. XXVII., p. 496.  
— *Mastorsiana*, *N. Chelsoni*, and *N. Morganike*.  
1883, June 2; Vol. XXIII., p. 492.  
— *Veitchi*, *N. bicalcarata*, and *N. albo-marginata*.  
1880, June 19; Vol. XVII., p. 542.
- Nerines**, group of.  
1882, March 25; Vol. XXI., p. 200.
- Nigella hispanica**.  
1890, Feb. 8; Vol. XXXVII., p. 130.
- Nymphæa alba** var. *rosea*.  
1879, June 28; Vol. XV., p. 516.  
— *gigantea* and *N. flava*.  
1883, April 14; Vol. XXIII., p. 334.  
— *Marliacea*.  
1888, March 31; Vol. XXXIII., p. 292.  
— *tuberosa*.  
1882, Feb. 25; Vol. XXI., p. 130.  
— *zanzibarensis*.  
1884, March 15; Vol. XXV., p. 210.
- O.**
- Ochna multiflora**.  
1882, Dec. 30; Vol. XXII., p. 574.
- Odontoglossum Cervantesi decorum**.  
1887, Oct. 8; Vol. XXXII., p. 322.  
— *citrosimum album* and *roseum*.  
1883, Nov. 10; Vol. XXIV., p. 414.  
— *cordatum* vars.  
1885, Jan. 17; Vol. XXVII., p. 46.  
— *crispum*.  
1881, July 2; Vol. XX., p. 12.  
— *elegans*.  
1884, Sept. 27; Vol. XXVI., p. 276.  
— *excellens* and *O. Pescatorei*.  
1882, April 1; Vol. XXI., p. 216.  
— *Harryanum*.  
1888, Jan. 28; Vol. XXXIII., p. 76.  
— *hebraicum*.  
1882, June 3; Vol. XXI., p. 386.  
— *Insleayi splendens*.  
1884, Feb. 24; Vol. XXV., p. 148.  
— *Erstedii*.  
1884, Aug. 23; Vol. XXVI., p. 160.  
— *Pescatorei Veitchianum*.  
1884, Aug. 9; Vol. XXVI., p. 112.  
— *Roezli*.  
1876, July 29; Vol. X., p. 106.  
— *Roezli* and variety *album*.  
1884, Sept. 13; Vol. XXVI., p. 232.  
— *Rossi majus*.  
1885, Aug. 29; Vol. XXVIII., p. 226.  
— *vexillarium*.  
1880, May 29; Vol. XVII., p. 474.  
— *Wattianum*.  
1890, May 3; Vol. XXXVII., p. 416.
- Oenothera marginata**.  
1884, Dec. 6; Vol. XXVI., p. 480.
- Olearia insignis**.  
1888, Dec. 8; Vol. XXXIV., p. 534.
- Omphalodes Luciliæ**.  
1885, March 7; Vol. XXVII., p. 194.  
— *verna*.  
1891, Aug. 15; Vol. XL., p. 150.
- Oncidium concolor**.  
1878, Jan. 19; Vol. XIII., p. 58.  
— *Cresus*.  
1889, June 22; Vol. XXXV., p. 580.  
— *cucullatum giganteum*.  
1882, Aug. 19; Vol. XXII., p. 166.

- Oncidium Jonesianum**.  
1887, Feb. 12; Vol. XXXI., p. 148.  
— *Lanceanum*.  
1886, April 10; Vol. XXIX., p. 328.  
— *macranthum*.  
1883, Dec. 1; Vol. XXIV., p. 436.
- Opuntia Rafinesquei**.  
1881, Dec. 3; Vol. XX., p. 548.
- Orchis foliosa**, varieties of.  
1882, Dec. 16; Vol. XXII., p. 530.
- Ornithogalum nutans**.  
1887, Nov. 5; Vol. XXXII., p. 418.
- Orobis canescens**.  
1885, Dec. 12; Vol. XXVIII., p. 610.
- Ostrowskya magnifica**.  
1888, Dec. 29; Vol. XXXIV., p. 604.
- Oxalis Bowieana**.  
1890, May 31; Vol. XXXVII., p. 508.
- Oxera pulchella**.  
1888, June 2; Vol. XXXIII., p. 510.
- Oxytropis Lamberti**.  
1887, April 16; Vol. XXXI., p. 350.

## P.

- Pæonia albiflora** Adrian.  
1886, Dec. 25; Vol. XXX., p. 588.  
— *decora elatior*, *P. lobata*, *P. anemone-flora*.  
1887, June 4; Vol. XXXI., p. 512.  
— *Moutan Reine Elizabeth*.  
1887, Jan. 22; Vol. XXXI., p. 76.  
— *single white Moutan*.  
1890, Oct. 20; Vol. XXXVIII., p. 370.  
— *Venus*.  
1888, Nov. 17; Vol. XXXIV., p. 464.  
— *Whitleyi*.  
1889, July 6; Vol. XXXVI., p. 8.
- Pæonies**, two herbaceous.  
1881, Jan. 1; Vol. XIX., p. 14.
- Pancratium illyricum**.  
1890, Sept. 6; Vol. XXXVIII., p. 228.
- Pansies Abercorn Gem** and *Mrs. Kinnear*.  
1887, April 30; Vol. XXXI., p. 396.  
— a group of.  
1885, March 28; Vol. XXVII., p. 262.  
— *as they are*.  
1878, May 4; Vol. XIII., p. 416.  
— (*fancy*) *as they are*.  
1878, Feb. 9; Vol. XIII., p. 122.  
— (*tufted*) 1, *Duchess of Fife*; 2, *Hartree*.  
1890, Dec. 13; Vol. XXXVIII., p. 552.  
— (*tufted*) *Quaker Maid* and *Jackanapes*.  
1888, Dec. 1; Vol. XXXIV., p. 512.
- Pansy (tufted) Ariel**.  
1889, Nov. 2; Vol. XXXVI., p. 412.  
— (*tufted*) *Violetta*.  
1891, Dec. 19; Vol. XL., p. 564.
- Papaver alpinum**.  
1883, Oct. 20; Vol. XXIV., p. 342.  
— *nudicaule*, varieties of.  
1884, Nov. 1; Vol. XXVI., p. 380.
- Passiflora cœrulea** Constance Elliott.  
1887, May 7; Vol. XXXI., p. 420.  
— *insignis*.  
1876, July 1; Vol. X., p. 12.  
— *racemosa*.  
1891, Feb. 21; Vol. XXXIX., p. 168.  
— *vitifolia*.  
1880, March 13; Vol. XVII., p. 242.  
— *Watsoniana*.  
1888, March 3; Vol. XXXIII., p. 194.
- Pavonia Wioti**.  
1883, Aug. 4; Vol. XXIII., p. 92.
- Pear Beurré Durondeau**.  
1876, Dec. 23; Vol. X., p. 594.

- Pear Doyenné du Comice**.  
1877, Sept. 1; Vol. XII., p. 208.  
— *Pitmaston Duchess*.  
1877, March 24; Vol. XI., p. 234.
- Pelargonium Leamington Lassie**.  
1877, April 28; Vol. XI., p. 334.  
— *Queen Victoria*.  
1875, June 5; Vol. VII., p. 466.
- Pelargoniums**, a bunch of zonal.  
1878, June 1; Vol. XIII., p. 520.  
— *fancy*.  
1878, July 20; Vol. XIV., p. 64.  
— *Ivy-leaved*.  
1882, January 7; Vol. XXI., p. 6.  
— *Swanley White*, single.  
1888, July 7; Vol. XXXIV., p. 10.  
— *two new*.  
1878, June 29; Vol. XIII., p. 622.
- Pentstemon diffusus**.  
1876, July 22; Vol. X., p. 80.  
— *humilis*.  
1879, May 24; Vol. XV., p. 416.
- Pernettya mucronata**, new varieties of.  
1883, May 26; Vol. XXIII., p. 470.
- Pescatorea Klabochorum**.  
1882, July 8; Vol. XXII., p. 24.
- Petræa volubilis**.  
1877, July 14; Vol. XII., p. 40.
- Phædranassa chloracea**.  
1879, Sept. 27; Vol. XVI., p. 286.
- Phaius tuberculosus**.  
1884, July 19; Vol. XXVI., p. 46.
- Phalænopsis gloriosa**.  
1889, April 20; Vol. XXXV., p. 362.  
— *Harriette*.  
1890, Aug. 16; Vol. XXXVIII., p. 156.  
— *intermedia Portei*.  
1882, March 4; Vol. XXI., p. 146.  
— *Lowi*.  
1876, April 1; Vol. IX., p. 312.  
— *Sanderiana*.  
1883, Sept. 29; Vol. XXIV., p. 270.  
— *Stuartiana nobilis* and *P. Schilleriana*.  
1882, August 5; Vol. XXII., p. 118.
- Philadelphus**, a group of.  
1879, June 14; Vol. XV., p. 476.  
— *microphyllus*.  
1891, Sept. 26; Vol. XL., p. 288.
- Philesia buxifolia**.  
1883, April 28; Vol. XXIII., p. 380.
- Phlox Beauty of Edinburgh**.  
1877, August 25; Vol. XII., p. 184.  
— *divaricata*.  
1883, July 14; Vol. XXIV., p. 24.  
— *Drummondii*, some good varieties of.  
1891, Mar. 28; Vol. XXXIX., p. 292.  
— *subulata* var.  
1877, June 16; Vol. XI., p. 502.  
— *subulata* vars.  
1880, January 3; Vol. XVII., p. 12.
- Phyllocactus delicatus**.  
1889, Sept. 21; Vol. XXXVI., p. 272.
- Phyteuma humile**.  
1885, July 25; Vol. XXVIII., p. 90.
- Pinguicula caudata**.  
1881, August 22; Vol. XX., p. 212.  
— *grandiflora*.  
1887, Feb. 19; Vol. XXXI., p. 168.  
— *vallisneriæfolia*.  
1878, April 13; Vol. XIII., p. 338.
- Pink Her Majesty**.  
1890, Oct. 11; Vol. XXXVIII., p. 346.
- Pinks**, a group of.  
1879, Dec. 6; Vol. XVI., p. 510.  
— (*Chinese*) *Eastern Queen* and *Crimson Belle*.  
1877, Dec. 1; Vol. XII., p. 520.
- Pitcher plants**, a group of.  
1880, June 19; Vol. XVII., p. 542.



- Platycodon grandiflorum** Mariesi.  
1885, March 14; Vol. XXVII., p. 216.
- Pleione tricolor** and **P. humilis**.  
1880, August 21; Vol. XVIII., p. 180.
- Plum**, Transparent Gage.  
1876, March 4; Vol. IX., p. 226.
- Plumbago capensis** and **P. capensis alba**.  
1888, April 21; Vol. XXXIII., p. 364.
- Podalyria sericea**.  
1885, Oct. 17; Vol. XXVIII., p. 402.
- Poinsettia pulcherrima plenissima**.  
1876, March 25; Vol. IX., p. 288.
- Polemonium confertum**.  
1876, November 25; Vol. X., p. 506.
- Polygala Chamæbuxus purpurea**.  
1878, January 12; Vol. XIII., p. 36;  
and 1886, August 14; Vol. XXX., p. 148.
- Pontederia azurea**.  
1880, March 6; Vol. XVII., p. 220.
- Potentilla nitida**.  
1884, June 21; Vol. XXV., p. 514.
- Potentillas**, a group of.  
1879, Nov. 22; Vol. XVI., p. 462.
- Primrose** College Garden seedling.  
1889, August 31; Vol. XXXVI., p. 198.
- new forms of Japan.  
1878, Nov. 23; Vol. XIV., p. 466.
- Oakwood Blue.  
1891, June 27; Vol. XXXIX., p. 592.
- old double crimson.  
1888, Oct. 20; Vol. XXXIV., p. 368.
- Primroses**, new double Chinese.  
1880, Feb. 21; Vol. XVII., p. 176.
- yellow.  
1885, Oct. 10; Vol. XXVIII., p. 374.
- Primula capitata**.  
1879, Dec. 13; Vol. XVI., p. 534.
- imperialis.  
1891, Sept. 19; Vol. XL, p. 266.
- intermedia.  
1876, July 8; Vol. X., p. 36.
- luteola.  
1880, Nov. 13; Vol. XVIII., p. 486.
- minima.  
1885, Sept. 5; Vol. XXVIII., p. 250.
- obconica.  
1884, Sept. 6; Vol. XXVI., p. 206.
- Poissoni.  
1891, Oct. 17; Vol. XL, p. 354.
- purpurea.  
1887, May 14; Vol. XXXI., p. 444.
- rosea.  
1879, July 5; Vol. XVI., p. 12.
- Sieboldi, white and light vars.  
1889, Oct. 5; Vol. XXXVI., p. 318.
- vulgaris var.  
1877, Nov. 24; Vol. XII., p. 496.
- Primulas**, new single Chinese.  
1885, August 8; Vol. XXVIII., p. 150.
- Chinese semi-double.  
1886, Oct. 30; Vol. XXX., p. 410.
- Prunus Pissardi**.  
1887, Sept. 10; Vol. XXXII., p. 224.
- triloba.  
1885, Oct. 3; Vol. XXVIII., p. 346.
- Pulmonaria virginica**.  
1885, Dec. 26; Vol. XXVIII., p. 562.
- Puschkinia scilloides** (*Chionodoxa nana*).  
1878, Sept. 28; Vol. XIV., p. 283.
- scilloides.  
1881, January 29; Vol. XIX., p. 126.
- Pyrethrums**, a group of hardy.  
1879, Oct. 25; Vol. XVI., p. 370.
- Pyrus coronaria**.  
1881, April 16; Vol. XIX., p. 400.

- Pyrus Hosti**.  
1881, October 8; Vol. XX., p. 376.
- Maulei.  
1878, April 27; Vol. XIII., p. 390.

## R.

- Ramondia pyrenaica**.  
1885, March 7; Vol. XXVII., p. 194.
- pyrenaica alba.  
1890, Jan. 11; Vol. XXXVII., p. 30.
- Ranunculus anemonoides**.  
1882, Sept. 16; Vol. XXII., p. 252.
- Lyalli.  
1887, Dec. 31; Vol. XXXII., p. 606.
- Raphiolepis salicifolia**.  
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- Reinwardtia tetragyna**.  
1887, Sept. 3; Vol. XXXII., p. 200.
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1880, Oct. 23; Vol. XVIII., p. 406.
- Rhexia virginica**.  
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- Rhododendron Aucklandi**.  
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1879, March 1; Vol. XV., p. 182.
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1885, Sept. 26; Vol. XXVIII., p. 318.
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1879, October 4; Vol. XVI., p. 308.
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1879, January 11; Vol. XV., p. 36.
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1889, July 20; Vol. XXXVI., p. 54.
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1877, Dec. 22; Vol. XII., p. 592.
- præcox rubrum.  
1890, July 12; Vol. XXXVIII., p. 32.
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1880, Sept. 18; Vol. XVIII., p. 280.
- Rhododendrons**, new Javanese.  
1879, Nov. 1; Vol. XVI., p. 394.
- Richardia æthiopica**.  
1888, June 23; Vol. XXXIII., p. 584.
- hastata.  
1880, Dec. 11; Vol. XVIII., p. 596.
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- Rosa alpina pyrenaica**.  
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- indica var.  
1887, Aug. 13; Vol. XXXII., p. 128.
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1880, July 24; Vol. XVIII., p. 84.
- New single and semi-double.  
1886, Jan. 9; Vol. XXIX., p. 28.
- Reynolds Hole and François Michelin.  
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1880, Feb. 28; Vol. XVII., p. 198.
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- Sagittaria montevidensis**.  
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1886, Oct. 16; Vol. XXX., p. 366.  
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1890, July 5; Vol. XXXVIII., p. 10.  
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1877, Sept. 15; Vol. XII., p. 216.  
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1886, Jan. 23; Vol. XXIX., p. 74.  
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1882, Dec. 9; Vol. XXII., p. 508.  
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1885, May 9; Vol. XXVII., p. 420.  
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1883, March 17; Vol. XXIII., p. 246.  
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1880, Jan. 10; Vol. XVII., p. 36.  
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1878, Dec. 14; Vol. XIV., p. 538.

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1888, June 9; Vol. XXXIII., p. 534.  
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- Tecophylæa cyanocrocus*.  
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"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—*Shakespeare.*

## PURPLE IN FLOWERS.

I AM unable to understand or approve of Mr. Ewbank's use of the adjective "purple" as applied to flowers in his note on *Solanum Torreyi* (p. 257). I am much interested in this question of flower colours, having for some years made it something of a study. Mr. Ewbank reports that he submitted *Solanum Torreyi* to a committee of ladies to name its precise colour, and that "not one of them mentioned purple as the colour," but that their several verdicts were for "lilac, mauve, bluey mauve, violet, &c." He also speaks of the use of purple as "a sort of generic name, which has a great many species and sub-species under it," as an old-fashioned and exploded use. This I cannot at all accept. Surely purple is, as it always has been, a generic colour-term, denoting blue with a mixture of red, or red with a mixture of blue, and embraces all intermediate degrees of this mixture, from the bluest of reds to the reddest of blues. Does Mr. Ewbank seriously mean that it is incorrect and out of date to speak of purple Violets or purple Plums? In the former case the blue outweighs the red; in the latter, at least in many Plums, the red outweighs the blue, but I maintain that it is not only a popular, but a perfectly right use of the English language to call both purple. Mr. Ewbank would draw a distinction not only of degree, but of kind of colour between purple and violet. "Call the *Solanum*," he says, "mauve or violet, or anything else of the sort, but drop purple with regard to it." Without attempting to find words to define the precise shade, tone, tint or degree of purple, I assert that the *Solanum* is a purple flower, and that the term violet is but a narrowing and limitation of the more general term purple adopted from the Violet blossom, because this is a familiar example of a full blue-purple colour, just as we adopt the term sulphur from a familiar mineral to limit the generic term yellow to a particular kind of yellow. Let me take, as an instance, some flower whose several varieties run through this scale which begins with blue and ends with red, or *vice versa*. The race of well-known, large-flowering Clematises may quite legitimately be called all purple, if they are not white, and they range from the blue-purple of the common Jackmanni to the red-purple of rubella or Prince of Wales, while there are many intermediates of lilac or mauve. Undoubtedly these colour-terms are difficult to use so as to give a quite precise idea of the degree or quality of the colour of particular objects. Thus the resulting intermediates are wholly affected by the character or tone of the red and blue which are intermixed. Magenta, for example, is a red-purple resulting from the mixture of blue and red of impure and grating tone. Some of the paler Clematises, which are described in catalogues as lilac or mauve, seem to be slightly toned with black, but I should still assign them to the genus purple, and call them pale grey-purple, &c. From my knowledge of the lady whose name Mr. Ewbank mentions and her garden, I think he must misunderstand her dislike to and intolerance of purple, for surely I have seen in her garden Clematis Jackmanni and many another flower of uncompromising purple, and has she not in my time of dearth supplied me bountifully with Violets? If

Violets be not purple, perish the tongue of our forefathers! What Miss Jekyll does abominate and exclude from her lovely domain (if I may take upon myself to speak for her) is purple as it is used and hideously abused by so many of our nurserymen and florists. I am sure she would never admit inside her gates a Phlox catalogued as purple, nor a Rose described as crimson shaded with purple, for both would only too surely throw all the pure colour of the garden into confusion by their loud or leaden hues of coal-tar magenta or slate. There are folks who can look with pleasure upon Cheshunt Hybrid Rose, or upon the new Phlox Mr. Jabez Bugbins, of quite a new and charming colour, magenta with slate stripes. I do agree with Mr. Ewbank that *Calandrinia umbellata* is purple, and that it can have charms for no one with any sense of colour, being of a peculiarly livid and gruesome quality. It is true that those who are blessed or cursed with a sensitive colour-nerve have to be more on their guard in this purple department than anywhere else in the whole realm of colour. To speak of a flower already instanced, I have not once, but often had Phloxes—great favourites of mine—from France and elsewhere, which have bloomed into such odious "purples" as to cause acute suffering, even in the carrying of them from the border upon the opening of their first flower to the rubbish heap or Gehenna of my garden. By the way, I was taught in my childhood, and rightly, to avoid criticism of the form or colour of flowers, as being all perfect in their way and direct from the Creator's hand. It is well to teach children such reverence; but with man's estate, alas! comes the conviction that plants, like men, are fallen from their primal perfection in Eden, and that there are plants of bad habit and flowers of evil scent and immoral colour. But I have digressed. Let me end by returning to my point and maintaining, notwithstanding my friend Mr. Ewbank's contrary thesis that, though purple need not be violet, yet violet always was and always will be purple.

G. H. ENGLEHEART.

## CHRYSANTHEMUMS.

## PROSPECTS OF THE COMING SEASON.

I THINK there is every reason to look forward to very good results from the plants cultivated this season. Taking the present season of growth as a whole, I think it must be regarded as having been a fairly good one in most localities, although the continued showery weather is not favourable to the development of the blooms. A continuance of moisture in the air is all in favour of the spread of mildew and damping of the blooms. Plants the foliage of which was not cleansed of the germs of mildew before being housed are very likely to lose many more of their leaves in the somewhat confined atmosphere of the house, huddled together, as is generally the case where more plants are grown than can be really well accommodated. Only the prompt use of anti-mildew compositions and a proper arrangement of the temperature of the inside of the house can save the plants from loss of their foliage should the present showery weather continue. Taken as a whole, the plants are looking well, having made free, but not too sappy growth. The expanding flowers are clean and free from the deformed petals which sometimes characterise the early blooms. This is largely owing to their not being taken too early. Indeed, many buds that I have come across are what exhibitors would term late, but where home decoration is all that is thought about these late-formed buds will be prized, as the flowering season will be extended over a longer period. The plants have retained their foliage remarkably well,

which is all in their favour, being a great assistance to the production of high-class blooms. The present somewhat dry season is no doubt accountable for the greater retention of the leaves, as where plants are regularly and properly supplied with moisture the foliage is more easily retained than in the case of long-continued cold and wet weather. In some wet seasons there is a prevalence of what I term a disease in the foliage of many plants; some sorts appear much more susceptible to it than others. The leaves from the soil upwards, for about three parts of the length of stem, of those plants that are grown to produce large blooms, and confined to a few branches, turn black, generally commencing on one side of the leaf farthest away from the midrib and extending up to the leaf-stalk. This generally appears after three or four successive wet days, during the months of August and September more especially. Princess of Wales and its sports appear to be more affected in this way than any other sort, although the Queen family is not free from it by any means. I am inclined to the opinion that it is mainly owing to the sluggish root-action of the plants, as I have also noticed that where the soil is heavy and retentive of moisture the disease is the worst.

I am pleased to note that this year the plants are fairly free from this trouble. The dry and warm weather of May and June was just the right kind to encourage free growth of the plants after they were transferred to their flowering pots. It very often happens that at that time of the year we experience cold easterly winds which chill the plants out of doors, but this year a maximum heat of 91° in the shade was registered on June 19. Some few persons had the misfortune, however, to have the points of the shoots nipped with the frost of June 13 in low-lying districts, and where they were fully exposed. This, no doubt, checked them somewhat, but the cases of real injury were few. The height of the plants is not great, which is a fortunate circumstance, although in some few instances they have run up owing to some local influence or other. The present leaning towards the raising of varieties of a dwarf character has a tendency to limit the height of the whole collection, as with the introduction of sorts like Mme. Marie Hoste and J. Stanborough Dibbens, such varieties as Mme. C. Audiguier and Belle Paule will gradually vanish from the show table, which is as it should be. These tall-growing sorts do much towards rendering the cultivation of Chrysanthemums for large blooms unpopular, but, in the absence of equally good blooms from plants of a naturally dwarf habit, cultivators were compelled to include the tall-growing sorts in their collection if success was to be gained. Happily, now there is but little excuse for their inclusion. There is a growing tendency to have fewer trained specimen plants, which are more remarkable for the space they occupy and the excessive number of flowers they carry than for the individual quality of the blooms of each plant, and more dwarf plants in 6-inch pots, which are suitable for flowering in the dwelling houses of those who cannot afford a large display in their conservatories.

The number of societies which make Chrysanthemums a specialty have in no way diminished in point of numbers, but rather increased. Some few may have dropped out of the ranks owing to local difficulties of a financial character. About a hundred exhibitions have to be crowded into the short space of four weeks, commencing with Gosport, October 27, and concluding with Dackley, November 22, which, as far as I can learn, are the dates of the first and last. There is apparently a great increase in the number of plants for flowering in the open, of which the Desgrange type is the most useful. The white blooms of the type are especially prized for harvest festivals. The bright yellow of Mrs. Hawkins and the paler shade of G. Wermig are also useful, brightening up many a herbaceous border at a time when most of the ordinary occupants are flowerless.

E. MOLYNEUX.

Chrysanthemum Miss Lily Measures.—This variety is better known by the name of Yellow



Avalanche, which is appropriate. It is a promising kind now opening. Really good early-flowering yellow sorts are not over-plentiful, and this may be a useful addition. The colour is very pleasing (clear golden yellow) and it is likely to take the place of Frederick Marrouch, a somewhat early-flowering yellow, but of much too tall growth. The newer variety averages 5 feet, which is reasonable. Frederick Marrouch often attains 8 feet — E. M.

## NOTES OF THE WEEK.

**A curious Grape.**—Sir J. Trevelyan sends us from Nettlecombe Court a peculiar Grape, which is very like a small purple Tomato, flat and ribbed. It is probably a monstrous form of Gros Colman. We should like to hear more about it.

**Aster diplostaphioides.**—The statement by "D. K.," that *Aster diplostaphioides* was re-introduced by Kew last year, is barely correct. I do not know how many more may have had it, but I grew it six years ago, and it has never required a re-introduction. — G. H. C.

**The Fern-leaved Mountain Ash.**—We send you by this post a branch of what we call *Pyrus Aucuparia asplenifolia*, also a branch of *P. Aucuparia*, to show the difference between the two. It has been raised in these nurseries, and we shall be very much obliged if you will kindly give your opinion of it. — J. SMITH AND SONS, Darley Dale Nurseries.

\*\*\* A very interesting and excellent tree, which might well be called the Fern-leaved Mountain Ash. — ED.

**Mirabilis multiflora.**—In reply to the appeal of "W. H. G." (p. 316), I have to state that this plant requires a warm summer for the development of its flowers in perfection. It is perfectly hardy and likes a light deep soil. Young plants, not more than two or three years old, appear to flower most freely. I have always grown it in the border or ordinary level bed, but it might be worth trying on a mound or the rockery, for which its somewhat trailing habit seems to adapt it. — W. THOMPSON, Ipswich.

**The Plumed Hydrangea and the Cardinal Flower.**—The Marchioness of Headfort kindly sends us a photograph of a bed of Plumed Hydrangea mixed with a form of the Cardinal Lobelia, which Lady Headfort says was very beautiful. The scarlet Lobelia, unfortunately, is one of those flowers that do not show well in a photograph, although we see how fine it must have been. The mild, moist climate of Ireland seems to favour in an unusual degree these Cardinal Flowers, and we have not seen them do quite so well elsewhere.

**October Sweet Peas.**—Herewith I send you a selection of Sweet Pea blooms. These are from plants that have been continually in bloom for nearly four months. They are from 8 feet to 12 feet high, and had the weather continued fine they would have bloomed for several weeks longer. The value of Sweet Peas cannot be over-estimated for garden decoration or to fill the flower basket. I have a row in the same situation every year, and they always grow and bloom most satisfactorily. Few flowers are more appreciated in a cut state than Sweet Peas. — J. C. F.

**Viola Goldelse.**—In the collection of Pansies and Violas shown by Messrs. M. and H. Wreidie, of Luxembourg, was a remarkably pretty Viola named Goldelse. The flowers were medium-sized and almost without a mark, of a clear deep yellow, shading to a bright orange in the centre. The upper petals were rather broad in proportion to the depth of flower, which gave the blooms a rounder look than usual. If the constitution of this variety is on a par with the colour and beauty of the flowers, it should prove valuable for massing or for carpeting to other plants. — CORNUBIAN.

**Ampelopsis Veitchi.**—I sent you by yesterday's post a few leaves of *Ampelopsis Veitchi*, taken from a plant growing on the house of Lord Brougham's agent in the village of Eavont,

near to Brougham Hall, Penrith. It covers the entire front, also a portion of one end. Though not so good in colour as in previous years, owing to early frosts (we had 13° here on the 18th), it is still very lovely, the shades so varied from bronze, through crimson, to intense scarlet in the smaller leaves. It is by far the best variety that I have met with. — T. R. CUCKNEY, *The Gardens, Eden Hall*.

**Anemone japonica alba var. Lady Ardilaun.**—Having had numerous inquiries about the new *Anemone japonica alba* var. *Lady Ardilaun*, which has been raised here, I beg to state that six years ago I observed a head of seed on a plant of *Anemone japonica alba*. This had an enlargement on one side like a wart. This I sowed when ripe and got three seedlings from it. One of those I found much finer than the other two. From this plant the stock has been raised. I will this autumn dispose of the surplus stock of this fine hardy plant (see advertising columns). — A. CAMPBELL, *Ashford, Cong. Co. Galway, Ireland*.

**Plum Monarch.**—At the time when Plums were ripening, the weather was very wet and sunless here. The rainfall of August was much above the average; in thirty-six consecutive hours over 3 inches of rain fell. The result of the wet weather on the Plum crop was most disastrous, fruit rotting on the trees in large quantities before it was half ripe. Prince of Wales, Pershore and Prince Englebert were, perhaps, the worst, but other varieties suffered more or less. The Monarch Plum, although a late variety, was not injured, and I think this large purple roundish sort cannot be too highly recommended for wet, sunless situations. — W. O., *Fota, Cork*.

**Apple Bismarck.**—In THE GARDEN, September 24, p. 268, "E. H." confesses he is disappointed with Bismarck Apple. This is contrary to our customers' experience; with us it grows in favour each year. The trees on Crab stock are in many cases carrying six to nine fine large fruits (three-year-old-trees), while on the Paradise stock the little two-year-old cut-back trees are and have been the pride of the nursery. It is the heaviest bearer we have, and of fine quality as a kitchen Apple. Herewith are six fruits, the produce of two trees not 2 feet high (three each), two years old, to point our remarks. It bids fair to make a good orchard tree, and there is fruit on the two, three, and four-year plants all over our nursery. — GEO. BUNYARD & CO.

\*\*\* A very handsome Apple, regular in form. We will try its quality, without which there can be no want for any new Apple. — ED.

**Salvia splendens var. compacta.**—There are several species of *Salvia* which prove extremely useful for flowering in the greenhouse during the autumn months. Some of them, however, are occasionally found inconvenient in small houses on account of the size they attain when liberally grown, and it is in such instances that this dwarf variety of the old *Salvia splendens* will be found especially valuable. I am not aware that it is as yet widely known in England, but I first saw it in Mr. Hanbury's garden at La Mortola, near Mentone, three years ago. It is evidently a natural variety, as it comes true from seed. It differs from the typical *S. splendens* in no essential particular except that of a dwarf compact habit. Its flower-spikes are as large and quite as abundantly produced. The value of this *Salvia*, both as regards species and variety, lies greatly in the fact that its bracts being of as brilliant a scarlet as the flowers themselves, and as they remain some weeks after the flowers have fallen, the beauty of the plants is maintained so much the longer. The three best *Salvias* for autumn blooming are this species, *S. involucrata* Bethelli (bright rose), and *S. azurea* (blue). — B.

**Slitting flower-stems.**—Not long ago a friend — a well-known contributor to these columns — gave me "a tip," which, I think, is not as well known as it deserves. Many flowers when gathered fade so rapidly that they are practically useless for cutting. This is due to the fact that in the

comparatively dry air of a room the petals transfer more watery vapour than can be replaced by the water sucked up by the stem; hence the delicate cells of which the petals are composed become partially empty and a flaccid condition ensues. Anyone who has tried to use in the house such things as Hellebores, the larger Clematis, &c., will be familiar with this. The "tip" is to slit the stem up for 1 inch or 2 inches, so as to divide it into two or four, something like what is done with Celery. The effect is to greatly increase the surface by which the water is absorbed, and thus to enable the supply to the petals to be kept up, and so fading is prevented. I have kept Hellebores for many days and Clematises for considerably over a week in this way. Whether it would have as useful an effect on flowers which are apt to drop their petals like Pelargoniums, single Roses, &c., I cannot say, but the experiment would be worth trying. — GREENWOOD PIM.

**Angræcum bilobum.**—This charming little Orchid belongs to the smaller-growing section of *Angræcum*, a group which has been largely added to by collectors during the last few years. This is, however, a plant long introduced, probably about sixty years ago, being a native of Cape Coast Castle. As the name implies, the leaves are characterised by a division of their tips into two lobes, which are of unequal size; they are dark green and somewhat coriaceous. The flower-spike is pendent and bears half a dozen or more flowers, which are each 1 inch in diameter and pure white. As in several others of these smaller *Angræcums*, the flower has an almost regular form, the lip being but little different in size and outline from the petals and sepals. The spur is very slender and tinged with green towards the base. A variety of this species was discovered by Sir John Kirk in Zanzibar ten years ago and named after him; it is of smaller growth than the type; the spur of the lip, too, is proportionately longer. *A. bilobum* is now in flower at Kew. Both it and the variety Kirki should be grown in small teak baskets, giving them Sphagnum to root in. They should be suspended near the glass in the warmest and moistest house.

**Bouvardia Humboldtii var. corymbiflora.**—*Bouvardias* are a class of greenhouse plants which it is no rare thing to see in an unsatisfactory state. There is no doubt, however, of their great value when properly grown. Just previous to the Chrysanthemum season, in fact, there is nothing better for producing a bright effect on the greenhouse shelves. Of all the kinds in cultivation, *B. Humboldtii* is the one which is, perhaps, least often seen in good condition; it is, nevertheless, one of the most beautiful and distinct, more especially the var. *corymbiflora*. In the large temperate house at Kew it is along with other varieties represented by some finely flowered specimens. The largest of these is 2 feet 6 inches high and as much through, and thoroughly furnished with deep green foliage. The flowers occur in loose corymbs at the ends of the shoots, as well as on the strongest side branches. Individually the flowers are remarkable for their size and length of tube; they are also of the purest white and scented like Jasmine. The tube of the corolla is 3 inches long, and the expanding portion, which is upwards of 1½ inches across, consists of four ovate petals. The cultivation of *Bouvardias* is a matter on which some difference of opinion exists. The plants at Kew were planted out in the open on a spent hot-bed from June until September, being kept close and shaded, and given a little bottom-heat after potting up. There can be no doubt of the success of the planting-out system if it be properly done, but, judging from the remarks of a correspondent in THE GARDEN for November 28, 1891, who writes on the cultivation of these plants, this does not often happen. My experience is, however, that it occurs still less frequently with exclusive pot culture, and I advise anyone who has not succeeded as well as he could wish with them in pots to give the other system a trial. Other kinds which have succeeded equally well are *President Cleveland* (the best of the scarlets), *Vreelandi*, *Bridal Wreath*, *Maiden's Blush*, &c. — W. J. B.



## ORCHARD AND FRUIT GARDEN.

## APPLE BRADDICK'S NONPAREIL.

REALLY good dessert Apples in season during the winter are none too plentiful, and it is equally certain there are a few varieties not so well known as their merits entitle them to be. Among these latter I would give Braddick's Nonpareil a prominent place, believing it to be one of the best dessert varieties that can be grown in a private garden. The fruit is medium-sized, flattish round in shape, skin pale yellow on the shaded side and brownish red where exposed, there being patches of russet about the eye and other exposed parts. The flesh is yellow, moderately firm, richly flavoured and aromatic. It remains fit for table longer than most other Apples, as it can be had good from November till the end of April. The habit of growth is somewhat slender, the variety not being well adapted for

the specimen of Braddick's Nonpareil. This variety would appear to be better appreciated in the south-western counties than in other parts of the country, and is to be seen at its best at the Exeter late autumn shows.

Somerset.

W. I.

**Notes on Apple stocks.**—I think that too much faith is being put upon the merits of the Paradise stock for Apples. That it is a precious stock for the majority of varieties I must admit, and also that some sorts do admirably upon it, but I cannot see what benefit can arise from working varieties upon it that fruit equally as well on the Crab, and on which they remain much healthier. This question of stocks should be fully considered by intending planters, as there is the danger of treating all varieties alike. The Ecklinville Pippin is a case in point. To grow this variety on other than the Crab stock would be to court failure, or rather to treat it otherwise would not be doing it justice, as on this stock it is most prolific. Although this variety may be termed a strong grower in its



Fruiting branch of Apple Braddick's Nonpareil.

growing in a pyramidal form, but succeeding well either as a half-standard or large bush—in either case on the Crab stock—and it is also strongly recommended for growing on the broad-leaved Paradise stock. I have a large freely-grown bush tree on the Crab stock, and it was part of a fruiting branch of this from which the photograph was taken and reproduced. For several seasons in succession good crops have been gathered, and the tree flowered more abundantly this year than ever previously, but, unfortunately, the buds had been badly injured by severe late frosts, the result being a complete failure. Our soil is a strong loam resting on a very retentive clayey subsoil, and only Apples with a good constitution will long remain in a healthy, productive state unless lifted and replanted occasionally. This has not been done in the case of Braddick's Nonpareil and several other trees owing to their great size, and because I consider tampering with them likely to do more harm than good. Allowing comparatively stunted old trees to form a limited number of fresh branches to replace the older ones will frequently put new life into them, and is the only renovating measure that has been adopted in the case of

earlier stages, yet after two or three years' growth, on account of producing fruit buds so freely, it does not form a large tree, so people with little space at their disposal need not fear that by planting the Ecklinville worked on the Crab stock it will outgrow its bounds. Another variety which it is unwise to work on the Paradise is Stirling Castle. No variety is more free and early bearing than is this on the Crab. The difficulty I generally find with Stirling Castle on the Crab is its comparatively spare growth. Worcester Pearmain is yet another notable exception, and the Crab is its ideal stock. The fruits grow to a good size and are of brilliant colour, and in addition to being borne freely, they are of better quality. Lane's Prince Albert, Frogmore Prolific, Small's Admirable, Duchess of Oldenburg, and Cox's Pomona are also well-known prolific varieties on the Crab.—Y. A. H.

**Transplanting Peach trees.**—So early as the last day of September I noticed when looking through a Peach house at Longford Castle that Mr. Ward had already transplanted some large flat-trained trees from outside to fill vacancies created. The trees when I saw them were full of foliage, but had mats hung over them during sunshine to prevent any undue flagging of the leafage, as it was desired to retain that on the trees as long as possible. The reason for this apparent premature

transplanting is that the more foliage on the tree the quicker the root-action, and, therefore, the more fully does the tree become established before the winter sets in. That is good plant physiology, for the sap descent which leads to the leaf-fall in the autumn at the same time serves to promote root-development, although not so largely when the leaves have fallen as when they are in process of ripening. Where there is somewhat gross top-growth, early transplanting serves to check that form of development, and at the same time leads to early rooting. Of course, in such a case as the one under notice it is easy to have holes prepared in the Peach house and to lift the trees, moisten the roots, and have them replanted in soil in a few minutes. It would hardly be a safe experiment to conduct in the case of nursery trees. Still, no great harm would result. Mr. R. D. Blackmore told me some time since of receiving a large number of standard Peach trees from America which arrived in a fairly dried-up condition, so that he had little hope of their living. However, they were pitched into a pond and allowed to soak for several days, then planted, with the result that every tree grew. No gardener wishes to trust to trees on such terms. Probably for the supply of his Peach trees it is best to keep a stock of four or five year-old trees on outside walls where they can be fruited, but still be available to transplant into houses at any time.—A. D.

## APRICOTS FAILING.

I WAS pleased to see "Y. A. H.'s" opinion (p. 247) as to the failure of this fruit, and when he refers to the collapse of the trees on light soil from want of moisture, I thoroughly agree with him. We have such a soil with a gravel bottom, and to keep our trees healthy it is necessary to mulch heavily twice a year, and to apply water with a hose twice weekly during the growing season, and sometimes in June and July the trees are hosed daily, and if this is omitted the leaves droop and the fruit ceases to swell. On such soils it is difficult to apply too much moisture when the trees are in robust health, and even after the fruit is gathered, if the supplies of moisture cease, the branches die and there is a want of vigour about the trees. I admit that, given a suitable soil and abundance of feeding or mulching to retain the moisture, the trees give the best results, and I am glad to see Mr. Young advocates liberal supplies of moisture after the fruit is gathered, as at that time there is often loss of branches, and if the trees can be kept in full vigour there is less loss. The Apricot, being a surface-rooting fruit, gets dry sooner than a tree with roots a greater depth, hence the advantage of liberal supplies of moisture to encourage these fibrous roots, and a liberal mulch in the early summer months. For this purpose I employ decayed cow manure, and I have great faith in it for dry thin soils, as there is no better material to retain moisture and for keeping the roots cool. I think there is less loss of branches if the trees are allowed more freedom of growth, and, of course, they require more moisture and feeding. I have been interested of late seeing the different modes of culture sometimes advised for this fruit, but I think much of the mischief arises when the trees are not liberally supplied with moisture when in dry soils; of course in heavy soils there is much greater difficulty. I had such a soil once in the west of England, and I could not grow a fruit till I got the roots nearer the surface and mixed a large quantity of mortar rubble and burnt soil with the natural soil, and even then I only succeeded with one or two varieties. As I do not remember that "M. H." in his interesting note on p. 137, mentioned the variety, it may be well to do so. It was the Large Early, and though this variety is inferior to Moorpark, it is appreciated where others fail. This variety is an early kind, large and very hardy, rich orange flesh, a good bearer, and a strong grower, making a good tree in a short time. I found it advisable to lift about every three years in preference to severe pruning, and by this means I did not lose many branches,



Large Red also did well, but does not need describing, except that the flesh is of a deeper colour, flesh rich and juicy. Where these trees fail I think it advisable to begin with fair sized trees in preference to milbns, so as to get a good start and to use the knife as little as possible, as when a good balanced tree is planted, free play may be allowed in the case of these trees, as one is not so fastidious about every inch of wall space being covered if the trees can be kept in a robust state and fruit freely. G. WYTHES.

#### GRAPE ALNWICK SEEDLING.

I CANNOT see how anyone who has successfully grown this Grape can find cause to complain of its flavour, or doubt the possibility of keeping it good till well into January, and yet this is what is done by "I." (p. 328). During the six years I served my last employer I was obliged to have Grapes all the year round, and Alnwick Seedling was the black variety supplied to the table from the middle of December to about the middle of January. The berries of the last bunches to be cut were as plump and sound as those of the first lot, and the flavour during the time stated was as like that of a Black Hamburg as it was possible for any Grape to be. In fact, not a few who were more familiar with flavours than characteristics of varieties mistook it for this sort, and I must own that had I not known it I would unhesitatingly have called it a Hamburg, judging from flavour. The house I grew it in was started on March 1 every year, and we had all finished by the beginning of September. Among the other varieties grown in the same house were Alicante, Lady Downe's Seedling, and Madresfield Court, so that a dry atmosphere had to be maintained for the ripening of the last without split berries. But although a dry atmosphere was maintained, yet dryness at the root was strictly guarded against, and under these conditions we never experienced any difficulty in having the fruit in their sound and plump form at the time stated. Perhaps "I." may have erred on the side of dryness at the root when he has failed to keep the berries in their natural condition so late. Be that as it may, there is not the least doubt about the possibility of keeping Alnwick Seedling Grape sound until well into January, and if anyone fails to do so, there must be a flaw in the management somewhere, which he should make it his endeavour to find out. I would have promised "I." a bunch in the middle of next January, but all the Vines in the house they are in were only propagated and planted a year ago last summer, so it will not pay me to keep up fire-heat for the crop so long. If, however, he should still have his doubts a year later, I shall hope to be able to give him practical proof of what I have said.

R. C. H.

**Apple Cornish Aromatic.**—This very excellent Apple does not appear to be grown so extensively as it deserves to be, seeing that it is a good grower and a free bearer of good-sized, clean, handsome fruits of first-rate quality. In point of size, shape and colour this Apple is very much like the good old Ribston Pippin, but with this difference—the fruit shows no tendency to spot or blemish of any kind.—H. W. W.

**Pear Durondeau.**—This is one of the few Pears that bore anything like a crop where the blossom was not protected this year. My tree is a young one, and, owing to building operations, it was shifted from one west wall to another last autumn, being transplanted with a good ball of soil and roots into a properly prepared hole, into which 9 inches of clinkers broken fine on the top were placed for drainage. A mixture consisting of four parts sound loam and one of old mortar was used in planting. The fruit is large, handsome in shape, richly flavoured, and finely coloured.—H. W.

**Plum Transparent Gage.**—This is one of the finest as well as the largest of the Green Gage class of Plum, and it was shown well at Earl's

Court on the 26th of August last. It is a very distinct and excellent variety, and pays well, as all approved kinds and varieties do, for generous and skilful treatment in the matter of pruning and giving copious supplies of water at the roots from February to the end of September, more especially during the summer months, and keeping the foliage clean. What a boon it is for gardeners who have a good supply of water laid on in the gardens, with hydrants fixed at convenient points, so that a man with a short length of inch india-rubber piping attached can thoroughly wash the foliage of the individual trees and water them at the roots at the same time.—H. W. W.

**Apricots in Cornwall.**—"Caledonicus" may rest assured that no pains have been spared to grow Apricots successfully in the parts of Cornwall about which I wrote. The fault must be in the climate—probably the mildness and humidity—for I well remember that standards in pots, grown with special treatment in the orchard house, used to do well; but this was rather an expensive form of amusement. Clever fruit-growers have done their best to succeed, and in the garden where most extensive trials of Apricots took place some years ago the examples of trained fruit trees of all other kinds were of the best. The suggestion for "Caledonicus" as to planting on gable-ends might be of some use, but even if it were, Cornwall is not, and especially Cornish gardens are not, so rich in overhanging gables as is East Anglia or other parts of England. The fruit reports for this year bear me out, for no report from south-west of Exeter has anything to say about Apricots; and, again, in Wales, where the surrounding conditions are for the most part similar to those in Cornwall, Apricots are barely mentioned. So far as my knowledge goes, Apricots do badly anywhere within easy reach of the Atlantic or the west coast of England.—CORNBURIAN.

#### MISDIRECTED ZEAL.

TREE-LIFTING and root-pruning are details in fruit culture the value of which can hardly be over-estimated, always provided the work is rationally and well done. At the same time it is possible to overdo either the one or the other, more harm than good not unfrequently resulting from the abuse of the practice. If the truth could be arrived at, it would most probably be found that there are large numbers of Apple and Pear trees, more especially in various parts of the country, that are not worthy of the space they occupy, owing to their non-recovery from the very severe shock of being lifted to check strong growth and thereby cause productiveness. In the garden under my charge there are several fairly large old trees that were wholly lifted about 20 years ago, and which are only just regaining a moderate amount of vigour. They have neither formed good growth nor yielded crops of any value, and have been retained in order to see what could be done with these "wretched cripples." Had they been kept closely pruned as in former years, they never would have done any good, but by leaving the strongest of the lateral growth all over the principal branches, both vigour and fruitfulness have been gradually brought about. These trees were before being operated on rooting strongly and deeply into a strong clay subsoil, and many of the roots sawn through must have been upwards of 4 inches in circumference. Before I fully realised the situation, I very nearly made as big a blunder with some very fine old wall trees of Pears. These also were more noted for the amount of young wood they formed than for the fruit produced, and in my zeal what we did amounted very nearly to a case of kill or cure. Before the leaves had lost their greenness root-pruning was started upon, a deep circular

trench being cut 5 feet away from the stems of each, and the soil gradually forked away till we had worked to within 2 feet of the stems. Next, undermining took place, and all deep-running roots found were cut cleanly through. As it happened, there were few other than large, deep-running roots, and few comparatively young roots well furnished with fibres anywhere near the surface to take early possession of the liberal quantity of fresh loamy compost substituted for the old soil. Now, such severe treatment would not have been blameworthy in the case of comparatively young trees, but when large old specimens, say that occupy a wall space 12 feet high and 18 feet wide, are thus treated, there is no mistaking the fact of this being an instance of misdirected zeal. Those trees flagged badly soon after they were operated upon, and although they broke fairly well the following season, flagging again took place whenever the weather was hot and dry. Had they not been well supplied with water at the roots and very frequently syringed overhead, they must have nearly all come to grief. As it was, one only failed, this tree, though still alive, not forming any young shoots more than 6 inches long, while the old wood seems to get smaller instead of larger. All the rest recovered well, and for the past six years have rarely failed to bear heavy crops of excellent fruit. Such large old trees, and any of much the same age in the open, ought not to be so roughly used at one time. The proper course to pursue in all such cases is to extend the work of lifting and root-pruning—and by lifting, I mean the bringing up of many of the most flexible of the deep running roots to much nearer the surface—over a period of two, or, better still, three seasons. If one half of the tree's roots has to be very severely handled, not till these have formed abundance of root fibres, the new soil being well occupied by them, should the other half be similarly treated. What is more conducive than anything else to a fruitful habit of growth is the formation of abundance of surface-roots, and these are more likely to be forthcoming when the check to the tree is only moderately severe than when extreme measures have been resorted to. What applies to Apples and Pears is equally applicable to Apricots, Peaches, Plums, and Cherries, none of which should be more roughly handled than can be avoided.

Young or comparatively young trees of Peaches and Nectarines—any not exceeding ten years of age coming under this category—are less likely to be injured by being wholly lifted at one time, but unless it is desirable to shift any of these from one position to another, I fail to see the wisdom of constantly disturbing them. Of the advisability of lifting when it is found the principal roots are deep running, there can be no two opinions, partial or completely lifting not unfrequently restoring trees to a healthy, productive state; but when this has been done, where is the sense in repeating the operation annually, or even biennially? Yet this is what is done in several good gardens that I could name. No doubt trees thus often operated upon will behave very similarly to Apples and Pears grown on the Rivers' system of dwarfing and root-pruning, their having a thicket of roots in the immediate neighbourhood of the stems, preventing a severe check being given, but all this, notwithstanding, I maintain to be another example of misdirected zeal. The change of soil and the loosening of the same may be beneficial, the latter in particular greatly facilitating watering operations, but is there anyone prepared to maintain that these much-lifted, much-



root-pruned trees are capable of producing such heavy crops as do those less often interfered with at the roots! I have had too many instances to the contrary under my notice to admit the wisdom of this treatment. Strong young trees do certainly bear all the better for being severely root-pruned, this class of trees appearing to grow so fast as to dislocate the fruit, but in not a few cases severely root-pruning even these has resulted in eventual loss. If the roots are, by good attention in the way of watering and mulching, kept active near the surface, rank growth will give place to that which is harder and more productive, and serviceable trees soon result. It is not stunted trees that all should strive to have, but rather those of a more free-growing character, productiveness following in due course if only the knife is sparingly used. Trees with a good expanse of wood and foliage must have plenty of active roots, the nearer the surface the better, to sustain them, or otherwise the crops will be unsatisfactory. In the case of newly-lifted or severely root-pruned Peaches and Nectarines under glass, the fruit fails to attain its proper size at the first swelling, and although subsequent progress, owing to new roots having taken possession of the fresh soil, may be more satisfactory, full-sized or extra fine fruit is rarely obtained. Doubtless exceptions to this rule might be made in favour of very freely-thinned crops, but with an ever-increasing demand for choice fruit, few of us now-a-days can afford to be content with light crops. I would on no account discourage the inexperienced in their attempts to improve the character of the trees they own or are in charge of, but the object of this paper is to warn them against being overzealous.

W. I.

#### PLUMS GROWING AGAINST WALLS.

REINE CLAUDE DE BAVAY is a fine late Plum. It is a good grower and a free cropper. The fruit is very large, after the style of Kirke's, only it is green instead of blue-purple. It is a good September and early October dessert Plum. The best results are secured from trees growing on walls having south and west aspects. Thus grown the flavour is greatly improved.

In Blue Impératrice we have a good October cooking and dessert Plum. The fruit attains to a good size when grown under favourable conditions and a judicious manipulation of the young growth during the summer and autumn months, especially the months of May and June, as more is done then by following a skilful course of disbudding and pinching of the young growths than is accomplished by judicious autumn and winter pruning; still, both operations are necessary to maintain the trees in the condition indicated. The summer and autumn pinching, thinning, and shortening back of the shoots promote the formation and consolidation of fruit-buds, without a pretty plentiful supply of which a good crop of fruit cannot reasonably be looked for. Diamond is a fine dark purple Plum, large and handsome in appearance, and excellent in every way for cooking. It makes a fine preserve. Moreover, the tree is a good grower and a free bearer, ripening its fruit towards the end of August and early in September. A dish of this Plum staged by the writer at Earl's Court the end of last August was accorded premier position in a good competition. Sultan is another first-rate kitchen Plum. The fruit is very large, globular in shape, and of a reddish-purple colour. The tree is a strong grower and a good cropper, and should find a place in every collection. Grand Duke is a fine late Plum of recent introduction, ripening its large, oval-shaped purple fruit late in September. The quality of the fruit when ripened on a west wall is such as to render it fit for table use as well as for kitchen purposes. This variety is sure to become popular

in gardens as it becomes better known. Other good new varieties are Monarch, Archduke, Belgian Purple, and The Czar.

H. W. WARD.

#### BELLE DE FONTENAY RASPBERRY.

It is nearly twenty years since I received a few dozen canes of the above excellent autumn-bearing Raspberry from a gardening friend then living in the neighbourhood of Christchurch, Hants, and during the time that has elapsed since then I have secured fairly good supplies of fine fruit daily throughout the autumn until the frost stopped them. The 5° of frost which we had here on the night of September 17 did not in the least interfere with the crop, as we have been gathering large bright red well-flavoured fruits for dessert every day since, and the canes are still (October 8) well furnished with fruit in various stages of development. Belle de Fontenay, unlike the summer-bearing Raspberry, bears on the wood of the current year's making. When I obtained my canes I planted them in ground which had been trenched between 2 feet and 3 feet deep, a liberal dressing of well-rotted manure having been incorporated with the soil in the process of trenching. Having only had enough canes to make one row, I put them at 12 inches in the row, making the soil moderately firm about them in planting, which was done late in November. Towards the end of the following February the canes were cut down to within a couple of inches of the ground, and as soon as the young growths pushed away from the old stools they were thinned out to 6 inches in the row, the thinnings being transplanted in adjoining rows 4 feet apart and at 1 foot in the rows. The earth was pressed well about the roots with the hands, water given to settle the soil about them, and afterwards a Spruce bough stuck in front of each plant as a protection from the sun until the roots had pushed into the soil, when the shade was dispensed with. A surface-dressing of short manure to the thickness of about 2 inches was laid on between the rows and plants. The chief points to be observed in the successful culture of both summer and autumn-bearing Raspberries are to keep the young growths thinned out to at least 6 inches in the row (9 inches will be none too much if that space can be afforded them, all superfluous growths being either pulled up or cut off to the ground-line), and to keep the plants well supplied with water at the roots during hot, dry weather. It is also essential to success that the growths which are retained to produce ripe fruit from the middle or end of August until cut down by autumn frosts should not experience any previous check, and that plenty of light and air should reach them for the purpose of consolidating and maturing the wood.

H. W. WARD.

**Plums.**—"Y. A. H." will have seen that I made some reservation in writing of Plums on north walls. It was only extensive and indiscriminate planting and the occupation of space that might be better employed that I condemned. I know well that there are a few kinds, Jefferson being amongst them, that will do well in such positions in some, but not all, gardens, and it would be well to prove their adaptability before planting too extensively. For instance, here the Washington Plum on a north wall was a mere bag of water, while Reine Claude de Bavay never ripened at all. In the open and on a south wall the former is very fine and good, while the latter on a south wall is quite our latest Plum—late enough for all practical purposes. I notice that "Y. A. H." speaks of Jefferson as doing well as a bush in the open, and I agree with

that, as it is here our most useful dessert Plum, and we grow it for successive crops on walls of south and east aspects, as well as on bush trees. I should like to hear, however, whether trees on north walls produce later fruit than those from the bush trees. In our case they ripened at the same time, and those from the bushes were the best flavoured. To show that the difference in flavour of fruit taken from walls of north and south aspects was not a matter of cultivation, I may say that trees of the best kinds of Plums were planted directly opposite each other on opposite sides of a wall running about E.N.E. and W.S.W.; they were treated alike, and those on the south side gave grand fruit, while the others were rather inferior and very rarely fit for dessert.—J. C. TALLACK.

**Bush Plum trees.**—For the first time in a dozen years I have a crop on a few trees growing here as free bushes. The sort<sup>s</sup> are Victoria, Bryanston Green Gage and Dymond. In former years the bullfinches and sparrows have been troublesome, eating all the buds, but this year they escaped, and as the wall trees almost failed, the crop on the bushes came in very useful. In consequence of past experience, I could not recommend Plum-growing on bushes in preference to walls. My favourite wall aspect is east for this crop.—E. M.

#### APPLES FOR ORNAMENT.

I HAVE more than once referred to this subject, and quite agree with all that has been said in its favour, and wherever I have had an opportunity I have acted upon it. There is really no place too small for a good-sized Apple tree. From the palace to the cottage there is scope for Apple tree planting merely for the sake of ornament. No cottages are so pleasing to the traveller as those with Apple and Cherry trees shading the entrance and whose gable ends are covered with Apricot or Pear trees. Such sights are more common in the far-away country districts than near the great centres of population. Let the cottager continue to plant his Codlins and Blenheim's, the former for early bearing, and the latter for the future.

Whilst thinking over the matter as to suitable varieties, especially as regards beautiful coloured fruit, the following list has occurred to me as being worth planting for ornamental purposes as well as for the fruit: Blenheim Orange, Peasgood's Non-such, Bismarck, Worcester Pearmain, Beauty of Bath, Wellington, Norfolk Beaufin, Court Pendu Plat, Gascoyne's Scarlet, Hollandbury, King of the Pippins (I should plant this because, though its fruit may not be highly coloured, the tree is of rapid and free growth and bears so freely and will always pay its way), Lady Sudeley, Lord Burghley, Fearn's Pippin, Nanny (a bright coloured Sussex Apple), Prince Albert, Yorkshire Beauty. The above list includes several Apples of recent introduction, about the growth of which more experience is required before anyone plants largely, as for ornamental purposes we want free and vigorous growth. A stunted Thorn may pass muster, but a sickly, cankered Apple would have to be removed. Some of the large-growing Apple trees, such as the Blenheim, Peasgood's, the Wellington, Beaufins, and others, might be planted round the margins of the home plantations, or even to a limited extent might take the place of some of the Thorns in the park or in the dressed grounds which surround the mansion. Only in planting have the site properly prepared, so that the trees may have a chance of growing away freely from the first. Some protection should be given to the stems for a few years. In the park or open grounds, cattle and sheep would soon destroy them unless protected, and in the enclosures hares and rabbits are also very destructive. Wire netting would suffice against ground game and sheep, but where cattle have access, something more substantial will be necessary. My idea is that for purposes of ornament, only tall standards grafted on the Crab and capable of developing a large head should be planted. I am sure anyone who has the



means of planting such trees will only have to think the matter over a little to see how much beauty and usefulness may be created thereby at a very small expense. It is perfectly true the result may not be seen at once. Like many other good and desirable things, it must be waited for; but of one thing we may be certain, that Apples planted within the friendly shelter of the home plantations or as a foreground to some of the groups of trees in the park, will, in consequence of their sheltered position, bear better crops of fruit than can be obtained from the trees planted in straight lines in an exposed orchard. Therefore, those who have utilitarian views may do worse than plant Apple trees. E. H.

#### SHORT NOTES.—FRUIT.

**Apple Nelson's Glory.**—I gathered the other day three specimens of this Apple. The weight and circumference of each were as follows: No. 1, weight 12½ ozs., circumference 11½ inches; No. 2, weight 13 ozs., circumference 12½ inches; No. 3, weight 13½ ozs., circumference 13 inches.—E., *Sunninghill, Berks.*

**Strawberry La Grosse Sucrée.**—This kind is valued by many for forcing, and after this is done it would appear to be one of the best of all to plant out for late summer and autumn fruiting. When at Ganton recently, Mr. Allan informed me that through August he was gathering fruits in quantity weighing from a quarter of an ounce up to an ounce, and even in the third week in September there was quite a crop of ripe fruits visible. This kind was altogether finer in fruit and more profuse and constant than *Vicomtesse Hélicart de Thury* treated in the same way.—A. H.

#### ROSE GARDEN.

##### A CHAT ABOUT ROSES.

SPRING and autumn are the two seasons when there is much work to be done among the Roses, and very much depends upon how and when such work is carried out. Late blooms are very plentiful and pleasing this season, some varieties being literally covered with fairly good blossoms at the time of writing (October 3). *Marie van Houtte*, *Madame Lambard*, *Anna Olivier*, and *Sunset* are the best among the Teas with me at present; *W. A. Richardson* and *Celine Forestier* among the *Noisettes*, with *General Jacqueminot*, *Victor Hugo*, and *Gloire de Margottin* from the Hybrid Perpetual section running them rather hard for freedom and quality. Among the finest of all autumn Roses are the *Chinas* and *Souvenir de la Malmaison* (Bourbon). Season after season these are among the very best for late flowering. While upon late flowers, what a vast difference it makes which stock the plants are growing on. My "Generals" on the *Manetti* are quite leafless and ripe, those on the seedling *Brier* being still in foliage and flower. And how exquisitely sweet some of these autumn blooms are, with the deepest and most intense shades of colour and delicate perfume. *Le Havre* and *A. K. Williams* have been giving me some grand flowers recently, and, with the dark maroon found in *Abel Carrière* and *Victor Hugo*, have greatly enhanced the pleasing qualities of the Teas and *Noisettes*. The darkest Roses are always superb in autumn, as the sun does not burn them and produce the dull shading over their purple, scarlet, and maroon shades in the same way that many summer blooms are spoilt. Besides, they last fully twice as long. The *Brier* stock continues in growth longer than the *Manetti*, and this is very suitable for autumn blooming; in fact, very few autumn flowers are found upon the *Manetti* during the first two seasons. After this, and when the plants are

more upon their own roots, those upon the *Manetti* will frequently produce some good late blossoms. I have a bed of plants that were set up together some ten years ago. These were the cullings or leavings from other beds during transplanting. Each season some of the best are lifted out and their places filled with other cullings. After the second year all of them are on their own roots to a great extent, and then produce some splendid late blooms. Planted deeply, and being virtually upon their own roots, these plants send up shoots from their base late in the summer, and generally produce a fine flower. I have frequently been surprised at the way many of these continue to grow and bloom long after the same varieties on maiden plants have ceased and are practically ripened off.

Budded stocks are looking particularly well; I have seldom seen them better. On the *Manetti*, *Brier*, and standard stocks they are already putting on the ripe and red colour that indicates that they are well set, healthy, and ready to stand any ordinary winter. Speaking of my own buds, I have seldom had a better take; nor have I heard of complaints from others. With the exception of a few varieties of Teas, Bourbons, and Hybrid Perpetuals, that are naturally late growing, the bulk of the plants in my neighbourhood are commencing to ripen satisfactorily. All of those on the *Manetti*, and many on the seedling and cutting *Brier* stocks, are already fit for transplanting. After the wet weather we have had, these will lift well and lose very few of their fibrous roots. The sooner planting is done the better, except with those still in growth. I have invariably had better results from plants that were lifted early. Of course, much depends upon the class of soil you are planting in. When freshly dug it should not be trodden upon too soon after wet weather, or it becomes pasty and hard, especially around the roots of the plants where it has been trodden a little to set the soil about their roots. Nor would I plant very heavy and stiff land early. This is much best if thrown up to the winter frosts until February, so as to get it more pulverised and in better condition for the roots.

While upon this point, let me once more recommend that more care be taken as to what class of manure is used. Always use light manures for stiff land and the reverse for light land of a porous nature. With a little attention to this detail, Roses will grow anywhere. Heavy manures are usually recommended for Roses, but due care should be taken to apply them more or less according to the staple of your soil in a natural state. A middle course is much the best for Roses, *i.e.*, neither extreme in light or stiff soil, nor yet a very rich or poor compost. It is so generally imagined that the Rose requires an exceedingly rich compost, that more often than not they are overfed, and with less satisfactory results than if they had been treated as ordinary flowering shrubs. It will pay to give the Rose more generous treatment than you would accord such flowering shrubs as *Deutzias*, *Spiræas*, *Weigelas*, &c., but avoid going to extremes. This only encourages late growth—generally far too late to be of full service. It is late, because the plants cannot grow well until the coarser part of the manurial strength is expended. Nor do I advise the use of manures at the time of planting any stocks for Roses. Ordinary soil will grow the stocks quite strong enough, and I am convinced that the buds will unite to the stock better when the growth is not so vigorous, as we often see the *Manetti* grown. All of this growth is practically wasted, as it is cut away again in the

spring when pruning. The necessarily strong and somewhat coarse body of roots made by stocks when so grown is of little value, and only serves to produce a coarse and often sappy maiden growth. Fork in some well-decayed manure among the budded stocks during the present time, and so secure that what nourishment is taken from the soil goes direct to the benefit of the Rose, or, better still, lift all maidens and plant in well-prepared soil. Personally, I do not like strong and "fat"-grown maiden Roses. The wood does not mature, nor do they usually turn out so satisfactory as smaller and better finished plants.

No time ought to be lost in planting out hedge Briers for standard or half-standard Roses. These will strike root well now, and the earlier they are planted the less gaps will there be among them. Trim the roots off close, much closer than is generally the case, and plant about 9 inches deep. After the stock has been successfully converted into a Rose they should be lifted, any suckers cut off, and be replanted in better soil, and not deeper than 4 inches. Planted deeper in the first case, they will strike root more freely, but after this, such deep planting greatly encourages suckers, and is not so suitable for these stocks. I would not plant out *Manetti*, nor struck *Brier* stocks yet. These are propagated on much the same lines as Currants, Gooseberries, &c., and are planted deep in the soil. During the past summer the bark of these must necessarily have become somewhat more tender than if it had remained fully exposed to the air; therefore, I would leave the transplanting of *Manetti* and cutting *Brier* stocks until the spring. They are much safer where they are. Although very hardy and seldom killed by frost, their bark is not so able to resist severe weather as if it had not been partially bleached by being covered with soil for fully twelve months. This is the best time of all for striking a few of these useful stocks, also the *De la Grefferaie*, *Polyantha*, and in fact any strong-growing varieties that may be wanted for stocks or as Roses on their own roots. Where the more vigorous of the Hybrid Perpetuals and Teas are cultivated as climbers or as pegged-down Roses, there is no time to lose in securing the strong shoots from rough winds. In the case of dwarfs in the open, it is a good plan to drive in a stout stake and secure several branches to this. Care must be taken, however, not to tie them too loosely nor too tightly. If too loose, they will sway about and rub one another, and chafe against the tying material. On walls or fences, I would prefer to nail them in their places at once, trimming out the older wood as the work progressed. A few words must be given to pot plants, as there is much to do in this department at present. Unless I was favoured with an exceptionally sheltered position, I would house all pot Roses as far as possible. An old frame, pit, or quite a cool house will answer the purpose admirably. Let them still have all the air possible, except those that you intend to force on at once. This I have already treated upon in a previous article, so will merely say here that the excessive wet from autumn rains at the roots of pot Roses does not conduce to so efficient a ripening as is desirable. Therefore I would from now onwards have them in such a position that a slight shelter could be afforded if necessary. See that their drainage is in proper order, and by no means allow the roots to get too dry. The roots of all pot Roses will commence new growth almost as soon as they are afforded this slight attention, and I need not dwell upon the very injurious effects of constantly crippling or



checking such root action. Pot plants will move on into a warmer structure with far greater advantage than if started direct from the open air, and, as a general rule, the more steadily they are grown, particularly during the early stages of forcing, the better results will be secured. Both Hybrid Perpetuals and Teas may be potted at once if lifted from the open ground, but I much prefer plants that were worked (either budded or grafted) in pots from the first. In the latter case, every inch of sound wood is retained in all its value; but plants lifted from the open are certain to lose a portion of their wood. I will close these notes with a brief allusion to the past season. In all ways I think the Rose year of 1892 may be looked upon as having been of quite average quality. Almost all Roses have been good as a whole, and we have had a fairly good season for the more delicate petalled Teas, and been favoured with some most intense colours among the deep red and velvet Hybrid Perpetuals. While not such a typical Rose season as the Jubilee year, 1892 is in my estimation as good as any we have had since 1887.

RIDGEWOOD.

#### TEA ROSES.

THERE could be no better evidence that these are becoming more popular every year than that afforded by the interesting article by Mr. C. J. Grahame on p. 318. It has taken a long time to raise Tea Roses into popular estimation. Even those who made a specialty of them and grew them for sale actually, perhaps unconsciously, checked their advance in this direction. For example, in Rose catalogues of less than a decade ago I read such remarks as these: "Tea Roses are so tender that they cannot be properly grown in the open air. They must have winter protection. Only under glass are their flowers properly developed or brought to full perfection of form and colour, &c." Now it is quite different, and we are making rapid strides along the path of progress, thanks chiefly to accessions to the ranks of rosarians of men who think and work out new ideas. A trade grower, reputed for his Tea Roses, declares in his catalogue that they are hardy and need no protection. When first he made that declaration and his catalogue had been distributed, there came to him a letter from a distinguished amateur Rose grower accusing him of misleading the public. Sites and localities, of course, determine a great deal, but still I believe a certain amount of doubt exists, especially among amateurs, and doubtless Tea Roses are protected in places where they do not need protection. I must confess to having felt something of the sort myself till proof beyond doubt was forthcoming that in my case 20° of frost and even a little more did no real harm, and since then winter has not given rise to anxieties about the Tea Roses in their present situation. If others will make all possible provision for the speedy draining away of heavy winter rains and will not manure excessively, they will find that these details of culture promote the hardiness of the plants to a considerable degree.

It is true that some varieties have not the stamina of the Hybrid Perpetuals, as Mr. Grahame remarks, but there are many weak kinds among this latter section, and there are a goodly number of Teas as strong-growing as the majority of Hybrid Perpetuals. I cannot help thinking that Mr. Grahame writes to some extent from an exhibitor's standpoint. He confesses to preference for the finer-flowered, that is, the full double Teas, and further advocates half-standards as the best method of growing them. This may be so. I believe it is so with exhibitors, as some of the finest Tea Rose blooms I ever saw were upon standard plants. But for profusion of bloom and for garden effect dwarf plants are not to be beaten. I can assure Mr. Grahame that the majority of Tea Roses with me, though hard pruned every year, carry their flowers as high upon shoots propor-

tionately as strong and keep them as clean and free from splashing as do the Hybrid Perpetuals. When the plants are established from their second year onwards they do throw out strong wood, and the only single exception that I have found to this among all the best Tea Roses is Primrose Dame. It flowers profusely every year, but I have never managed to induce vigour. Dwarf plants grouped protect one another from splashing, and if they are not grown so closely, then a better and more artistic remedy than elevating the bushes is to carpet the ground beneath them. The merits of this I have on several occasions set forth in these columns. What we grow Roses for, however, must always decide this point. It is possible to add considerably to the list of kinds Mr. Grahame gives. There are numbers pretty in the bud state and most reliable, especially in unfavourable seasons, as they open their flowers more readily. There are one or two kinds, however, that I would particularly recommend to Mr. Grahame and all who love Tea Roses. They should not be

breeze. It always opens well, and is second to none for profuse and persistent blooming. Of its exhibition qualities I cannot speak, as I never disbud, but I think, grown for that purpose, it would throw some fine flowers. Dr. Grill was raised by Bonnair, a raiser, by the way, who has not given us many striking kinds, and perhaps to this and to the fact that several other fine Roses, such as Ethel Brownlow, Luciole, and Princess Beatrice, were put in commerce at the same time, we may attribute the reason of its failing to attract general attention. It should now be obtainable in English nurseries. I supplied buds for budding to two trade growers. Mme. Charles I should include among the best dozen, and that surely is good testimony of its worth. It is not new, but it certainly is neglected. One of our largest and best groups is one of this kind, consisting of twenty-five plants. It is really surprising what a large collection of Tea Roses can be grown even in a comparatively small garden by massing each kind closely in a simple natural group. No other Roses lend themselves to this form of arrangement quite so readily or are so lastingly pretty as the Teas, and next to them the Monthlies.

A. H.

#### TEA ROSE MARIE VAN HOUTTE.

THIS is one of those Roses that everyone must grow and that nobody can ever fail to admire. Exquisite in form and colour, vigorous in growth, hardly less free-flowering than the common China, this Rose is invaluable to every rosarian. For exhibition, for button-holes, for bouquets, for general cut-flower purposes, or for making a display in the garden (see illustration) it is alike admirable, and the plant thrives well whether grown on dwarf Brier stocks in the open, as a climber on a wall, or as a standard. The so-called Rosa Polyantha, which in reality is nothing more nor less than Rosa multiflora, also makes an excellent stock for Marie van Houtte, which grows and flourishes upon it especially well in very light and sandy soils. Marie van Houtte was the first Tea-scented Rose sent out by the late M. Ducher,



Tea Rose Marie van Houtte.

omitted from the most exclusive selections. The first is Dr. Grill. I cannot understand why this Rose has been overlooked. A coloured plate of it appeared in THE GARDEN for January 18, 1890, and at the time of its publication the Rose was unknown by most of our leading trade growers. The notes that accompanied the plate were written upon one season's experience of the kind, and there is not the slightest need to qualify anything there said in its praise. Something may be added, however. In the first place it makes a splendid group, and although I have a border of the best Hybrid Perpetuals, not a kind in it is quite so vigorous as Dr. Grill; it has such strong shoots, and the bushes are over a yard high. To adequately describe its many-tinted flowers is no easy matter. Lastly, its fragrance altogether surpasses that of Mme. de Watteville and others. I have been able to distinctly appreciate it some yards away from the group borne upon the air in a gentle

of Lyons, having been first distributed in 1871, and, as is so often the case, has not yet been surpassed by any subsequent productions of the firm, although these have included such beautiful varieties as Amazone, Anna Olivier, and Bouquet d'Or (all sent out in 1872), Jean Ducher (1874), and Innocente Pirola (1878). Considering the length of time that Marie van Houtte has been in general cultivation, it is, perhaps, surprising that there should not have been raised more varieties following it in habit and character. The colouring of the flowers is so exquisite in its combination of lemon, yellow, and peach, and the beauty of the plant itself is such, that it would have been thought probable that raisers would have made every effort to obtain from it other varieties of similar habit and with distinctly-margined



flowers of different shades; but whether the attempt has been made or not, there has not yet been raised any Tea-scented Rose with distinctly-margined flowers whose sum of good qualities at all approaches that of the best of all the Maries, so in the meanwhile her many admirers will continue to worship undisturbed at the shrine of Marie van Houtte. G.

### THE LEADING EXHIBITION ROSES.

FROM an analysis I lately made out of the Roses which took the most prominent positions at Rose shows this year (in regard to the medals and first prizes won by individual varieties thereat), I found that nearly all such prizes were won by Roses we have had in cultivation for a considerable period of time. One Rose made the exception necessary to prove the otherwise invariable rule, viz., the new Rose Gustave Piganeau. My analysis has been confirmed in some respects by another of a different character which Mr. Edward Mawley, the secretary of our National Rose Society, has just issued, and which gives the number of positions taken by the various Roses of note in the prize boxes at our society's metropolitan exhibitions this year, and the average for seven years past. The two analyses can hardly be adjusted, as mine is made out solely from the Roses which took the first positions and medals. I did not confine myself to one exhibition, but investigated the results of some sixteen Rose meetings. Mr. Mawley's analysis is of the N.R.S. metropolitan exhibition alone, and takes into account the first, second, third, and fourth prizes given. My figures came out with the following results: thirty-three Roses obtained medals and first prizes, against others of similar colour H.P. or Tea, for their special varieties, or as being the most distinguished Rose at certain shows, and of these thirty-three Roses the following came out first in regard to the number of times they obtained these recognitions from the judges:—

H.P.	1st or N.R.S. medals.	Teas.	1st or N.R.S. medals.
A. K. Williams ..	8	Souvenir d'Elise ..	6
Her Majesty ..	5	Innocente Pirola ..	5
Gustave Piganeau ..	5	Comtesse de Nadaillac ..	4
Dupuy Jamain ..	2	lac ..	4
Marie Baumann ..	2	Maréchal Niel ..	3
Comte Raimbaud ..	2	Cleopatra ..	2
		Niphotos ..	2
		Marie van Houtte ..	2

The rest (twenty in all) obtained one special distinction each.

Medals were won by Souvenir d'Elise on four, A. K. Williams on four, Innocente Pirola on three, Comte Raimbaud on two, Gustave Piganeau on two occasions. One each by H.P.'s Charles Lefebvre, Dupuy Jamain, Her Majesty, Abel Carrière, Marie Baumann, Marie Rady, Alfred Colomb, and Le Havre; and Teas, Comtesse de Nadaillac, Souvenir de S. A. Prince, Marie van Houtte, Mme. Hoste, Cleopatra, Catherine Mermet, and Ethel Brownlow.

In Mr. Mawley's analysis, without distinguishing the class of prize box they were exhibited in, the first dozen came out as follows as having been in some prize box at the N.R.S. show:—

H.P.	Boxes.	Teas.	Boxes.
Mrs. John Laing ..	50	The Bride ..	45
La France ..	49	Souvenir d'Elise ..	41
Mme. Gabriel Luizet ..	48	Maréchal Niel ..	41
A. K. Williams ..	40	C. Mermet ..	40
Ulrich Brummer ..	35	Innocente Pirola ..	34
tienne Levet ..	34	Mme. de Watteville ..	34
Charles Lefebvre ..	32	Comtesse de Nadaillac ..	33
Duke of Wellington ..	28	lac ..	33
Marie Baumann ..	23	Mme. Cusin ..	32
Her Majesty ..	22	Niphotos ..	30
Merveille de Lyon ..	12	Edith Gifford ..	28
Dupuy Jamain ..	22	Caroline Kuster ..	25
		Princess of Wales ..	25

Neither Mrs. John Laing, Mme. Gabriel Luizet, La France, nor The Bride won the N.R.S. medal at any of the sixteen shows I analysed, but they probably were more frequently shown in boxes at these shows than most other varieties, thereby confirming the Crystal Palace analysis. My figures in

other respects vary considerably from Mr. Mawley's in the H.P. results, and are almost identical in those for Teas, Mr. Mawley's Crystal Palace analysis bringing Souvenir d'Elise, Maréchal Niel, Innocente Pirola, and Comtesse de Nadaillac into the first seven places, and my analysis placing them in the first four.

It would have been, I think, of interest if Mr. Mawley had given the analysis of the first prize boxes at the Crystal Palace, so that we could see if the form of Roses then exhibited was the same as at shows all over the country. From my visits to exhibitions I formed the opinion that this was a good year for dark reds, those which were specially remarkable being A. K. Williams, Charles Lefebvre, Comte Raimbaud, Duke of Wellington, Horace Vernet, and Victor Hugo. The extra dark reds were hardly seen, Prince Camille de Rohan, Jean Souperet, and Xavier Olibo being conspicuously absent from most shows; and in view of the similar, but somewhat lighter shades being so good most of the season, it hardly seems explicable, unless it is that these black-red varieties are not now so much grown as formerly—a very possible explanation, as they are very disappointing to exhibitors. To my mind the most satisfactory result of these analyses is the knowledge that our old Roses are able not only to hold their own, but to defeat most new-comers.

It is satisfactory to see a Rose like A. K. Williams, which has been fifteen years in commerce, taking such a position as it has this season; also La France, which, although it did not actually win the N.R.S. medal this year, yet was *proxime accessit* at Chester. This splendid old favourite has been for twenty-five years in our exhibition list, and on its day cannot be beaten. Another grand Rose is Charles Lefebvre, brought out in 1861. A specimen was shown at Croydon this year by Mr. Brown, of Reigate, which won the *Gardeners' Magazine* medal, but somehow was overlooked for the N.R.S. medal. It was simply perfect in size, colour, shape and freshness. Charles Lefebvre has been good early and late this year. Long may it continue to be indispensable to us. To me it is a question whether Charles Lefebvre or A. K. Williams should be called the king of the red Roses. I suppose, to quote the words of a celebrated French writer, to Charles Lefebvre the title is due, *Par droit de conquête, et par droit de naissance*. CHARLES J. GRAHAME.

Croydon.

### ROSES FROM CUTTINGS.

"R." GIVES some very good information on p. 319 as to striking Roses, but the opening sentences of his note are really directed against the practice of growing the plants upon their own roots, and he admits that he is not particularly in favour of own-root plants except in a few cases. I find that they are more generally in request than before, and doubtless will be more so in the future. All the abuse that has been levelled at stocks cannot be set aside, as "R." would have us do, and the evil effects and bad results cannot be attributed to the work having been cheaply done. It is mainly through the protests, loud, long and oft repeated, of amateur growers that the Manetti has been entirely rejected as a Tea Rose stock, and in certain quarters it is not much regarded for any purpose. If a Rose will do at all on its own roots, we may look upon it as a permanency, and, therefore, it is worth waiting for it to become established. But with worked plants things are very different. A bud inserted upon strong roots is quickly forced as it were into a good plant at express speed, the root-force below expending its energy in producing a balance in top growth above. Exactly the same takes place with own-root plants, but the time must of necessity be prolonged. It is in succeeding years that we test and prove the relative merits of each. Why is it that Roses, at least some kinds upon foster roots, after a few years begin to go back? I have had nothing to complain of in this respect, but others have. One sought an explanation by a letter of inquiry to a distinguished continental

raiser from whom the plants were obtained, and he declared that his experience was the same. The great pot Rose growers in America grow chiefly own-root plants, especially Teas. It is only a question of time for them to become popular and extensively grown in this way in beds and borders in English gardens. Many people would purchase them now if they could obtain them, but, failing this, they will raise them themselves. It is not unusual to cling to old customs and practices, thinking they do not admit of improvement, and "R." may yet have to subordinate his personal dislikes in order to assist in supplying the wants of the Rose-growing public generally. A. H.

## FLOWER GARDEN.

### ANNUALS IN THE FLOWER GARDEN.

GARDENS on all sides furnish abundant evidence that we are progressing. Many have entirely given up that exclusive system which only recognised a few tender things as fit to adorn the flower garden. Quite recently I was delighted when visiting two large gardens in Norfolk to find them filled with good perennials and choice annuals well grown, and the effect was all that could be desired. As regards annuals for flower garden decoration, success depends in a great measure upon their good cultivation. By careful attention to thinning and allowing room to grow and spread, it is found that many are as free and continuous in bloom as the orthodox bedding plants that were grown, because they provided a blaze of colour through the summer months. Some, it is true, are fleeting, no matter how well they are grown, but this till lately was regarded as the fault and failing of all—at any rate of those that we sow in the open air where they are to flower. They were not given the slightest chance. It is no exaggeration to say that a packet of seed was sown upon a spot just about sufficient to sustain one plant. I distinctly remember an example of this kind in earlier days. The man to whom the sowing was entrusted carried a 10-inch flower-pot and myself the packets of seeds. We went round the hardy plant borders, and at suitable spots the pot was inverted, a circular drill was drawn around it and the seed sown therein. The fate of the plants may be imagined. A single plant of *Nemophila*, *Eschscholtzia*, or *Platystemon* will alone cover a square yard of ground, but our patches never did. The plants grew and flowered for a week or two, but soon ceased. Now, instead of making puny patches, entire flower-beds are sown in spring, and with due care and attention they are sweet and gay all through summer and autumn. To be able to do this is a great gain, as it considerably reduces the quantity of plants that have to be kept through the winter, as under the old bedding system with its attendant cost and trouble. Even those who have means and facilities for storing plants avail themselves in part of the advantages arising from the use of annuals, but to the most numerous class of flower lovers the gain is greater still. They may have brilliant gardens without the cost of glass. Certainly with a hotbed and a few frames in spring to assist those annuals that want gentle warmth, they need envy no one; but if they make annuals supplementary to good perennials, their gardens will be gay indeed and always bright with seasonable flowers. It is really surprising what can be done with seeds alone, starting in early spring. Not only can we fill the beds and borders, but walls, fences and hedges may be clothed with a summer veil of exceeding beauty. The annual climbers are quite as pretty as those of a more permanent character, and particularly useful in special cases. At the present time *Mina lobata* is very lovely, its forked spikes of red and yellow flowers peering from a background of rich leafage. *Eccremocarpus scaber* has been attractive all the summer. The *Lophospermum*, too, is always fine in autumn, and the Morning Glory, so appropriately named, seen in the early morning is most beautiful, though so easily grown. The climbing *Nastur-*



tiums are not to be despised. In a town garden visible from the street, I annually admire a pretty feature. A blank wall is clothed entirely with one variety of *Nasturtium* having dark leaves and rich crimson-scarlet flowers of glowing brilliancy. The old Canary Creeper is delightful always. I never saw such quantities of it as I recently did in Norfolk cottage gardens, where the cottagers had made summer hedges and screens. With me it adapts itself to peculiar circumstances by climbing up the face of a high Box hedge and hanging in graceful festoons of flower. *Nasturtiums* were tried for the same purpose, but they failed, as they grew into the hedge and disappeared entirely, as the hedge is thick and wide.

Sweet Peas, of course, are indispensable, however few annuals are grown. Their value for cutting is equal to that for ornament, and they should be grown in gardens great or small. But it is among the dwarfier things that we find so many serviceable for adorning the garden and filling beds and borders. Stocks and Asters are so well known and generally appreciated, that it is needless to say much concerning them here, beyond remarking upon the wisdom of our nurserymen in supplying particular types and strains so true to colour and name. For example, I grow a lovely Stock called *Mauve Beauty*. I have never seen anything else like it in colour among Stocks, and every year it comes true, the only variation being in the percentage of single-flowered plants. There are many others equally as good. Among Asters it seemed as if perfection was reached, but now we have another welcome break in the Comet strain, with flowers more nearly approaching Japanese *Chrysanthemums*, and therefore likely to be much appreciated.

Zinnias are perhaps not quite so popular as they deserve to be. I would strongly recommend them to those who want a bright bed during summer and autumn. They appear to want rather more warmth in spring than the preceding things; at least, such is my experience. After pricking off into boxes this year, the plants were kept in gentle heat till well established, then hardened off, and they made good plants, whilst the flowers have never been finer than this year. They want good soil and plenty of room, and then they will furnish any quantity of flowers. These, too, are now offered in distinct colours. Petunias, especially single-flowered strains, are of great value to the flower gardener; they are so profuse, lasting, and constant, especially upon light, hot soils and during dry seasons. I generally favour self colours, but a bed of a good striped strain seen on a sunny day and in full blossom commands admiration. Verbenas are very charming when treated as annuals. They come absolutely true to colour, and there is no difficulty in securing a large and healthy stock. It is very seldom that disease appears among the seedlings, and thus we can enjoy the flower and not concern ourselves about its perpetuation during the most trying time of the year. For the flower garden seedling strains answer all the purposes for which the named kinds of old used to be grown. *Lovelies-bleeding* is a magnificent plant for large beds and borders, producing a fine effect. If allowed room it develops into considerable size, and lasts far on into the autumn. *Phlox Drummondii* cannot be too highly praised, especially the grandiflora strain in self colours. A very fine crimson kind planted this year as a band around two large beds of *Marguerite Daisies* has lasted in flower the longest, and now looks much the brightest. It is also very good for cutting. The same may be said of the Sweet Scabious, which is a lovely flower and very fragrant. The flowers with their long stalks arrange well and prettily and the colours are variable, but showy, being mostly of one shade. Hitherto I have always grown this in mixture, but, struck by the richness of some of the dark kinds and the soft salmon-pink shade of others, I intend to have beds of one kind, as seed in separate colours can now be obtained. It is delightful to pass by or stand near a bed of Sweet Scabious on a sunny day when the air is full of their odour. *Licum grandiflorum rubrum* will make a bed of

the richest crimson at small cost and with little labour. It is to a certain extent a fine weather flower as it opens fully only on fine days, but, seen in the sun either close by or at a distance, its shining brilliancy is fully appreciated. Everlasting Flowers (*Helichrysums*), too, must be seen on a bright day to enjoy them, when their flowers open to the sun and the breeze causes a gentle rustling among them. In rich ground they are apt to grow tall and ungainly, but dwarfier strains are being offered which possess all the free-flowering and other good qualities of the older types. *Sphenogyne speciosa* has been tried this year for the first time in beds by itself, and it proves to be one of the very best of dwarf annuals. It requires some patience to sow it, for the seed is almost like wool. It is sure to come up too thickly, and must be freely thinned, for the habit of the plant is dense, compact, but spreading. In leaf alone it is elegant, making a cushion of finely-cut grey-green foliage about 9 inches high, and for three months two beds have been gay with abundance of bloom, while buds are still showing. The flowers are nearly 2 inches across, and borne singly on slender stalks. They are mostly of an orange-yellow colour with a circular black band around the inner base of the petals next the disc, which is also dark. It varies slightly, however, some few plants having flowers of a lemon-yellow colour and others are minus the dark band. It is certainly an annual whose merits cannot be too widely made known. Its flowers only open, however, in sunshine, and therefore a sunny spot must be chosen. Annual Lupines are numerous and good, especially *L. nanus*, which is very constant and profuse, continually branching and sending up successional flower-spikes. Its blue and white flowers are exceedingly pretty and the spikes would be charming for cutting, but the scent of the flowers is peculiar and rather offensive.

Under the name of *L. nanus albo-coccineus*, I purchased a packet of seed this year, thinking it was what the name implied it to be. It proved, however, to be of a decidedly different type from the blue and white *nanus*, and in habit more nearly resembles *L. mutabilis*. It is dwarf, however, and does not grow so high as the original *nanus*. Its habit is very bushy and spreading, and it blooms continuously, the flowers being first white, passing to rose. It is a charming little Lupine, but I should like it better if it had the growth and characteristics of the blue *nanus*. Its leaves are of a yellowish-green hue, and do not in consequence contribute so much to the beauty of the flowers as the greener leaves of the other kind. *Hibiscus africanus* major, another annual tried this season, was a conspicuous failure, but fortunately placed where not much seen. It looked well when growing, with its deep dark green leaves, and the first blossom which opened aroused anticipations that were never realised. It was of a lovely pale primrose-yellow, large and open, clustering in the axil of the leaf, and displaying a rich velvet-looking crimson stain on the inner base of the petals. The flowers appeared to open in the early morning, and lasted but a short time. I visited the bed on many occasions, but never saw a score of flowers out at one time. If the flowers appeared in number at any one time, it would be a splendid thing and quite first-rate among annuals. *Godetias* are rather disappointing, chiefly in their colours, which have too much of the dull purple or magenta about them. We want clear, bright, distinct coloured kinds as good as the *Duchess of Albany*, which is so pure in colour, free and continuous in bloom, and decidedly the best kind in existence. *Coreopsis tinctoria*, although rather tall, makes a fine bed and a showy mass of brown and yellow. If tall, however, it is self-supporting when placed where not exposed to strong winds. The variety *atrosanguinea* is very rich in colour. *C. Drummondii*, although dwarfier, is rather straggling, and does not make quite such a pretty mass, but its flowers individually are larger and borne singly on long stalks. Those here mentioned by no means represent all the annuals suitable for the flower garden. They are simply those that I have used and found satisfactory, and which have enabled me to con-

siderably reduce the stock of plants needing winter care and protection. Moreover, justice can hardly be done in one garden to the many good annuals, unless it be of immense area and planted or sown solely with them. A. H.

#### THE CARNATION AND PICOTEE.

We have been working amongst the Carnations, taking off the layers principally and potting them up for the winter. The work will be continued until the out-of-door plants have been planted where they are to flower next year. The best time to plant is of some importance. In the north of England the growers seldom grow Carnations in flower-pots. They plant them out in the open garden well exposed to the weather, and one of the best growers—a good florist and an intelligent gardener—told me he liked to plant out his Carnations early in November. Another good grower, and one of my own pupils, Mr. Robert Elliot, of Harbottle Castle, near Rothbury, who lives in one of the wettest and coldest districts of Northumberland, told me that he liked to get his plants out in September, and thus ensure their being fairly well established before winter sets in with undue severity. I have always thought that there is a great deal in this, because the frosts with alternate thaws have a tendency to throw the plants out of the ground. We can seldom find an opportunity to get our plants out before November, and they generally do well. The best lot of plants we ever had were grown on a very exposed piece of ground during the present season, and they were not planted out until the second week in November last year. We shall certainly not be able to get our plants out until the last week in October or early in November this year. Some gardeners may say, Why plant them out so late as this? Would it not be better to plant the layers closely together in frames for the winter and plant them out in the spring where they are to flower? My experience leads me to say emphatically, no. You may transplant Carnations as much as you like in the early or late autumn, well into November, in fact; but if any freedom is taken with them in spring, it is very seldom that they do well until they have had a season to recover themselves. I found this out when I was an under-gardener in Scotland some forty years ago. At that time I was a mere lad, but the Pansy, the Pink and the Carnation were my favourites. I go in for autumn planting, even if it is late in the season. I need not say that the Carnation likes good deep soil made rich by working in decayed stable manure and some leaf-mould with sand and mortar rubbish if the loam is what may be termed heavy. Press the plants in quite firmly. This is, I am sure, one essential to successful culture. I thought our plants were not put in quite so firmly as they ought to have been last winter, and a man went over them again, treading the ground in quite firmly close to the plants. They had to be pressed in after this two or three times, at least a few of them which were loosened and thrown out by the frosts. The seedlings make a brave show this year. The plants were attacked by the maggot in the spring when first planted out, but by persistent hunting of them every day, they were prevented from doing damage, and the plants are now clean and very healthy. They have been kept quite free from weeds, and good soil in which they are planted has done the rest. The seeds have been a long time in ripening this year and the pods are few in number, and many of them contain few or no seeds. The last seed-pods were not gathered until the second week in October. Growers for exhibition will not need to be told that they must grow a selection of the best plants of the best varieties in pots. As I write these lines we are putting our layers in 3-inch flower-pots, two plants in one pot unless the plants are very large, when one plant only is grown in a flower-pot. The plants are arranged carefully in frames on a hard bottom of coal ashes. I have never used ashes from coke for this purpose, but I have been told that they are injurious to the plants; therefore, it would be safer not to use this material. We use cocoa-fibre refuse, and sometimes spent tan after it has been



reduced to a fine powder by being used in the forcing houses as a heating medium. The plants are placed close to the glass, and the glass lights, though kept close for a few days until the plants become established, are drawn off whenever the weather is fine all through the winter months. Carnations are impatient of confined air. They must also be kept quite free from that troublesome pest to the Carnation grower, green-fly, which will increase in numbers and vigour whenever the weather is mild. Watering must be seen to. The plants should get a good watering after being potted to settle the soil about the roots, but when it is seen that they are well established much water is not needed, though it is well to see that the plants are not allowed to become dust dry. I ought to say that great care should be taken to see that the soil is free from wireworms; if one of these troublesome pests gets into a flower-pot containing Carnations, the plants are sure to be killed.

J. DOUGLAS.

**Exhibiting autumn flowers.**—It is strange that many of the most beautiful flowers of the autumn should be shown in a grotesque and ridiculous way at the exhibitions. We saw lately large collections of China Asters, French and African Marigolds, and Fuchsias shown with the individual blooms cut off with little stem, and placed singly on a board, simply the petals appearing, not a vestige of leaf visible. The Fuchsias were practically upside down, their graceful pendent, characteristic expression utterly lost by this foolish style. It is impossible to get flower shows with any pretence to beauty when this style of exhibiting the flowers is adopted. Many of the varieties in the instance referred to were of splendid colours, the French Marigolds in particular, the ground colour rich yellow, the segments edged with velvety maroon—a splendid contrast. But all beauty was removed by the false method of displaying them, giving visitors merely an idea of the individual bloom. But the Marigolds, the African type in particular, are very graceful plants; the leaves are quite feathery, and the flowers appear above them in rich profusion. At many of the southern exhibitions in particular, long rows of boxes are filled with Asters, Marigolds, Carnations, and Pansies, the individual flowers placed flat on the board, and not a leaf to be seen. This kind of show pleases only the florist who thinks more of a single bloom with a set number of stripes than of a beautiful garden plant.

**Sunflowers.**—It has been a glorious season for Sunflowers, and what a splendid selection we have now, and the great advantage of them is that they do not all bloom at the same time. What can be more chaste and lovely than the dwarf bush annual Sunflower (*cucumerifolius*), the flower of which is about the size of a crown-piece, and has an intensely black eye? Next in beauty to this is *Helianthus latiflorus*, so grand and so smothered with flowers just now. I highly recommend everyone to grow this superb semi-double golden Sunflower. Again, there is *Helianthus orgyalis*, flowering all up the stem. *H. Maximilianus* is also an acquisition, and has a tuber like an Artichoke, but it grows to such a colossal height that it is only fit for a shrubbery. Hartland's *Soleil d'Or* is also one that everybody should grow for cutting. The palest of them all is *H. giganteus*, but this, again, is unduly tall.—W. H. C.

**Iris alata.**—This is an interesting Iris, flowering in the late autumn and winter months, and beautiful either in pots or at the foot of a warm sunny wall where it is in a measure protected from heavy rains and cold winds. A clump of this species in the rock garden or on a sunny border is of remarkable beauty, the flowers very large and the Leek-like sheathing growth is distinctly characteristic. When out of bloom it has the appearance of a miniature Leek, the leafage silvery green, a beautiful contrast to the flowers. These differ in colour, but the prevailing tone is blue, the falls blue, undulating, and marked with deeper veins, whilst there is a sweet Lilac fragrance. It does not

usually bloom until January or February in the open, but may be had in flower in pots in October or November, and it is simply necessary to put five bulbs in a pot filled with moderately wet soil in the summer, place them in a cold frame, and give water cautiously. The result is a pleasing display at this season. *I. alata* has long been introduced, having been sent from Algiers in the year 1801, and it is found in the Mediterranean region. Its other name is *I. scorpioides*.

## FERNS.

### HEMITELIAS.

THIS is a genus which stands in very close relationship with *Cyathea* and *Alsophila*, but yet the species which I include are all distinct enough, and all are, moreover, beautiful species for the decoration of the stove fernery. They are Tree Ferns, but they make large, broad, and handsome fronds long before they get upon a stem, so that no time is lost in waiting for them to become ornamental. The various kinds of *Hemitelia* I have observed appear to find more favour with plant growers on the Continent than with English growers, and I have found them especially cared for at Herrenhausen, in Hanover, by my friend Herr Wendland, the director, where, mixed with other Ferns, they have a splendid and magnificent appearance, their broad fronds lending quite a distinct charm to the finer fronds of more delicate species. These plants do not require very large pots, at least not until they have attained a considerable size; they should be potted in a mixture composed of half and half peat and loam, and this should be made sandy. The pots should also be well drained, because they require at all times a liberal supply of moisture to their roots, and especially during the summer months, their growing season. During the winter they must be kept in a nice moist condition, and at all seasons require a liberal supply of moisture in the atmosphere and a good strong stove heat. The following kinds are all beautiful and distinct, and well deserving the attention of Fern growers:—

**H. HORRIDA.**—This is a beautiful species of large size, having broad, smooth, bipinnate fronds, which have the pinnules from a foot to 18 inches in length. The ultimate segments are inclined to be falcate, the under side pale green, beautifully ornamented with its sori, and on the upper side they are rich shining green in colour. The rachis and the stipes are both armed with prickles. This plant is the most frequently seen in English gardens. It comes from various West Indian Islands.

**H. GRANDIFOLIA** is another West Indian plant, and, like the preceding, is armed with prickles. The fronds are large and broad, pinnate, but the ultimate segments are much shorter and obtuse. The colour is rich shining green.

**H. KARSTENIANA.**—This is a noble Fern which I have seen in the Hanover Gardens. The fronds are pinnate, the pinnæ being nearly a foot long, broad, obtusely lobed and deep shining green in colour. It is a native of Venezuela.

**H. SPECIOSA** is a less handsome plant. It is simply a pinnate plant, with the pinnæ undivided and of a rich deep green.

**H. SPECTABILIS.**—This is another plant which I have only seen in the Hanover Gardens. It is truly a noble plant, with long and broad fronds, the pinnæ being upwards of a foot long; the segments are sickle-shaped and obtuse, and the colour is a bright pale green. It comes from Venezuela.

WM. HUGH GOWER.

**Nothochlæna Eckloniana** (*M. Hunt*).—The fronds you send are of this species, but you are wrong when you say you cannot grow it, having

only a greenhouse fernery, for this is a plant collected at some elevation in the Cape district, and it will not grow for any length of time except in a cool fernery, although it is usually called a stove plant. If the plant is just received from its native home, I should advise that it be put into a well-drained pot, using for soil about two parts of good turfy yellow loam, one part peat and one part rough sand. Let the whole be thoroughly mixed; do not overload its roots; let the plant be kept nicely moist. It may be placed under a hand-glass, and be well exposed to the light, but not to the sunshine. The fronds when young are clothed on the under side with long white hairs, which become brown as the fronds get older, like those sent me. Do not keep the plant without air, and when the spring-time comes round it may stand upon a shelf near the glass, and during the summer-time it should be kept nicely moist.—W. H. G.

**Rhipidopteris peltata.**—James Dixon sends me a sterile frond of this plant for a name, and it is so long since I have seen it, that I feel constrained to offer a few remarks upon it. It is an exceedingly interesting plant, which seldom or never exceeds 6 inches in height. The sterile frond is about 4 inches in length, fan-shaped, and deep green, the segments being narrow, and it presents the appearance of a miniature Fan Palm. When fertile, the fronds which bear the spores are small, sub-rotund and entire. This kind and two others are known, but I have only seen one other growing in cultivation—*R. feniculacea*. This was in a garden in Leipzig some years ago. They all have creeping rhizomes and succeed best grown on rough fibrous peat.—W. H. G.

## GARDEN FLORA.

### PLATE 880.

#### BULBOUS IRISES.

(WITH A COLOURED PLATE OF *I. HISTRIOIDES*.)

THE section *Xiphion*, to which this Iris belongs, includes the English and Spanish Irises, the African Irises (which were figured and described in THE GARDEN a short time ago), *I. Boissieri* from Southern Portugal, and the beautiful *I. Kolpakowskyana* from the mountains of Turkestan. These bulbous Irises, especially those belonging to the *reticulata* group, are valuable in the early spring, and, notwithstanding the difficulty of growing them in some districts, they are as much sought after now as ever they were. They are perfectly hardy in the sense that all these bulbous species are hardy, but all of them pay for lifting and drying, and however short a time they may be kept out of the ground, they will be found to have benefited. I have alluded to the difficulty of keeping them healthy in some districts. Unfortunately, this difficulty is too general, and some few growers known to me who could a few years ago grow them well now find it almost impossible to grow them at all. It is evidently owing to some disease or weakness, and however careful and intelligent the grower may be, there are seasons when it will be next to impossible to keep the bulbs in good health. So far as I have experienced, this does not apply to the beautiful variety *cyanea* nor to the subject of the coloured plate, which has this year produced large clean bulbs without the slightest sign of disease. They may all be grown in the open border, although a warm and sheltered situation, where the soil is light and rich and free as far as possible from decaying vegetable or animal matter, is preferable. The bulbs should be planted in

\* Drawn for THE GARDEN by Gertrude Hamilton in the Royal Gardens, Kew. Lithographed and printed by Guillaume Serereyans.











September or October quite 3 inches below the surface, and a covering of cocoa fibre or other loose material placed over them at the approach of hard weather. When lifted, which should not be done until after the leaves have died down, all the small bulbs should be sorted out and sown in drills in a cool frame, where they can be protected in winter and spring from heavy rains and frost. Most of the reticulata group stand gentle forcing, and are found extremely useful for greenhouse and conservatory work in winter or early spring. The bulbs are planted from six to twelve in a pot and placed in cold frames till about the beginning of December, when they should be removed to a warm house or pit, their time of flowering being regulated by the amount of heat given. When done flowering, the bulbs should be shaken out and, without breaking the balls, be planted in rich soil and covered over with cocoa fibre. This will ensure larger and finer bulbs than if kept in the pots. *I. Vartani*, *Kolpakowskyana*, *Boissieri*, *juncea*, and the African species are all worth a place in the spring garden.

*I. BAKERIANA*, named in honour of G. Baker and figured in the *Botanical Magazine*, tab. 7084, is one of the loveliest of this group. It is a native of the mountains of Armenia, near Mardin, and was introduced into cultivation by the Rev. G. F. Gates. It has also been found in Kurdistan and on the Anti-Lebanon range, near the Euphrates. The blooms, which are produced towards the end of February, smell like Violets. The plant is from 6 inches to 9 inches high; the leaves, three or four to a bulb, are hollow, glaucous green, and with eight conspicuous ribs or ridges, which render it distinct from all others of the group. The flowers are large, bright violet on the edge, white in the centre with violet spots, and with a yellow streak down the claw. The standards are lilac. This is a most useful and lovely species and easily managed.

*I. HISTRIO*, figured in *THE GARDEN*, tab. 653, and in the *Botanical Magazine*, tab. 6033, under the name of *Xiphion Histrio*, is a native of the mountains of Palestine, from whence it was introduced in 1873. It is nearly allied to *I. reticulata*, and flowers with us in February. Each bulb has about two leaves. The flowers, which are scentless, are lilac, bordered with white and spotted with dark lilac.

*I. HISTRIOIDES* is one of the most charming of this beautiful group of spring Irises. It has a much stronger constitution than any of the reticulata forms, and so far (it has only been in cultivation a few years) it has proved of easy culture. The flowers are larger than those of any of the group, the falls mottled with white and rich lilac both on the claw and on the broad rounded blade. It is a native of Eastern Anatolia, and flowers with us in early March. It requires the same treatment as *I. reticulata*.

*I. RETICULATA*, with its fragrant flowers, is a great favourite in the early spring garden. It is one of the oldest of the group and is always welcome. The variety *Krelagei*, nearly allied to the above, has red-purple flowers, with little scent. It is the common form found in the Caucasus. *I. r. cyanea*, a beautiful dwarf variety with bright slaty blue flowers, is a gem, and very desirable. *Sophonensis*, with red-purple flowers and a wavy yellow crest, is a native of Asia Minor, and flowers in early February. *I. r. purpurea*, a small variety with deep purple flowers, is a decided acquisition.

D. K.

**Saving tuberous Begonia seed.**—It is not too late yet to save a goodly quantity of seed from the best forms of these Begonias. The seed-pods if picked when green and laid in some warm and dry place soon become sufficiently ripe to leave the husks. The only point to observe is not to gather the pods until they are really full grown, or the seed cannot be fully matured. Now that tuberous Begonias are so largely employed in the

flower beds, it is worth while to save seed from all desirable shades of colour, so that if beds of one colour are desired it will be possible to have them. Plants raised from seed sown in January flower really well the first year if they are thoroughly well attended to, especially during their earliest stages of growth.—E. M.

## THE WEEK'S WORK.

### FRUIT HOUSES.

**PINES.**—In the house where plants are fast swelling off their fruit a night temperature of from 70° to 75° according to external conditions should be maintained, increasing the figures from 5° to 10° in the daytime, giving air during the hottest part of the day, and closing early enough to raise the temperature to 85° for a short time. On closing the house lightly syringe the plants overhead, avoiding as much as possible damping the crowns. Also keep the atmosphere well charged with moisture by sprinkling the paths and walls. The bottom-heat ought to be brisk or not much below 90°. Keep the soil in the pots uniformly moist, but be careful to avoid over-watering. When the fruits are colouring it would be greatly to the advantage of quality to keep them in a drier heat and more airy house, water also being gradually withheld from the roots. Any ripe fruit it is desired to keep for some time longer may well be transferred, plant and all, to a dry fruit room or a vinery that is being kept cool and dry. The season has been in favour of the production of strong, sturdy, well-rooted plants for forcing early next season. Any Queens that are to be started late in December or early in January ought now to be given a rest. A night temperature of from 60° to 65° is quite high enough, the bottom-heat ranging from 75° to 80°. Give sufficient air on bright days to prevent the temperature exceeding 70°, and do not unduly increase these figures by closing very early. Keep the pots firmly plunged and water very carefully indeed, giving only enough to prevent the soil becoming quite dry and hard. When the suckers of Smooth Cayenne and other late varieties are of good size, detach them from the old plants and place them singly in 6-inch or slightly larger pots, according to their size, and plunge them in a brisk bottom-heat. Keep them quite close and the air moist, also carefully avoid saturating and souring the soil till the roots are becoming plentiful. Those potted in August and early in September ought now to be growing strongly, and in order to prevent them forming weakly growth give them plenty of room, also ventilating freely. The night temperature for these should be about 65°, and the bottom-heat 80°. Some of the very strongest may need a shift; this in order to prevent them from becoming root-bound and stunted before the time arrives for repotting the bulk of early-struck plants.

**VINES FOR EARLY FORCING.**—Permanent Vines from which Grapes are to be cut early next season ought now to be ready for pruning, the operation being performed accordingly. It is not advisable to prune or spur back very hard, as should by any chance the first breaks fail to produce bunches, what ought to develop into bunches running to tendrils, moderate long spurs, or any shortened to the second or third plump bud will break well a second time, bunches being had from the shoots thus obtained soon after the first formed are pulled off. Avoid skinning the rods; all that should be done is to remove all loose bark and then to well scrub them, using hot soapy water. As a further precaution against red spider, thrips, mealy bug and mildew, dress the rods with Gishurst compound dissolved in hot soft water at the rate of 12 ozs. to the gallon, stirring in flour of sulphur freely if mildew has previously been troublesome. The glass should be cleaned, the woodwork thoroughly scrubbed with hot soapy water, and the walls given a dressing of hot lime water. The borders, which it is to be hoped are inside, should next be attended to. First lightly fork away the hard dry surface soil, removing this and rubbish

generally so as to well bare the surface roots, and then give it a good soaking of liquid manure, soon after following with a good top-dressing. For the latter purpose the compost may consist of turfy loam and short half-decayed horse manure, adding bone-meal freely. A depth of 3 inches of this tempting surfacing is none too much. Keep the Vines as cool as possible, subjecting them to a moderately severe frost greatly favouring a strong early break when forcing commences in the next or following month.

**LATE MELONS.**—High temperatures must be maintained for these, or the plants will either collapse or the fruit fail to arrive at perfection. From 70° to 75° by night is none too high, a slight increase being made on these figures during warm days. Keep the atmosphere and also the roots a little on the dry side, though not to such an extent as to cause them to flag for want of water.

**FIGS.**—A gentle heat and a circulation of dry air are indispensable for the perfect ripening of late crops, and fire-heat with plenty of air is also necessary in the case of young trees with sappy wood, the latter failing to mature properly without such aids. Freely thinning out young wood will favour ripening in the case of those reserved. Trees from which the crops are cleared and the leaves falling rapidly should now be kept quite cool and freely ventilated. Keep them somewhat dry at the roots.

PRACTICAL.

### THE KITCHEN GARDEN.

**EARTHING UP CELERY.**—This has been a good season for Celery, the plants having made a clean and healthy growth, and with the favourable weather for earthing that we have had, there should be good Celery this coming winter. The earthing, except for the latest crop, should now be well advanced, as by the end of the month the latest addition of soil should have been made. On the way this is finished off will depend successful keeping throughout the winter. Do not be sparing with the soil; pack it well about the stems, and if slugs are likely to prove troublesome, a little soot and lime should be dusted about the soil. The soil should be brought up sharply, beating it well with the back of the spade, as a smooth firm surface turns off wet. If the whole is covered to within 6 inches of the tops of the leaves, there need be but little fear of injury from frost, which does but little harm to well-earthed Celery. If the soil and leaves are in a fairly dry state, soil is the best earthing medium, as ashes or sand may be dispensed with on the heaviest land. The latest supply should also have the earthing finished by the middle of November, or even earlier if severe frosts should threaten. On heavy land, and especially in low-lying positions, moisture gathers between the rows if they are not satisfactorily drained, and therefore if the ground will allow, drips should be cut to carry off the superfluous water.

**WINTER TOMATOES.**—There should now be a sufficient set of fruit, for although there is a possibility of the flowers still setting, it depends greatly upon the weather, and in low-lying districts where fogs occur very little fruit will set after this month is out. If fruits are scarce and the blooms are healthy, every endeavour should be made to induce them to set by maintaining a buoyant atmosphere with a little ventilation and keeping the night temperature at 55° to 60°. The growths must be well exposed to the light near the roof, and all the superfluous shoots kept rubbed out, as these rob both the flowers and fruit. But with a set now secured there should be ample fruits throughout the winter. The night temperature should be kept at about 60°, with sufficient ventilation to cause a buoyant atmosphere, and the atmosphere must also be kept dry; therefore, as little water must be spilled about the house as possible, as throughout the winter months too much moisture in the atmosphere is very inimical to the free progress of the plants, or rather to the ripening of the fruit, besides predisposing them to the attacks of disease. Moisture, too, at the roots must also



be carefully applied, not that the plants derive benefit from the starving process, but any attempt at gorging them will only result in failure, the foliage quickly turning to a sickly yellow. Plants that derive their support from soil confined in pots must have tepid water applied whenever the soil approaches the dry side, and to encourage surface roots, a little artificial manure of some kind is a capital aid. A little liquid manure may also be applied advantageously, but it should be in a perfectly clarified state, thick manure water clogging up the surface. Plants that are growing in pots, but have the advantage of the roots rambling into hillocks of old Melon soil, derive a deal of support from this, and much moisture need not be applied. Care must be taken that the soil does not become too dry before water is given. In either case the fruits must be kept well exposed to light, and what sunshine we are likely to have during the dull months of the year by keeping superfluous growths well pinched back. The white-fly is sometimes troublesome during the winter, but a slight fumigation occasionally will keep it in check, or heating the pipes to a good heat after being coated with liquid sulphur will also destroy it.

**FRENCH BEANS.**—French Beans which have been prepared in pots, and which up till recently have been in comparatively cool quarters, or at least in slightly heated pits, should now be removed to warmer quarters, at least where the night temperature ranges about 60°, the best position being on shelves near the glass. The sudden removal to houses that are too warm and moist causes the leaves and flowers to drop off. Keep them amply supplied with water, and if the pots are fairly filled with roots, each watering should be alternated with clarified liquid manure, taking care, however, not to gorge them. A large supply of pods from this late crop cannot be expected, but if kept closely looked over every morning directly any are procurable, several dishes may be secured. In gathering, cut them off with scissors, tying them up in bundles of twenty-five with the ends one way, so that they may be kept in water until sufficient are secured for a dish.

**SPRING CABBAGE.**—Those earlier planted are now taking well to the soil; therefore timely hoeing must not be neglected, this closing the soil well about the necks of the plants. It is not yet too late to plant, but the best plan will be to draw all the smaller plants from the seed-beds and prick them out into nursery beds 4 inches or 6 inches apart on a sheltered border. If the winter should turn out severe and the main planting should become injured, these small plants would prove very useful either for filling up gaps or for making a fresh plantation in the spring.

A. YOUNG.

### ORCHIDS.

LAST week some observations were made on shading and its removal in winter, and on culture in early winter. It may be well to say something further on the flowering of some Orchids at this season and later. Take the case of the *Odontoglossums*, for instance, and some *Oncidiums* in the cool house. The flowers at this season remain in good condition for a very long period, and a vigorous spike of *O. crispum*, *O. Pescatorei*, *O. triumphans*, *O. Halli*, *O. luteo-purpureum*, &c., soon begins to tell upon the bulbs, and they gradually become wrinkled as the flowers take the substance out of them. Owners of such plants may wish the flowers to remain for a long period upon them, but it is obvious that great injury would be done to the plants by allowing the spikes to remain while they were gradually causing the bulbs to shrink. I cut them off and place them in water, either in the house or in the dwelling house. The bulbs gradually plump up again after the flower-spikes have been cut, but when they have shrunk considerably they rarely make good bulbs the next season, and they throw very poor flower-spikes; and in the case of some species, allowing the plants to get into this state of debility means starting them on a downward course, from which

no skill in culture can rescue them; they get weaker and weaker, until the cultivator, for his own credit, is glad to see the last of them in the stoveholder's furnace. This ought not to happen, nor would it if we could but hit the climatic and other conditions under which the plants ought to be grown, or were we fully acquainted with the sustaining power they possess to produce flowers. Many Orchids, when they come to England direct from their native home just as they have been collected, are quite laden with seed-pods, showing how freely they have flowered, and the evidence is conclusive that they have produced masses of flowers annually, which in turn have produced seeds with no detriment to the plants. We place such plants on rafts, plant them in teak baskets, shallow pans or flower-pots, and while the native vigour lasts they will flower freely and strongly for a few years; they will bear no seeds, and at last gradually decline in vigour. Doubtless, if we knew exactly what the plants needed, and could supply them with the food and climatic conditions of their native habitat, they might do well. We do not want seeds from ordinary plants, but we want the annual display of beautiful flowers, and this cannot be obtained except by getting the plants to make a good annual growth, and this must also be succeeded by a season of rest. Many Orchids when first imported grow much stronger under the artificial conditions of our Orchid houses than they had done previously in their native homes, and so exuberant are they, that they will, if not carefully handled, start into growth again as vigorously as heretofore without taking time to rest from their previous effort. This throws the entire Orchid machinery out of gear. The cutting away of flower-spikes should not be done without considering its bearing upon the plants for good. Weakly plants that have fallen considerably behind the usual time of flowering should have the spikes cut off as soon as they show out of their sheaths. The pseudo-bulbs will form earlier again, and the plant will sometimes—not always—regain its vigour. Cutting the spikes on their first appearance from a plant of any Orchid in full vigour would be a very grave error indeed. It is the nature of an Orchid plant to produce flowers, and if it is prevented from flowering under ordinary conditions, mischief may be done by causing the plants to make their growth at a time and under conditions not the most suitable for their permanent well-doing. What I am anxious to point out is this, that removing the flower-spikes may sometimes be necessary to maintain a plant in health; nay, its very existence may be imperilled by allowing it to flower; whereas, under other conditions, cutting off the flower-spikes may be injurious. These remarks apply to certain Orchids in all the departments. Imported Orchids are now sold at all seasons, suitable and unsuitable; but the skill of the importers, by their careful packing and speedy transit, combined with the latest improvements in culture, makes the task of establishing the plants much easier than it used to be. *Odontoglossums*, the more free-growing *Cattleyas*, and other easily established Orchids may be potted at once in peat, Sphagnum, and a liberal allowance of potsherds and charcoal. Other plants may be placed in clean potsherds until fresh roots are formed, when the usual potting material may be added. It is also important not only for fresh importations, but also for the general run of Orchids, that the temperatures in this month of October and well into November should not run down too low. The outside temperature has been very changeable during the last week or ten days. The wind has been for a time in the west with rain and dull weather; suddenly it has veered round east by north with a dry, cold wind, followed by a sharp frost, especially in the early morning. The cultivator anxious about his plants will make it a point to study the weather, especially about ten o'clock at night when he is making up his fires to last until six o'clock or daylight in the morning. Many a night I have stood for five or ten minutes in an anxious mood considering whether the fires ought to be made up for a frost or not, and one very soon becomes an adept at finding out the right thing to do, and at this

time of the year it is better to err on the side of a few degrees too high than too low. Let the cool house be between 45° and 50°, the *Cattleya* house 55° to 60°, and the East India house should range a degree or two below or above 65°. Now comes the treatment of the houses, which must be varied a little according to the state of the atmosphere and temperature in the morning. When the temperature is quite up to the highest allowable point and the air feels dry, the houses should be damped down the first thing in the morning, and the top ventilators should be opened very slightly. When the temperatures are down to the lowest point, no watering, damping down, or filling of evaporating troughs should be thought of until the temperature rises to the higher minimum allowed at night. The ventilators should also be left alone. The drier the atmosphere can be kept, the better when the temperatures are too low, and, of course, the ventilators must be kept shut until there is a sufficient rise.

J. DOUGLAS.

### PLANT HOUSES.

Now that plant houses are being put in order for the winter season there are several preliminary matters associated therewith that should not be passed over on any account. It is one thing to crowd plants together indiscriminately as to their special needs, but quite another to keep them in good condition throughout the winter months. More plants are in my opinion spoiled from now onwards to the end of next February than during all the rest of the year put together, and that more through bad management than anything else. At this period of the year, when plants are being arranged in their winter quarters, every possible attention should be attached to thorough cleanliness. If this be not done they will all the sooner fall a prey to insect pests of various kinds. All the light possible is also needed, whilst woodwork and walls should have a thorough cleansing. This cleaning down of all houses, whether for fruits or flowers, should be attended to more often than it is; more often than not it is postponed for a more convenient time, which it is almost needless to say does not in some cases ever offer itself. It is far better to do it at once, and that effectually. The glass should all be washed down carefully, not with hard scrubbing-brushes, but soft ones. For the woodwork a spoke brush as used in the cleaning of carriages will be found a capital tool—much better in fact than a scrubbing-brush. The walls will be done more satisfactorily with this latter kind of brush. The garden engine should be brought into requisition at such times; it is much better than a syringe. A weak solution of soft soap, or, better still, Bentley's soluble paraffin oil insecticide at about half strength, will make an excellent cleansing medium, much better than using soda for the purpose. When this work is done, the inner putties should be examined to see if there be any need of stopping. If this kind of work be followed up closely, it will be much better in all respects, saving a deal of drip, particularly in houses with the roof tending too much towards flatness; those with sharper angles even will pay for the same attention. The walls will pay for attention as to colouring where the same are not covered with climbers so as to make it somewhat awkward work. Freshly slaked lime with some size added to it will make a good wash, at the same time destroying many insect pests. Any deficient jointing in brickwork or repairs to cement work should previously be seen to; otherwise if left, it will go from bad to worse.

When all this work is done, then attention should be turned to the plants themselves for a thorough cleansing where it is necessary. This will of course depend largely upon previous treatment as to the amount of work needed, but I would impress the fact of keeping all plants as clean as possible upon all gardeners, particularly the younger ones who may not fairly have realised the great importance that is attached thereto as pertains to successful plant culture. Take, for instance, the Indian *Azalea*; what miserable objects these look from now onwards through the winter



where they have been attacked with the black thrips, causing the plants to be almost denuded of their leaves, thereby seriously impairing their vitality, more particularly if the watering be not very carefully attended to. In such a case it is impossible to remedy the condition of the plants as to their foliage, but by fumigating at least three nights in succession, and then after an interval repeating it, there need not be much fear of future attacks when carefully looked after. Camellias will particularly well pay for a good cleaning; bright-looking healthy foliage greatly adds to their beauty. Where there are signs of scale, every care should be taken to prevent its spreading any further, aiming at the same time at its entire extermination by unremitting attention. If it be white scale, the strength of the chosen insecticide may have to be exceeded over and above that which is recommended, but this, when in careful hands, need not give any apprehension as to its effect upon the plants. I have myself used Chelsea blight composition about one-fourth beyond the prescribed strength without any harm being done, cleansing afterwards with clear water as a safeguard. This will also apply to the white scale upon other plants, *Lapagerias* included. Where sponging is not possible, nor syringing over a trough to catch the liquid, a moderately hard brush can be used; then, however, the usual strength will suffice, the brush itself upon hard wood making up for the rest. As to the aphid family, it is not necessary to say much, but the wonder is that any headway is allowed at all. There cannot be any sense in even letting the plants be attacked by a moderate number of these insects; it is better to fumigate just to kill a few than to kill the many, being really cheaper in the end. The mealy bug is admitted on all sides to be one of the greatest pests a gardener has to contend against, but this insect is not invulnerable to repeated and determined attacks to exterminate it. Where it now exists upon plants a most determined effort should be made to get rid of it. In doing this I would rather run risks as to injury to the plants than still endure the constant annoyance created by it. It is better to take extreme measures at once by consigning all scrubby plants to the fire whether they be bushes or climbers and start afresh in the case of the latter than still to have it hanging like a millstone around the neck, crippling all efforts at successful plant culture. What between the use of hot water (as hot as one can use it through a syringe) upon all well-hardened foliage and the insecticide just alluded to, it may be overcome, as I have conclusively proved upon two distinct occasions. Clean pots of course should be aimed at, although this matter sometimes escapes notice. The drainage also should be examined, particularly in the case of plants which have been planted during the summer in hot beds or standing out of doors upon beds of coal ashes. Water-logged plants are bad at all times, but more particularly so during the winter months.

Another essential point to observe at this season is the condition of the hot-water pipes. Where there is the least susceptibility to a leak it is much better to attend to it at once than postpone what must be done sooner or later when we have sharp frosts upon us, with a greater strain consequently upon the joints as well as the pipes themselves. In doing this work, where it is not possible to substitute the india-rubber ring joint (than which no joint is so good or so durable with reliability upon its action), then yarn and red lead are about the best materials to employ. On no account would I use iron cement (so-called); this has been the cause of more split sockets than anything else. The yarn and red lead will answer very well where it is not desirable to pull any of the pipes to pieces. In the case, however, of split sockets it is much the better plan to at once take them out and reconnect with sound material and sliding collars. In such cases the india-rubber rings are especially valuable, being unsurpassable either as to effective work or for the dispatch with which the re-jointing can be accomplished. A stock of these rings for 2, 3, and 4-inch pipes with sliding collars and short pieces of piping should be kept on hand

for any case of emergency where far removed from the tradesman who stocks them. By doing this, any unforeseen breakdown can be readily repaired without the least obligation to anyone outside of the garden itself. The rings when in hand should be kept under water so as to exclude them from the air, otherwise they become somewhat hardened, and are not then so pliable when brought into use. Those who have not hitherto tried the ring joints should take note thereof, and act thereon in good time; they will thereby save themselves a considerable amount of annoyance and trouble should an unforeseen breakdown occur. What refers to piping is equally applicable to boilers. Why put off any longer a doubtful case as to the stability of the boiler to carry one safely through the winter? To this question, I take it, no satisfactory answer can be reasonably given other than by replacing with a new one. Leaky boilers are bad at all times, but with all the worst weather to face they are doubly so. Boilers that are not at present leaking, but which are considered somewhat doubtful, should be tested by a strong fire, as in the case of a sharp frost or by letting out the fire and emptying the boiler, then testing with a hammer (particularly in the case of saddle boilers) will give some idea as to their true condition. Thorough cleaning of and any necessary repairs to flues and chimneys should hardly need attention being called to; in some cases it may in either one case or the other have escaped notice. See also that feed cisterns and the connecting pipes are both in good working order. Sometimes just when most is expected from this source, there is a stoppage from sediment in the feed cistern escaping into the small service pipe, a matter which can be easily avoided if taken note of. J. HUDSON.

## THE FRUIT CROPS.

### SUPPLEMENTARY.

**Langley Court, Beckenham.**—Apples in this district are a very poor crop, on old standard trees especially. Bush trees on the Paradise stock of such varieties as Lord Suffield, The Queen, Manks Codlin, Pott's Seedling, Blenheim Orange, Cellini Pippin, Baumann's Red Reinette and Dumelow's Seedling are heavily laden. Peaches very good. Pears and Plums a failure. Bush fruits average crop. Strawberries very light and soon over.

Potato crops good, with traces of disease.—W. WRIGHT.

**Wentworth Castle.**—Pears and Apples in this district are under average. There was a plentiful supply of blossom on the trees, which suffered from the cold, frosty weather at the time of blooming. Apricots thin, but good. Plums scarcely any. Morello Cherries very good. Strawberries heavy crop and very good. I find James Veitch and Vicomtesse H. de Thury best. Raspberries good. Red and Black Currants very good. Gooseberries good, but suffered much from frost when in flower.—JAS. BATLEY.

**Saumarez Hall, Castel, Guernsey.**—The fruit crop is very good in Guernsey this year. Apples and Pears very fair; early Apples rather small owing to dry weather. Stone fruit is plentiful, especially Peaches, Apricots, Nectarines, and Plums. Of bush fruits there has been an abundance. Grapes are fine and have coloured well. Tomatoes have yielded good crops. Strawberries have done pretty well where they have not felt the dry weather too much. Some of the best kinds for open-air culture are Laxton's Noble, Alpha, Sir Joseph Paxton, Vicomtesse H. de Thury, British Queen, Caroline, Dr. Hogg, President, Frogmore Late Pine, and Bonny Lass.—H. CARRE.

**Barkby Hall, Leicester.**—The fruit crop in this neighbourhood is the worst I have ever known. When the thermometer registered 6° below zero on Feb. 16 but little fruit was expected, but we were hardly prepared to expect so much damage to the fruit trees themselves. In about a month after-

wards all the fruit-buds and many wood-buds dropped off the Plum trees both on the walls and in the open. Apricots had to break back on the old wood, and the greater part of the young wood of the Peach trees was killed. Apple and Pear trees bloomed, but were too much injured to set. Gooseberries and Black Currants were a fair crop. Red Currants good. Strawberries have been a good crop, but flavour not so good as usual.—J. LANSDELL.

**Childwall Hall, Liverpool.**—The fruit crops in this neighbourhood are by no means satisfactory. Apples in general are very scarce, the varieties carrying anything like a crop being Cellini, Golden Spire, Duchess of Oldenburg, Hawthornden, Lord Derby, Lord Suffield, Queen Caroline, Ribston Pippin, and Warner's King. Pears in the open have practically no fruit on them, the best of those on walls being Beurré Diel, Easter Beurré, and Thompson's. Peaches, Nectarines, Apricots, and Figs are now grown only in the most sheltered gardens hereabout, and are seldom met with even there. Plums have only a sprinkling of fruit, this remark applying even to Victoria on walls. This dearth of fruit is probably due to a succession of severe frosts which we experienced here just at the time the trees were in full bloom. In our garden we registered 10° of frost on two or three successive nights. Cherries, both sweet and Morello, were about a three-quarter crop. Demons are similar to Plums. Gooseberries were about a third of a crop. Currants of all sorts were a fair, but not a full crop. Raspberries were plentiful, Baumforth's Seedling being very free and fine. Strawberries were very good in the neighbourhood, but ours were very poor. This was owing to a severe visitation of caterpillars last summer and autumn. These made such havoc of the foliage (folding and sealing, as it were, nearly all the leaves they could not devour), that the constitution of the plants became weak and unable to defy, as they otherwise would have done, the severe winter. For general purposes I find President a good and reliable kind both in pots and outside. Noble is early and free-bearing, but not of the finest flavour. Duc de Malakoff finds favour for preserving, it being of good colour, hardy, and free-bearing.—T. WINKWORTH.

**Clumber Gardens, Worksop.**—Apples average, good. Pears and Plums under average. Cherries very good. Peaches and Nectarines, average, good. Small fruits abundant. Strawberries very good.—C. SLADE.

**Winchcomb, Cheltenham.**—There are fair crops of Apples in favourable localities. Pears very few. Plums rather more than half a crop. Gooseberries and Red Currants fair. Black Currants very good. Peaches under average. Apricots none. Nuts and Walnuts none. Cherries fair. The Strawberry crop has been a short one, owing to drought. The only kinds grown are Noble, Vicomtesse H. de Thury, and Sir J. Paxton. Noble is large and early; flavour very poor; too soft for packing. Vicomtesse Héricart de Thury much better, of good size when well grown, colour and flavour good; travels well. Sir J. Paxton is the best with us for general purposes.—J. CLEARE.

**Holker, Carnforth.**—Apples, with one or two exceptions, are a failure here. This may be attributed to the severe frosts during the blossoming period in April, 10° and 12° occurring with snow on four successive nights at that time. Early Julien and Duchess of Oldenburg have full crops. Pears very thin, excepting Bon Chrétien, which is bearing well both as a standard and on walls. Peaches on open walls are a good crop, trees clean and healthy. The Alexander Peach has ripened a nice crop early. This is a very useful kind, coming in here the first week in August. Apricots good; kinds, Turkey and Moorpark. Strawberries fairly good, but not as good as in preceding years, owing to the cold dry season when in bloom, frosts occurring several times. President and Sir Joseph Paxton are the only kinds grown, the latter the better cropper, the former the better for flavour. Gooseberries suffered much from the April frosts, and being thinned are much finer



fruit. Currants and Raspberries plentiful. May Duke Cherries an abundant crop; also Morellos. Plums scarcely any.—W. FOX.

**Clewer Park, Windsor.**—The Apple crop is a good average. Pears are thin. Apricots a fair crop. Peaches and Nectarines very fair. Plums above the average, Victoria very abundant. Cherries (both sweet and Morello) excellent. Currants, Red and Black, good. Strawberries and Raspberries average. Walnuts over average.—W. SKEET.

**Chatsworth, Derbyshire.**—Gooseberries, Currants, and Raspberries fair crops. Apples a failure, with the exception of a few early varieties. Pears, Plums and Damsons a poor crop. Cherries a failure, with the exception of Morellos, which are a very fair crop.—W. CHESTER.

**Cowdray Park, Midhurst.**—Apples with me are a very partial crop. In the open orchards blooms were destroyed while still in the bud stage. In the more sheltered garden there is a fair crop, the fruit swelling well and very clean. Pears almost a total failure. Plums in the enclosed garden, even on walls, a failure; in the orchards, later in bloom, a good crop. Apricots a failure; although shaded with cloth and net, the fruits, when the size of Beans, were blackened. Peaches more than a crop, although some were destroyed when just swelling; fruit now very plentiful; trees clean. Cherries very poor. Small fruits poor generally. Raspberry canes suffered in the winter badly. Nuts fair crop. Walnuts none. Quinces killed in the bud stage. Figs very thin; trees suffered from frost badly.—F. GEESON.

**Aldenhall Park, Bridgnorth.**—The fruit crops in this district are a fair average with the exception of Pears, which are generally scarce; Jargonelle, Williams' Bon Chrétien, and Fondante d'Automne are fairly good. The Apple crop is much better than last year, and on the whole a good average. Apricots rather lighter than usual, but the trees look healthy for another year. Peaches on the open walls are abundant, Alexandra Noblesse still holding the front position. Nectarines, too, are bearing good crops, Elruge and Lord Napier taking the lead. Plums are heavily laden, especially White Magnum Bonum, Rivers' Early Prolific, and Orleans as kitchen varieties; Reine Claude de Bay, Jefferson, Cox's Golden Drop, and Green Gage as dessert varieties. The Washington, though generally a shy bearer, by keeping it lifted and supplied with plenty of old lime rubble does very well here, and is, I consider, the handsomest Plum we have got. Cherries, especially the Morello, are very plentiful. Currants, Black, White, and Red, carried good crops. All who have not grown that red variety La Fertile should give it a trial. Gooseberries were severely attacked by red spider, this causing them to drop their fruit early in the season. Raspberries plentiful, but small. Strawberries abundant and of splendid quality.—T. CANNING.

**Osterley Park, Isleworth, Middlesex.**—Apples are a very heavy crop. Pears none excepting on the walls, where there is some good fruit. Plums half crop. Bush fruits not up to the average. Peaches in the open heavy crop and of good colour and flavour. Strawberries good crop, but rather small, as they had a dry time after they were set and did not last long. The kinds that do best here are La Grosse Sucrée, Sir Joseph Paxton, President, and Waterloo. Our ground being poor and stony, it has to be made up with burnt brick earth and loam. I have just planted a large bed with Laxton's Noble, Competitor, Sir Joseph Paxton, President, and Oxonian.

The Potato crop is a good one, early sorts turning out clean and well, but the disease is prevalent among the late ones.—A. WADDS.

**Goodrich Court Gardens, Ross.**—Of Apples we have a good crop all round and the fruits are very clean and healthy. Pears are scarce, but the fruit is clean. Plums are scarce in this district, Victoria being the best. Cherries have been a good crop and the fruit very good indeed; Morellos are very good. Peaches and Nectarines are an average

crop and the trees very clean and healthy. Apricots are not very plentiful, but the fruit is of good size and ripening well. Small fruits are about an average crop, and Nuts are a full crop. Strawberries have been very good this season. Laxton's Noble was the first to ripen with us, followed by La Grosse Sucrée (a variety that cannot be too strongly recommended) and Sir J. Paxton. Loxford Hall Seedling and Oxonian are two good late varieties. A. F. Barron, Commander, John Ruskin and Auguste Nicaise I have only in small quantities and not sufficiently strong to warrant passing an opinion on them this season.—THOS. SPENCER.

**Sulhampstead Rectory, Berks.**—The Apple crops this year are far above the average, especially in the case of Blenheim Orange, King of the Pippins and Flanders Pippin; Golden Spire and Cox's Orange Pippin are good. Pears are below the average, also Plums; but Cherries, Currants, Gooseberries and Raspberries are good. Filberts and Cob Nuts a good crop, but Walnuts scarce.

I have lifted all my Potatoes, and they turned out far better than expected.—J. PALMER.

**Lathom Gardens, Ormskirk.**—The fruit crops as a whole are under the average in this district, Apples and Pears especially being nearly a total failure. Gooseberries, Currants, Cherries and Raspberries were a good crop. Strawberries were plentiful and of good quality. The best kinds for bearing and flavour here are President and James Veitch. Noble is large and prolific, but deficient in flavour. John Ruskin is a good cropper and of good flavour and will prove a good forcer, being one of the earliest outside. Wizard of the North I find a good late sort. I plant a few good layered runners every August and cut up a corresponding number every season, so that my plants are never more than three years old, and this I find the best plan in this part. I plant 15 inches asunder in rows 30 inches apart. After the first year's growth I cut out every alternate plant.—J. HATHAWAY.

**Allerton Priory, near Liverpool.**—Apples, Pears and Plums very light, owing principally, I think, to the wet sunless season of last year. We have one exception in the way of Plums, a kind locally known as the Halewood Plum, a small red fruit, which is carrying a heavy crop. Sweet Cherries and also Strawberries have been very satisfactory. Raspberries have been very fine, while bush fruits have done well.—J. J. CRAVEN.

**Knole Gardens, Sevenoaks.**—The fruit crops in this neighbourhood are generally below average. In our garden we have had heavy crops of all small fruits. Peaches and Nectarines good. Cherries good, both Morello and Sweet. Plums very scarce, except on a few standard trees which are carrying heavy crops. Apples and Pears are very poor, but trees are healthy and clean. The Strawberry season was short, fruit plentiful and of good flavour. The following do well here: V. Héricart de Thury, Keens' Seedling, Sir Charles Napier, President and British Queen. Waterloo has been very good this season. Best early for flavour is Keens', first week in June; best late, British Queen. Although we get good results from old forced plants, young ones are preferred.—E. STUBBS.

**Pakenham Hall, West Meath.**—Respecting the fruit crop in this district, Apples none and Pears a failure. Plums very few. Cherries medium crop. Strawberries good. Currants and Gooseberries average crop. I find the best Strawberries are Oscar, Black Prince, Sir Charles Napier, and Frogmore Late Pine. These are all I grow; the soil is very heavy and strong. I always top-dress well in autumn and mulch well in the summer. I never fork or dig between them, only weed and clean well. This summer was the worst for many years, over 31·70 inches of rain from January 1 till August 24.—H. CLARK.

**King's Road House, Guernsey.**—The fruit crop in Guernsey for 1892 may be considered fairly good. Strawberries were light owing to the dry weather, a great many of the fruits not swelling to any size. Gooseberries very heavy. Currants very good. Raspberries light. Peaches good crop,

but small. Apples very good crop, some of the early sorts very fine, but generally much smaller than usual. Pears fairly good, but also small. The smallness of the fruit is, no doubt, owing to the very dry season we have had in Guernsey. With the exception of a few very slight showers we have had very little rain since the beginning of April. We had a very late spring, and a sharp frost on Good Friday, followed by heavy snow, did great damage to early Potatoes. The main crop is very good, very few bad ones.—E. PETERS.

**Trentham, Stoke-on-Trent.**—Apples and Pears here quite a failure, and the same applies to this neighbourhood, with one or two exceptions where there is a small sprinkling of some varieties on trees that did not bear last year. Apricots are also a complete failure, and a good many of the trees are dying. Plums also a failure, but very few grown out of doors in this part of the county. Peaches and Nectarines are not grown out of doors here. Morello Cherries are abundant and fine, and trees very clean and healthy. Bush fruits abundant and good. Strawberries here have been remarkably good, and carried a very heavy crop. Early varieties suffered very much through having so much wet. I gathered large quantities of Waterloo up to August 25; this variety I consider one of the very finest late Strawberries in cultivation. The old true variety of Sir Harry is largely grown here, and for flavour it is one of the very best; it is an excellent variety for forcing, a very heavy cropper, and also does well out of doors. I force a few Noble for early use; it is a fine-looking Strawberry, but deficient in flavour. La Grosse Sucrée is another good Strawberry. It also forces well and is a capital cropper. These are the only varieties that are grown here; many of the good varieties will not thrive here. I have tried British Queen both outside and in, and find it is utterly useless for this district. The rainfall at Trentham, I may add, from January 1 to August 25 has been 20 inches.—P. BLAIR.

## ORCHIDS.

### LELIA DAYANA AND ITS ALLIES.

A REMARKABLY fine variety of this plant comes to me from Mr. Cypher, and it affords me an opportunity to say a few words concerning this plant and *Lelia pumila*, of which Dayana is by many considered only a variety. It appears to me, however, to be quite distinct. The plant was first found by my friend Boxall while collecting for his employers, the Messrs. Low, in Brazil, some sixteen years ago, and it was first flowered by the late Mr. John Day at the end of the same year, which puts me in mind of the fact that Mr. Cypher's plant is flowering very early. I have seen this plant flowering usually a month later than this, and, if a few plants are grown, the show of this species may be maintained until after Christmas, by which time *Cattleya Trianae* will be commencing to display its beauties, and if not spoilt by the fogs so prevalent in London will make the house as gay as at midsummer. But why Orchid growers will go on year after year having their flowers destroyed and their plants injured when by a simple contrivance, which has lately been introduced, all this may be easily avoided I cannot understand. It is not that a house must be put up for this purpose, for the system can be applied to any existing house. To return to the beautiful *L. Dayana*. This is a plant that comes from the same district as *L. pumila*, and as it grows to about the same size and the flowers, too, are somewhat similar, this is, I think, the cause of its being thought by some to be of only varietal difference. However, the lip of the plant now under consideration differs in one or two essential characteristics. The



plant thrives best in the cool house, and it may be grown to the best advantage in a small wooden basket or in a pan hung up close to the glass exposed to the full light and sun, for in a good *Odontoglossum* house with a northern aspect the sun cannot harm it. The basket must be small and well drained; the plant must by no means be overburdened with soil, and that which is about its roots must be kept in a sweet and wholesome condition. Nothing sour or rotten should be allowed to lie near its roots, or they will die. For this reason I have grown this plant upon blocks of wood, having a little *Sphagnum* only about its roots, but under these conditions it takes more time to regulate the water supply to its roots, and so I recommend some good brown peat fibre and *Sphagnum* Moss to be packed firmly, and the plant when growing to be liberally supplied with water. After flowering, at whatever time this is, its growth must be made up carefully, and to this end I usually removed the plant to a house some few degrees warmer and reduced the water supply, removing it back again as soon as it

flowers are nearly 4 inches across, the sepals and petals rather stiffer than in the last-named plant, rosy-lilac or rosy-purple in colour, the petals being broadly ovate, much larger than the sepals, lip rolled over the column with a reflexed edge, the whole front being of a deep rich magenta-purple, having mostly a pale purple blotch in front, and oftentimes a white marginal border, which has led to the plant being frequently known by the name of *Cattleya marginata*, the genus under which it was first figured.

**L. PRESTANS.**—As a plant this is very near the two previously named kinds, by many considered only a variety of *L. pumila*, which it resembles very much, but it has a much stouter flower, the lip of which is trumpet shaped and almost devoid of the raised lines; the throat is rich deep yellow. The true plant is rare in collections to this day.

**L. MIRABILIS.** This is a beautiful member of the small-growing type now under consideration but it is a rare plant, not differing in any way in the growth from *Lalia Dayana*. Its flowers are large, the sepals and the large ovate petals being rosy-purple, front lobe of lip large, and with the side lobes rich crimson-carmine. It is some five

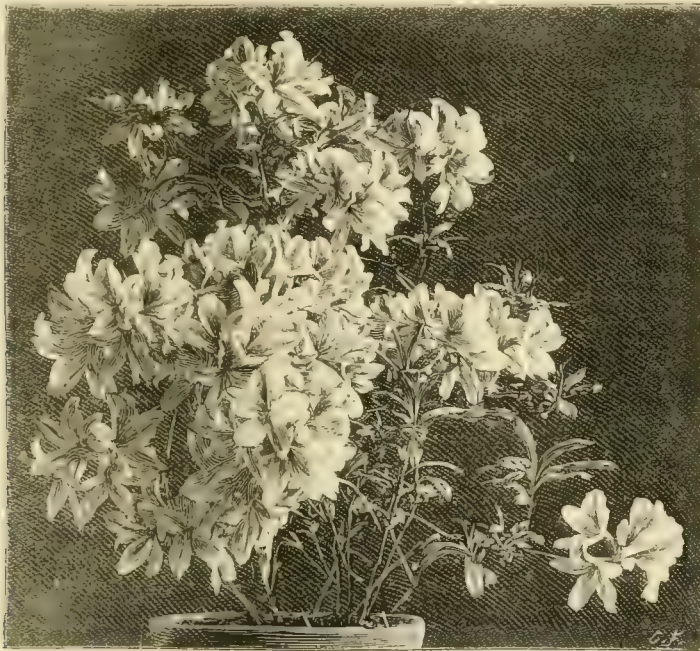
is a garden hybrid with out a history, its parentage being lost; but, nevertheless, it is a showy and brightly-tinted one, the dorsal sepal being large, ovate, white tinged with emerald-green, the sides more or less stained with rosy purple and a strong, well-defined central band of brownish purple, and the petals marked in a similar manner; the bluntly ovate, pouch-like lip is deep rosy purple.

**Cypripedium Pitcherianum** (Williams' var.).—This is a very fine flower and a highly-coloured one. The original plant was raised between *C. Harrisianum* superbum and *C. Spicerianum*, and named by Reichenbach in honour of Mr. Pitcher, of New York, now the head of the nursery business of Pitcher and Manda in New Jersey. The plant which Mr. Williams figures was raised in his establishment between *C. Harrisianum* superbum and *C. Spicerianum* magnificum, and it shows well the value of selecting the best varieties as parents. — *Orchid Album*, t. 453.

## STOVE AND GREENHOUSE.

### AZALEA MOLLIS AND ITS VARIETIES.

WHEN these showy, free-blooming plants first made their appearance, they were expected to become a leading feature amongst hardy outdoor spring-flowering shrubs. Their large attractive flowers, produced as they are in such profusion as to be equalled by few things, possess the colours and the shades of colour that have now for some years been fashionable. But the plants have failed to realise in the open air that which was looked for, through the fact that they come into bloom too early, and before the time when frosty nights are past, even in the southern counties. Yet, if they have thus failed out of doors to turn out as well as desirable, they have done something towards making up for it by the way they answer in pots for winter and early spring flowering. So treated, their natural disposition to bloom early is an advantage, as on account of this tendency they require less forcing. There is one thing connected with the forcing of these Azaleas that should be borne in mind, which is that they should not be hurried into bloom by subjecting them to a high temperature, as, if so treated, the flowers do not last half the time either when cut or on the plants that they will if brought on slowly. This is what occurs with the flowers of most things when hard forced, but more so with the mollis Azaleas than the generality of plants. Large numbers are raised from seed, but they can be also readily propagated from cuttings. Plants that have been forced early, if kept in a little warmth after their flowering is over, soon break into growth that affords cuttings early in the season, so that there is time for them to root and get established during the summer. When the wood of the young shoots has got firm enough—that is, in a similar state to that which is used for cuttings of the Indian varieties of Azalea—they will strike in a few weeks, if kept close and moist in an intermediate temperature. As soon as the cuttings begin to grow, the points must be pinched out. It is essential to attend to this in good time when the plants are required for flowering in pots, as they should be as close and compact in growth as they can be got; for on this depends their ability to produce the most flowers on small plants. Directly the little plants have got well rooted, move them into 3-inch or 4-inch pots, and transfer them to a cold frame or pit, where they must be encouraged, by keeping them moderately close and moist, to make all the growth possible. Those I raised in the way described from cuttings produced by early



A forced plant of *Azalea mollis*.

showed signs of being finished, for I think premature growth is a very bad thing for the plant, leading to its decay through want of strength. It grows only 6 inches in height; its pseudobulbs are somewhat clavate, some 3 inches high, light green, bearing a single oblong leaf about the same length, which is thick and leathery in texture. The flowers are produced from the top of the young bulb before it has finished its growth, one flower only upon the peduncle; this is some 4 inches across; the sepals and petals are rosy lilac, the petals being slightly the darker; the lip rolled over the column, the front edge recurved, the whole front of the lip being deep maroon-purple in the flower before me, this dark colour forming a dark band round the mouth of the tube, which is white, having seven deep purple raised lines traversing it. The flowers will remain in full beauty for a month without injury to the plant.

**L. PUMILA** is another of these small growing species, exactly the same in growth and flowering in the same way at this season of the year; the

years or more since I saw this form, but it is one of the very best of the *L. pumila* section.

WM. HUGH GOWER.

### SHORT NOTES.—ORCHIDS.

**Cattleya Warocqueana.**—G. Bains sends me three forms of this plant, all of them exceedingly pretty, but yet a long way inferior to the plant named by Lindley *C. labiata*. It is an exceedingly beautiful *Cattleya*, but I have seen finer flowers and richer-coloured varieties of it.—W. H. G.

**Dendrobium ciliatum.**—This is not a gay and attractive Orchid, but as a curious plant it is very welcome, and, moreover, its blooms are developed during the month of November, when gay flowers either in the stove or Orchid house are somewhat scarce. The plant was found by Mr. Parish in the land of the genus *Dendrobium*—Burmah—some thirty years since. The plant here figured flowered in the collection of M. Finet, of Argenteuil, near Paris.—*Orchid Album*, t. 451.

**Cypripedium orphanum.**—A very handsome and bright-coloured flower and one that will long continue to be a favourite on that very account. It



forced stock made nice little plants, with several shoots each before autumn; the pots were plunged in ashes during the winter in the frame they occupied in summer, covering to keep out frost. In March they were turned out of the pots and planted in a bed made up of peat, sand, leaf-mould and a little rotten manure, the points of all the strongest shoots being cut away before they began to move, the effect of which was that they were as full and compact in growth as possible. Some flower-buds were set in autumn, but another season's growth was given them before the plants were taken up and potted, at which time they were so full of buds that when they came into bloom the flowers all but hid the wood. The treatment described may seem to entail a good deal of labour to bestow on a hardy shrub, but there are few things that give a better return for the attention they receive.

When these Azaleas are forced, like most other hardy shrubs, the plants are often very badly treated afterwards; when the flowers are off them they are crammed into any out-of-the-way corner, not unusually out of doors, exposed to the cold cutting winds and frosty nights, and this after having been subjected to the exciting influence of a temperature higher than they like. The plants forced are mostly not larger than will admit of their being grown on and prepared for doing duty in the same way a second time. To prepare them for this, as soon as they are out of bloom all the shoots should be cut well back, after which the plants ought to be placed in a cold pit or frame, giving them air in the daytime when the weather is suitable, with as much water as will keep the soil in a healthy state. So managed, they will be in a condition for planting out as soon as the cold weather is past. A suitable bed should be prepared if the natural soil is not such as will suit them. They are fond of peat, but they will thrive in good free loam, if not too sandy. As a matter of course, plants that have been forced will not move nearly so freely the summer following as others that have not been so treated; but the second season, if all goes well, will see them quite recovered, so that they will make plenty of growth, and mature flower-buds in quantity, that will make a display much exceeding that which is obtainable from smaller examples. One great advantage which these Azaleas possess is that they are equally adapted for pot culture, by those who have no place where a higher temperature than that of a greenhouse is kept up, as they are for forcing, as if the plants are potted in autumn and at once moved to a greenhouse, they will bloom to perfection at the end of winter and beginning of spring. So managed, the flowers naturally have more substance in them, lasting proportionately longer, whilst the much-prized pink tint which many forms of the plants possess is more intense. T.

**Dracæna Goldieana.**—I read with great interest the article by your correspondent "H. G. A." in your issue of September 17 (p. 259) on the worth and propagation of this handsome and highly ornamental *Dracæna*. A few remarks on our mode of propagation might be acceptable. It was at one time considered to be a plant rather difficult to propagate. We find no difficulty whatever in raising a quantity of it from "eyes." When a plant has become too tall, or injured in the smallest degree through having been in a cold room too long ("H. G. A." alludes to its very tender nature), we strip it of all its leaves to within about 4 inches of the top, cut the stem into short lengths, leaving two or three clear joints; these, if placed in cocoa-nut fibre in slight bottom-heat, will in the course of a short

time show signs of growth. They are a long time in making much progress without the aid of bottom-heat, even after placed in small pots. We have raised, I may say, a dozen or two at a time by this mode. Care must be taken that the fibre does not get too wet, otherwise the eyes are sure to decay before they have time to start into growth. The top that was left will soon emit roots if inserted in a small pot and plunged in bottom-heat. From this mode nice useful table plants may be procured in less than two years. Care must be taken not to over-pot, 4-inch or 5-inch pots being a useful size for ordinary work. The mode of propagation set forth by "H. G. A." is too slow a process where a quantity of it is needed, unless a good stock of old plants is at hand to work from. If the "eye" system is carried out annually, a good supply of useful table plants will be the result if other points in their cultivation are carefully attended to. I enclose a small plant for your inspection as an illustration of plants produced from eyes.—J. S., *Grimston*.

**\*\* A very healthy-looking young plant.—ED.**

**Acacia platyptera.**—This Swan River species of *Acacia* is a particularly noteworthy one, firstly, from the fact that it is the earliest to bloom of all the members of that extensive genus (some of its blossoms being already expanded), and secondly, the stems are so curiously winged by means of a thin fattened expansion on either side, which is of a bright green colour and takes the place of leaves, as there are none produced. This *Acacia* is apt to run up thin unless stopped freely during its earlier stages, but if this is done it forms a loose open bush that readily lends itself to grouping, being so totally devoid of any stiffness or formality. It generally flowers freely, and as the blooms do not open all at once, the blooming season of this *Acacia* is spread over two or three months of the duller season of the year. If needed to be kept from growing too large, this *Acacia* may be cut back hard after flowering and reported as soon as it has again started into growth. In making a selection of half a dozen or so of the best *Acacias* for flowering in the greenhouse, I should certainly give a place to this one.—H. P.

**Tecoma capensis.**—The first time I ever saw this beautiful, but shy-blooming climber flowering in a satisfactory manner in a small state was at Messrs. Low's nursery, but since that time others have followed the same lead, and it is now far more often seen in a flowering condition than was formerly the case. A few plants of it in bloom will form one of the brightest autumn features in the greenhouse, as the blossoms, which are about a couple of inches long, are of a brilliant orange-scarlet colour, and borne in a many-flowered erect raceme. To obtain small plants that will flower well, cuttings of the young growing shoots should be taken as early in the spring as they can be obtained, when with the treatment given to the general run of soft-wooded cuttings they will quickly strike, and after hardening off must be potted as soon as possible into small pots. If kept in a greenhouse temperature and a growing atmosphere maintained, they will soon be ready for shifting into pots 5 inches in diameter, then towards the end of June they should be stood out of doors in a position where they will be fully exposed to the sunshine and a good circulation of air. They must not be stopped in any way, as the racemes of blossoms are terminal, but as the buds form there is a great tendency to push out shoots just below, which must be removed in order to concentrate the vigour of the plant into the blooms, as if these shoots are allowed to remain undisturbed they will grow so freely that the result will be a very meagre display of blossoms. As the flower-buds form the plants must be removed into the greenhouse, where without any trouble other than that of watering when necessary they will bloom well. This ripening process is very essential to the flowering of some *Tecomas*, among others the allied *Tecoma jasminoides*, of which a large plant came under my observation,

that though covering a good expanse of roof failed to flower in a satisfactory manner till the structure in which it was growing was under repair and the plant fully exposed to the sun and weather of all kinds during an entire summer, after which it bloomed well.—T.

#### NERINES.

TAKING a great interest in and being in possession of a very complete collection of these most beautiful autumn-flowering Cape bulbs, I was very much pleased to read "H. P.'s" remarks on *N. Fothergilli*. The major form of this is, as regards size of the flower-heads and brilliant colour of the blossoms, certainly one of the best of *Nerines*, although many of the newer varieties are also very remarkable for their beautiful colouring and free-flowering qualities. Among the newer hybrid varieties, *N. excellens*, a cross between *N. flexuosa* and *humilis*, ranks foremost. I find this the freest flowering of all *Nerines*, each full-sized bulb producing in the autumn a very fine and large head of carmine-rosy flowers, with a dark crimson rib down the centre of each segment. To Max Leichtlin, who for many years has been devoting his skill to them, we owe that fine seedling *Novelty*; the individual flowers of this grand acquisition are the largest I have seen among *Nerines*, having the shape and almost the size of the flowers of *Anthericum liliastrum*. The colour is a deep carmine rose, and the heads are also of an immense size. This variety also possesses the advantage of being of a very free-flowering character. Each bulb can be reckoned upon to flower in the autumn without its being necessary to resort to the roasting process, without which many of the other varieties, like the old *N. sarniensis*, so often refuse to bloom. From the same source come also the splendid varieties *N. sarniensis insignis* and *carnea*, both improvements on the common Guernsey Lily, with very large flowers and of lovely shades of colour. *N. humilis splendens* is remarkable for its very brightly coloured deep carmine-red flowers, which are very much larger than those of the typical *N. humilis*. A fine variety of the old *N. corusca* is *pallida*, with flowers of a very brilliant pale scarlet colour. In point of size of the flower-heads and brilliancy of colour, this stands on a par with the best varieties of *N. Fothergilli*. *N. corusca compacta* is, as its name implies, remarkable for the compactness of the flower-heads. Another fine hybrid is *N. amabilis*, a cross between *N. pudica* and *humilis*, with flowers of a pale rose colour and dark rib down the centre of the flower segments. Of this I have some fine varieties with flowers nearly double the size. Other rare varieties and hybrids now in flower here are *N. elegans* (*N. flexuosa* × *rosea*); *N. O'Brieni* (*N. pudica* × *Planti*), with its bluish variety *li'acina*; *N. Moorei*, scarlet flowered; *N. pulchella*, very pale pink; *N. pudica*, funnel shaped, white flowers with pink at the back; *N. Planti*, a variety of *sarniensis* with deep crimson blossoms; *N. flexuosa* in two varieties; *N. filifolia*, a miniature species from the Orange Free State; *N. humilis*; *N. undulata*; *N. atrosanguinea*, a very brilliant scarlet; *N. Rosita*, a new seedling with pale rosy flowers and a deeper coloured stripe.

C. G. VAN TUBERGEN, JUN.

**Witsenia corymbosa.**—Whether in bloom or not, there is no danger of confounding this pretty little South African plant with any other occupant of the greenhouse, for while it is quite a shrub the leaves are arranged in tufts just like those of the Iris; in fact it belongs to the order to which this last-named genus has given its name, viz. *Iideæ*. Its flowering season is, as a rule, during the latter part of the autumn months, and the beautiful blue blossoms render it at that time especially noticeable, for the greater portion of the occupants of the greenhouse are *Chrysanthemums*, *Cyclamens*, and others of this class. True, the *Witsenia* needs far more careful culture than such plants as these just mentioned, and that is undoubtedly the reason that it is so seldom seen. It is a native of South Africa, and was introduced into this country in



1833—that is, nearly ninety years ago. When the so-called New Holland plants were such general favourites, it was much more often cultivated, for the conditions under which Heaths, Epimids, and the numerous other things of this class were grown just met the requirements of this *Witsenia*—that is to say, as little fire-heat as possible consistent with a good circulation of air at all seasons, but especially during the winter months. In potting, liberal drainage should be ensured, and the compost best suited to the plant is good sandy peat, which must be pressed down pretty firmly. A liberal supply of water is necessary during the growing season, and at no time must the soil be allowed to become too dry. Propagation is effected by cuttings put into sandy peat and covered with a bell-glass, but they take a long time to strike.—H. P.

## KITCHEN GARDEN.

### THE STORING OF ROOT CROPS.

THE storing of the various root crops (other than Potatoes) for winter and early spring use now demands attention. The kinds which I have in view are such as Beet, Carrots, Parsnips, Turnips, Jerusalem Artichokes, Salsafy, Scorzonera, and also Witloof. Not that each requires storing in the true sense, although this is often done, undoubtedly to the detriment of the quality of the roots. Some of these, such as Artichokes, Salsafy, Parsnips, and Scorzonera, are never of good quality when taken from the ground and stored before they are required for use. It is with such as these that mistakes are made, as frost, instead of being injurious to them, improves their quality. Of course, severe frosts have to be reckoned with where these are likely to interfere with the getting up of the roots for use. In anticipation of very severe weather, a layer of litter would either have to be spread over the surface to prevent the frost from penetrating, or a supply would have to be taken up to last for some time. In either case the quality of the roots when cooked must be the first consideration. As regards a suitable store for the various subjects, it is not every garden that can command such, and other makeshifts have to be resorted to with more or less success. Warm and arid sheds are the worst possible places, for not only is top growth encouraged, but the juices are extracted to such an extent, that the quality is poor in the extreme. In such places it matters little what material is packed about them to counteract any drying influence; the evil cannot be removed. Sooner than place in such positions, I would much rather store in the open air, whatever may be its drawbacks. In fact, some people often adopt this practice where other means are present, the belief being that the quality is better than can possibly be the case under cover. But in a well-constructed root store or any shed which is adapted for the purpose the quality is not impaired, and, what is better, the roots are under control whatever the weather may be. The root store I have is a lean-to behind a north wall, the floor, which is of brick, being sunk 2 feet below the level. This is cool and slightly damp, but not so much so as to cause decay or mildew. Of course, any other cool shed or cellar may be used where the surroundings are not too arid.

Carrots are the first which demand attention, and although slight frosts may not be injurious to these where amply protected by their own foliage, yet it is not wise to leave them in the ground much longer, for where insects abound—and they quickly find out Carrots—they bore into the roots, and not only is their appearance spoiled, but, what is more, the quality also, as the flavour will most surely be tainted.

When left too long and heavy rains set in, splitting also takes place, and when this is so Carrots are of little value. When being lifted care must be taken not to break them. The tops should also be cut off about an inch from the crown. In storing them place them in layers with the crown pointing outwards, and between the layers spread some sand. River sand is good, or, failing this, fine earth, but sand is much better, this being slightly moist. When Carrots are stored in the open air, pit them similarly to Potatoes, and in this way they keep perfectly sound and fresh, the weekly supply being taken out as required. Beetroot requires more than ordinary attention, as on the way the roots are preserved will depend the quality. The roots may have been grown well, be also of the right size appreciated by cooks, but through being badly stored the juices are extracted to such an extent that they are poor in the extreme. Some people affirm that Beetroot is best when left in the ground, the crowns being simply moulded over with soil. On some soils this may be so, but it would certainly have to be sandy and in a favourable district. Others lay the Beetroot in behind a north wall, the foliage being left intact.

Beet may also be stored in the same way as Potatoes, or in a cone-like mound under trees. In this latter case the roots are built up in layers, the crowns just pointing outwards, between the layers placing a little sand or fine earth. Over the whole would have to be thrown a layer of litter, the sides being combed down so as to throw off wet and as a further protection from frost. But whatever merits the above methods possess, they do not equal a good root store under cover. In taking up the roots extreme care must be taken not to bruise them or injure the tap-root, for if so, they will bleed, and the colour and also quality be lost. The tops should be screwed off with the hand about 2 inches from the crown. In storing Beet take particular care to arrange the roots so that the crown points outwards.

Whether Turnips should be taken up will depend entirely on circumstances. Small roots of Orange Jelly or Chirk Castle Blackstone will remain sound if left out in the open throughout the winter. With large roots the case is different, as a moderately severe frost would soon injure them. During mild winters even the ordinary White Stone or Veitch's Red Globe would not be injured, but where these are of a fair size they are best taken up and stored. In any case it is best to leave the small roots, as these would come in at a time when they would be very useful, and by being left in the ground the quality is decidedly better. As previously mentioned, Parsnips, Salsafy, and Scorzonera should be left in the ground and dug as required for use—at least until just previous to their starting into growth in the spring, when they must be taken up. A. Y. A.

Three good dwarf late Peas.—It being part of my duty to provide Peas in plenty up to the end of October, I naturally experiment in divers ways and on various kinds, thus endeavouring to select the best for the special purpose of late production combined with good quality. Owing to exposure to westerly winds and equinoctial gales, tall varieties of late Peas are useless to me; hence my reliance is placed on dwarf kinds absolutely, and the following three are what I grow largely, viz., Gladiator, Sturdy, and Omega. I have repeatedly written in favour of the first as a worthy dwarf variety for main crop, but have also been trying it sparingly and cautiously as a late kind for some years, until I have now come to re-

gard it as essential for that purpose. This year I had a large quarter of these varieties sown on June 13. The crop of Gladiator is now cleared, for, as is well known, the pods of this are ready for picking almost all at one time; hence it has proved a great boon as a late September Pea. It is now closely followed by Sturdy, which will keep up the supply for a considerable time yet; and lastly comes Omega, carrying on an unbroken supply until the end of the month or later, should no severe frosts intervene. To those who may not as yet have given these a trial, I can confidently recommend them as reliable late kinds, producing even thus late good crops—not lean pods, nor, on the other hand, wind bags, but well filled with fine Peas of good quality. Being dwarf, they can, of course, be sown rather closely, are easily protected from the ravages of birds with nets if necessary, and are also better adapted to withstand the autumnal gales than taller varieties. Here, early kinds sown thus late were a failure, being more subject to mildew and rust and lacking quality, so their cultivation has been discontinued for years past. I have not had the opportunity of trying Success, but from all I learn it is an acquisition, and I hope to give it an impartial trial next season, trusting it will be worthy of being added to the above three, or perhaps replace some of them.—J. R., *Tan-y-bwlch*.

### NOTES ON CELERY.

OF all crops grown in the kitchen garden, and which are in use during the autumn and winter months, Celery must be considered the most important. Unlike the majority of other things, it has also to be used in an uncooked state, and this makes it all the more desirable that the growth should be assisted, so as to bring out its highest qualities, at least to such an extent as to make it appreciated when sent to table. This is of the utmost importance, as, being used up in an uncooked state, the Celery has to stand on its merits alone. It must be well grown, solid, and of a sweet nutty flavour. Celery when sent to table, if hollow in the stalks, or tough and stringy, or even not cleanly grown, will certainly not be looked upon with favour, and the grower will have a not very desirable time of it. There are now some splendid types of what should constitute good Celery in the market, so that it depends upon the grower entirely whether the produce will turn out satisfactorily or not. It must not be imagined that those large heads which are often seen winning prizes at exhibitions are what the grower for table use should imitate; if he does, disappointment will surely result. The large heads are all very well to look at, but it must be remembered that size is gained through very high feeding, and with such a delicately flavoured vegetable as Celery, this must be at the expense of good quality. The flavour is forced out of them and the texture is coarse in the extreme, and the Celery is of little use except for soups or cooking. Celery which is highly fed also keeps badly, and it quickly becomes a prey to slugs, and also succumbs to frost a deal sooner than other produce fed sufficiently to maintain a healthy growth. The extent to which the plants may be fed will, no doubt, depend principally upon the condition of the soil that the plants are growing in, but with well-prepared trenches, little other manurial assistance is needed. Moisture at the roots now is what Celery really does require, as being, comparatively speaking, a ditch plant, frequent supplies are needed, and it will make use of large quantities on dry soils. It is frequently stated that Celery cannot be too freely supplied with liquid manure, but with this I cannot agree. With badly prepared trenches more feeding may be needed, but with amply enriched pulverised soil for the plants to root in, they grow away freely enough, with moisture sufficient to maintain a steady growth. There cannot be any doubt about the trenches being often formed much deeper than there is any occasion for, and as in many gardens the worst soil is 15 inches or 18 inches beneath



the surface, it can hardly be expected that a plant like Celery, which requires a rich root run, should thrive in such circumstances. In the first place, they are too deep for the welfare of the plants, being away from the direct influence of sun and light, which are so essential to build up a healthy and matured growth. It is not so much deep trenches that are needed as a good depth of good soil for the roots to work in. The soil I have to deal with is a very cold clay, but a good depth of pulverised soil for the plants to root in being given, the growth made is of the most satisfactory description, and this without the application of liquid manure. With a poor root run some manurial assistance must be afforded, but not to such an extent as to make the plants assume a gross habit. The aim must be to build up a sturdy plant capable of withstanding inclement weather later on when fully earthed up for winter. Moisture at the roots being of the greatest importance, this part of the routine must have close attention. The closing days of July were very dry indeed, and after the spell of dull weather previously experienced, the plants would be apt to suffer more or less from want of moisture. The dull weather favoured a good planting time, and with a good medium for the roots to work in, root-action would be rapid. It is at such times as these that the grower is apt to be deceived by appearances, especially if a dull, showery time should follow, and this seems likely to be the case. The showers will moisten the tops and surface, but underneath may be almost as dry as dust if watering has not received attention. Trenches which have been cut out of hard soil, with a dry and impoverished subsoil beneath, are those which are the most certain to suffer if at all neglected with water. Water in these cases must be given with no unstinted hand, the trenches being well flooded to thoroughly moisten the soil. With plants growing under such conditions as these, a soaking of liquid manure will prove of the utmost benefit. This should not be given to a dry soil, but should follow immediately after a soaking of clear water, which by well moistening the soil prepares it for the food that follows. Large quantities of the liquid manure on a dry soil would be lost, and would not prove of more assistance than a smaller quantity on a previously moistened soil. The liquid should also be applied direct to the soil, not, however, by letting it fall over the foliage and into the hearts of the plants. The stimulant which I am greatly in favour of to encourage a healthy and free growth of Celery is common salt, and it is astonishing how well Celery thrives with its assistance. At one time Asparagus was about the only crop to which common salt was applied, but in the future I am of the opinion that it will enter largely into use with many other crops. It must not be applied indiscriminately, or probably there may be more injury than benefit. At the first top-dressing a little is sprinkled along the outer edges of the rows, it being worked down with the soil and again at the first earthing.

The first top-dressing is a very needful operation, assisting the plants greatly by adding to the rooting medium. This must not be confounded with earthing, which operation is not needed until later on, or at least not until a vigorous plant has been built up, as where early earthing is practised it checks the free development of the head. First secure a good strong plant and then the blanching process may be carried out with dispatch, and with the certainty of the hearts coming well up. There is probably more Celery spoilt through too early earthing than from any other cause, and, besides, it tends greatly to early decay. In those cases where Celery decays early in the winter it must be mainly attributed to early earthing. The blanched stems will withstand a certain amount of darkness and confinement without injury, but after a time decay sets in, and no amount of covering and protection will check it. The top-dressing consists in first looking over the plants and removing any small suckers and short leaves clustering about the base; but no indiscriminate removal of leaves must be resorted to, as this is apt to considerably weaken the plants.

The soil should be worked down from the sides and levelled about the base of the plants, taking care not to allow it to settle amongst the leaves. One inch or 2 inches at the outside will be ample, and will form an effective top-dressing, into which the roots will work freely. The top-dressing also prevents the leaves from spreading out, as when nothing is done until the first earthing, these spread out to such an extent that there is a difficulty in drawing them up together without injury from breakage. With this top-dressing the growth will not be interrupted, and water may be applied as plentifully as before, or rather according to the condition of the weather. The weather this season seems greatly in favour of good Celery, which is remarkably healthy and quite free from the ravages of the larvæ of the Celery fly.

A. H. S.

#### ASPARAGUS IN AUTUMN.

THE treatment of the beds in the dormant season is very important, for large quantities of roots are annually spoiled through the treatment afforded during the autumn and early winter months. On cold and heavy soils there is often unmistakable evidence of this, as the shoots do not appear at their proper time, and this through decay of the roots. The very nature of Asparagus roots tells us plainly the conditions under which they thrive, being very fleshy, and the least injury through unduly injuring the roots by disturbance or being located in a wet medium very quickly tends to their decay, it being no infrequent occurrence to see gappy rows on account of the roots dying away. To a certain extent Asparagus likes moisture at the roots at all times, but during the winter months, when the temperature of the soil is at its lowest, this can easily be over-done. Growth is then at a standstill, and the roots, being fleshy, will resent indifferent treatment. In a state of Nature, Asparagus grows in a sandy or well-drained alluvial deposit and thrives surprisingly well, rarely if ever dying away. The soil is naturally warm, and, being well drained, the roots are well preserved. At this season of the year it is the practice in some gardens to apply a surfacing of manure irrespective of the soil and the conditions under which the Asparagus is growing, and the results are not satisfactory. Sometimes very little, if any, harm accrues, but this is where the soil is very sandy or well adapted for the successful growth of Asparagus. Manure, when applied to the surface, should act as a fertiliser or invigorator, but this cannot take place while the roots are dormant. From frost Asparagus needs no protection, and if the soil should be of a cold nature, protection adds further to the evil by making the soil cold and sodden. At one time the mulching was placed on in the early autumn months, in the belief that such protection was needed, but this has been found to be a mistake. On some soils of a very gravelly or sandy description, in which the roots are comparatively warm, very little harm is done by such mulching or top-dressing of manure, and if pretty well decayed it would crumble down by the early spring; but the roots would derive no benefit from the manure washed down, as this could only take place when growth commences in the spring. Heavy dressings of manure, whether applied in the autumn or spring, are apt after a series of years to raise the soil too much above the crowns, and here again heavy manuring is at fault. In those cases where the beds are raised and it is decided to mulch or rather top-dress in the autumn, the best course would be, after the tops are removed, to lightly loosen the surface soil and work it off with the back of the fork into the space between the beds, taking care not to go too deeply for fear of injuring the crowns or roots, as these certainly must not be exposed. The manure may now be applied, the best for the purpose being good solid manure, fairly well decayed, and decayed garden refuse in equal parts. This is better than manure alone, and it will not lie too close, but allow a passage of air. Beds on

(the level being now more usual), of course clearing away any surface soil is out of the question, and in these cases particularly whatever is applied must be in small quantities, but full of fertilising properties. The burnt refuse also counteracts the tendency which manure alone has of, after a series of years, lying in a close and sodden state, impervious to air. In beds that are in a good state of fertility the tops remain green much longer than when fertility is at a low ebb; consequently there must be no hurry to remove them until the tops have quite ripened off, or there will be danger of the crowns starting if the weather keeps fine and open. Allowing the tops to remain on throughout the winter is a slovenly method, and besides it prevents the frost and air having free access to sweeten the surface soil. After the tops are thoroughly ripened, cut them off closely with a scythe, clear them away, and also any weeds, so that all will be tidy for the winter; also take care to close in the soil about the stems if there should be any space caused by wind-waving. Neglect of this simple precaution is often the source of much injury. The rain is enabled to trickle down right on to the crowns, and oftentimes causes their decay.

A. A.

#### HORSE RADISH.

THIS will to a certain extent grow and take care of itself, and is therefore generally neglected. How difficult, however, it often is to secure roots worthy the name of Horse Radish, the majority of gardeners are well aware. The difference between well-cultivated roots and those which have been grown well is very marked indeed, so that one wonders why Horse Radish should be so generally neglected. But even our markets are supplied with imported roots. During the winter months, when Horse Radish is not wanted daily, the roots should be at hand to be secured in the dark if necessary without trouble. There are various methods adopted in the securing of good roots. The first operation will consist of taking up the roots about the middle of November. A trench should be taken out at one end as deep as the roots, the soil forked over and every piece of root carefully removed, as every piece, however small, will bud out and grow. The larger roots as they are taken up should be taken care of and laid in sand or fine earth behind a north wall in the open air. They will there be secure and easily procurable at any time. The roots not large enough for use must be reserved for future stock, rejecting the very smallest unless stock is very scarce. Any portion of root will vegetate and grow, but very small pieces are of little use for our purpose, as they will take three or four years to grow to a size fit for use. If by chance crown roots are scarce, sufficient may be had in twelve months by cutting up portions of the roots into 3-inch lengths and inserting them in rows 6 inches in depth and a foot or more between the rows. By this method an abundance of suitable crown cuttings may be secured. If there are sufficient, pieces from 9 inches to a foot in length surmounted with a crown should be chosen, as roots of this length swell out evenly the whole length in a season. When taken up, any side root fibres should be scraped off with a blunt knife to within 2 inches of the bottom, and then rubbed with a coarse cloth, this removing the possibility of side thong-roots, and all the strength will go to swell the main root. If not ready for planting, these roots should be laid in, just leaving the crowns exposed. Planting may either take place in the autumn or during fine weather in February. The soil must be fertile to quite 18 inches in depth, shallow soil with a hard subsoil of gravel often being the cause of the roots spreading out instead of penetrating straight downwards. The best results are obtained when the ground is worked over to the depth of 18 inches, the manure placed at the bottom of the trench, as it is at this depth that the principal roots will derive their support. When ready for planting, holes should be made with a crowbar a foot apart in the rows and 18 inches between the rows, and a cutting root should be dropped into each, so that the tops



of the crowns are about 2 inches beneath the surface. Another method is to save the top portion of the roots with the crown attached, and drop these into holes to the depth of 12 inches, but the long roots are the best. Some people place the roots at the bottom of the trenches as these are being turned over, but this is not a good system to pursue. There is yet another method with which I have had good results, and it may be practised in shallow soils; this is by growing the roots in slightly raised beds. The beds are marked out to the width of 3 feet, and will accommodate two rows of roots. In planting, a line is stretched 6 inches from the edge, the soil being taken out with a spade in a slanting direction, and along this the roots are laid a foot apart; the soil is afterwards filled in, and the remaining row treated in the same way. Planted in this manner the roots are grown more under the influence of sun heat, and consequently swell out to a good size.

A. Y. A.

## ONIONS.

It seems rather late in the day to ask any grower's opinion as to the merits of James' Keeping Onion, because it seems to be universally admitted that it is one of the very best maincrop Onions we have. Of course it does not form a large bulb, and to some extent that tells against its wide culture. This variety is selected by M. Vilmorin as the type of what he terms Pear-shaped Onions. This type has always given to us the best keeping Onions, and there may be found in the internal formation of the bulb very good reasons perhaps for that characteristic. The harder the bulb the better it keeps. We have in Bedfordshire Champion, Cranston's Excelsior, Cocoa-nut, the Globe, and some others fine selections and more or less distinctive sorts, just as they are the production of artificial crosses. I saw the Globe growing on a seed farm recently, and it presented a really superb sample of the globular or egg-shaped sorts. It was noticeable also that whilst every bulb through large breadths was fully ripe, very many of the flat-bulbed sorts were still in full growth, and there was little hope that they would ripen at all to keep. Thus it is that early autumn maturation signifies a very hard keeping bulb, and it does keep longer than others that are hard in appearance, but are never fully ripened. One of the results of growing such huge bulbed strains as are attempted to be popularised just now is that they are very difficult to mature, especially when we have wet seasons, and the consequence is that one half the crop is comparatively wasted. Such huge bulbs as these never can be useful. The very best bulbs to preserve for any ordinary purpose, whether for seed-production or for domestic use, are those about 4 ozs. in weight. Bulbs of that description in rows 12 inches apart and set close together in the rows will give a far greater weight per rod than will the biggest of bulbs, even if weighing 2 lbs. each, which are in rows 18 inches apart and are 15 inches apart in the rows. Of course, in a trial ground it is but right that every chance should be given to any variety to show its best properties by ample thinning and good cultivation. On the other hand, when grown for profit or domestic use, it is well to remember that in days when maggot and fungus so often thin breadths disastrously, too severely thinned crops may prove an evil.

I remember when I started in gardening that almost the sole varieties in ordinary cultivation were White Spanish and James's Keeping. Now we have probably fifty at least, and it would be very interesting did the Royal Horticultural Society have a good trial of every known variety next year, that we may know just where we stand in relation to general culture and keeping properties of the sorts now so noted for their dimensions. The keeping test is a very important one, and a report as to the dates of comparative uselessness of any variety would merit publication. It would be very interesting to have every variety sown both in spring and in the autumn, so as to submit them to the severest as well as most instructive tests.

Really we have a right to ask whether these big prize Onions have any merit other than their capacity to win prizes. They will do very well for stewing and baking perhaps, but then so also will any other fair-sized bulbs, which would look far less ungainly when served at table. I very much doubt whether these big bulbs ever are applied even to that use. Naturally, in gardening we have to ask of everything, or of every method of culture, in what does its goodness consist? If not specially profitable or more productive of good things, of what use is it? A. D.

## SOCIETIES AND EXHIBITIONS.

## ROYAL HORTICULTURAL SOCIETY.

OCTOBER 18.

THE practical value of these meetings was most clearly demonstrated on the present occasion. If not one of the showiest gatherings as far as the display of flowers was concerned, it was one of the best from an horticultural standpoint that has been held during the present season, or in fact in any previous year. The display of fruit was one of the best ever held in the Drill Hall; notably was this the case as it pertains to the Apples and Pears, of which some splendid examples in large variety were shown. Of the Pears, one collection of magnificent produce fairly eclipsed the Jersey-grown fruit at Earl's Court a few weeks back. Of these, one example of Uvedale's St. Germain Pear weighed within half an ounce of 2 lbs., whilst others, chiefly dessert varieties, were wonderfully fine. Of Grapes, a few good collections were staged in competition for the prizes offered. Those of Lady Downe's, Black Alicante, and Mrs. Pearson were the best finished examples seen in London this season, the bunches not of the very largest, but in all other respects excellent. The dried fruits from Chiswick were a most instructive feature of the meeting, touching as it does upon the commercial aspects of fruit culture in this country. Some well-grown Cycads, chiefly *Cycas revoluta*, newly imported, with one fresh growth since being under cultivation, served in a measure to illustrate the lecture on Cycads.

## Orchid Committee.

No certificates were awarded at this meeting, being the second in succession whereat no such award has been made. There will not, however, be any harm in this; a lull in the newer kinds will probably cause a diversion to the older and well-proven species. Messrs. B. S. Williams and Son staged a fine group on this occasion, rich in choice kinds in season. Amongst these were *Cypripedium Morganianum*, with fine flowers; *C. selligerum rubrum*, a fine form bearing twin flowers; *C. Harrisianum superbiens*, well coloured; *C. Ashburtonianum*, *C. Spicerianum*, *C. cardinale*, *C. Hartwegi*, *C. Dominicanum* and two fine examples of *C. insigne*. *Oncidium Papilio*, not often seen, was shown well; *O. Krameri* and *O. Eckhardtii*, two distinct forms, being also staged. These Butterfly Orchids are well worthy of more notice. *Dendrobium Phalaenopsis*, *D. superbiens* and *D. Dearei* were likewise shown, and a few good examples of the Indian *Crocus* in *Pleione lagenaria* and *P. Wallichii*. Award silver Banksian medal. Mr. Philip Crowley, of Waddon House, Croydon, staged a small group of remarkably well-grown plants. These consisted of several examples of *Ojontoglossum grande*, finely flowered and in vigorous health, as many as six flowers to a spike in some instances; it is a treat to see this grand old Orchid in so fine condition. Other good things here consisted of *Vanda Kimballiana*, of which four plants with as many spikes of extra size were shown; this is proving to be a most valuable autumn-flowering species. *Vanda tricolor* was represented by a fine plant with two vigorous spikes. *Cymbidium giganteum* was also shown. Award bronze Banksian medal.

Messrs. Sander and Co. staged a few good things in *Dendrochilum Cobbianum*, of which a fine speci-

men was shown bearing eighteen spikes, each about 9 inches in length, colour a pale straw shade with a golden lip. Amongst the *Dendrobium Phalaenopsis* *Schroederianum* shown on this occasion was an almost pure white variety; *Cattleya Brymeriana*, coming after C. Perrini in form and colour; *C. chrysotoxa*, a fine form of *C. aurea*, was also shown in this group. From Mr. George Hurdy, Pickering Lodge, Timperley, came some more splendid varieties of *C. aurea* in *C. Massaiana*, certificated August 26, 1890 (see GARDEN for August 30 of that year), and *C. aurea*, deeper in colour somewhat than usual. Some cut blooms of a hybrid *Cypripedium* called *Hardyanum*, stated to have been raised between *C. caudatum* and *C. Ainsworthii*, the latter itself also a hybrid, were also sent from this source, the tail-like appendages being of considerable length.

## Floral Committee.

Awards of merit were voted to the following florists' flowers—

**CHRYSANTHEMUM BEAUTY OF EXMOUTH**—A white variety of the Japanese type, with curled and incurved florets, a very full flower of much promise for the exhibition board. From Mr. J. Godfrey, Rolle Street, Exmouth.

**CHRYSANTHEMUM MRS. MYERS** (English seedling).—An October-flowering decorative variety with straw-white flowers reflexed in shape, a very handsome flower. From Mr. R. Owen, Maidenhead.

**CHRYSANTHEMUM BARON HIRSCH**.—An incurved English seedling, the flowers of extra size and full, the colour deep bright bronzy-red. From Mr. Owen.

**CHRYSANTHEMUM WILLIAM SEWARD**, of the origin of which no record was given. It is probably a sport; the flowers were very handsome, after Sunflower in shape, but larger; the colour a dark rich crimson or maroon shade; a decided acquisition to the Japanese section. From Mr. Shrimpton, The Firs, Boston Road, Hanwell.

**PELARGONIUM RASPAIL IMPROVED**.—This is best described as a marked advance on the old Raspail, with finer trusses and larger flowers, and a very dwarf habit. From Messrs. H. Cannell and Sons.

**PELARGONIUM MME. BONDEVILLE**.—A pale cerise coloured variety, the edges of the petals of a deeper shade, whilst the centre of the flower was almost white; quite a novelty. From Messrs. H. Cannell and Sons.

Mr. H. B. May had an extra large group of beautifully grown plants with ornamental foliage. These were finely developed examples, greatly adding to the features of the meeting. Crotons were largely represented, the best being *C. volutus*, *C. Johannis*, *C. Princess of Waldeck*, *C. mortfontainensis*, *C. Bergmanni*, *C. Thompsoni*, *C. elegantissimus*, and *C. aigburthensis*, all of which were finely coloured; *Phrynium variegatum*, a seldom seen plant, shown in first-rate order. *Cyperus alternifolius* variegatus, *Alocasia* in variety, *Aralias*, *Ficus elastica* variegata, *Pandanads*, and Ferns in variety made up a splendid group (silver-gilt Flora medal).

The large groups of *Cycas revoluta* were quite a feature in their way, the plants well established in quite small pots, with stems of various heights, the foliage, of a deep green colour, betokening good health. These were exhibited by Messrs. E. D. Shuttleworth and Co., Peckham Rye, and were also awarded a silver-gilt Flora medal.

Mr. Leach, Albury Park Gardens, Guildford, staged a quantity of very brilliant autumn-tinted foliage in cut specimens. These included varieties of Maples, as *Acer palmatum purpureum*, *Rhus Cotinus* (the Sumach), *Magnolia* (deciduous sp.), with large foliage of a rich brown shade, *Berberis vulgaris* (the common Barberry) in fruit, *Andromeda arborea* (very bright), *Cornus sanguinea*, *Pavia macrostachya*, and *Viburnum Opulus* (award silver Banksian medal). Messrs. H. Cannell and Sons had a superb display of tuberous Begonias. Those chosen for this show were a choice selection of a deep crimson-scarlet shade, the flowers of extra large size and great substance, the plants



profusely laden with bloom on stout foot-stalks. This was a very fine exhibit (award silver Banksian medal). Dr. Frankland, The Yews, Reigate Hill, had thirty-six cut blooms of Japanese Chrysanthemums equal to those seen in November, many, in fact, being very superior examples. The best were Stanstead Surprise, Edwin Molyneux, Mrs. E. Clark, Avalanche, extra fine; L'Adorable, and Criterion (bronze Banksian medal).

Mr. A. Waterer, Knaphill, sent cut examples of *Berberis Thunbergi* and *Quercus americana* splendens, both valuable for their very brilliant autumn tints, these shown being of an intensely high colour. Mr. Owen had two more promising new Chrysanthemums, one named Edith Owen being of a lovely shade of pale pink, the flowers of medium size; the other a true Japanese variety of irregular outline, but unpardonable in the eye of the florists is the conspicuous eye; as a decorative flower, however, it is decidedly beautiful. It is an English seedling named Majestic. Mr. Wells, Earlswood, had also several good blooms, Elaine, Miss Gorton, and W. Wells all being first-rate. Singles and pompons were also shown, likewise two plants, one Vivian Morel, the other a white sport from it called Mrs. W. R. Wells; this latter when seen later should be a good thing. Mr. Hudson sent from Gunnersbury House cut specimens of *Ixora Westi* (the second time of flowering) to show its usefulness in a cut state. Rev. W. Wilks had a cut example of *Aster John Wood* to show its superiority and distinctiveness as compared with Harpur Crewe, another and older variety of the Michaelmas Daisy, both with white flowers.

Messrs. B. S. Williams and Son showed the seldom seen bulbous plant with blue and white flowers, *Griffinia hyacinthiflora* (figured in GARDEN, Oct. 26, 1889, p. 386); also *Amaryllis Mrs. W. Lee*, a valuable autumn-flowering variety. From Messrs. H. Low and Co. came *Amaryllis equestris*, somewhat resembling the Vallota, but much inferior to it. Messrs. Cannell had some showy fruiting spikes of *Physalis Alkekengi* of a deep orange colour. Mr. Bones, Tower House, Chiswick, had three fine pots of *Nerine crispa*, a lovely variety when seen in a mass. From the Royal Gardens, Windsor, Mr. Thomas brought some finely grown examples of *Margarita Carnations* grown from seed sown in February last, the flowers very double and sweetly scented. From the Royal Botanic Gardens, Kew, were sent some grandly grown examples of *Cycads* (fruiting cones) in a cut state; these included many kinds not often seen. Another break in the *Streptocarpus* was also exhibited from the same source, and *Satyrion sphærocarpum*, an interesting terrestrial Orchid.

#### Fruit Committee.

This was one of the best meetings of the year as far as fruit was concerned, more than one half of the hall being filled with hardy fruits, several collections having over 100 dishes, all of superior quality. There was a great number of seedling Apples. Some good lots of Apples and Pears and some fine stands of well-fini-hed Grapes were staged for the prizes offered. Vegetables, though less numerous, were excellent in quality.

First-class certificates were awarded to—

**MELON BEAUTY OF SYON.**—This is a seedling Melon of great merit. The fruit is of medium size, with bright golden skin, scarlet flesh, and very thin rind, slightly netted and ribbed. The flavour is excellent. It is a cross between Hero of Lockinge and an unnamed seedling. From Mr. Wythes, Syon House Gardens, Brentford.

**TOMATO LADYBIRD.**—Immense cropper, with nice-shaped fruit above medium size, colour bright crimson, flesh very solid, having scarcely any seeds. From Mr. Leach, Albury Park.

An award of merit was given to—

**APPLE MONSTROUS INCOMPARABLE.**—A variety supposed to have been imported into the island from France. It is a very large, evenly-shaped fruit, somewhat like a large Golden Noble, the flesh firm and briskly flavoured. From Mr. Becker, Jerrey.

From Messrs. Veitch and Sons, Royal Exotic Nurseries, Chelsea, came a magnificent collection of fruit, over 200 dishes being staged besides large baskets; the Apples included some very fine dishes. The Peasgood's Nonsuch, Bismarck, Cox's Orange, King Harry, Mother Apple, and Bramley's Seedling were very fine; whilst it would be difficult to stage better fruits than those of Gold Medal, Winter Hawthornden, Barker's Seedling, Cellini, Warner's King, Stirling Castle, Golden Noble, Seaton House, Ribston, Washington, Court Pendu Plat, Sandringham, and Baumann's Red Reinette. There were also some good Pears and some dishes of Plums. A silver-gilt Knightian medal was awarded. The Mayfarth Evaporating Co. was awarded a silver-gilt Knightian medal for the excellence of their evaporator. This has been working at Chiswick, and dried fruits were staged in glass jars in syrup, this retaining the richness of soft fruits, such as Plums, &c. From Syon House Gardens (gardener, Mr. Wythes) was sent a large collection of fruit, fifty dishes of Apples and thirty of Pears; also fourteen large baskets. There were some excellent fruits of Blenheim Orange, Ribston, Cellini, Bismarck, Warner's King, Annie Elizabeth, Lane's Prince Albert, Cox's Orange Pippin, Duchess's Favourite, Royal Russet, Lord Suffield, Nelson Codlin, Norfolk Beaufin, and others; with very fine Pitmaston Duchess, Duchesse d'Angoulême, Beurré Diel, Beurré Bachelier, Marie Louise, and Glou Morceau Pears. A silver Knightian medal was awarded. Messrs. Paul and Son, Cheshunt, staged over 100 dishes and baskets of very fine Apples. This collection was much admired on account of the bright colours of the fruit, the Loddington Seedling, Lane's Prince Albert, Beauty of Bath, Beauty of Kent, Frogmore Prolific, Tom Putt, Ribston, Mère de Ménage, and Worcester Pearmain being very fine (silver Knightian medal).

Mr. Martin Smith, Beckenham, sent twelve dishes of Pears grown mostly indoors. One fruit of Pitmaston Duchess weighed 2½ ozs., Doyenné du Comice was 21 ozs., the other samples of Princess, Conseiller de la Cour, General Todtleben, Magnate, and others being very large and of a beautiful shape and colour (silver Banksian medal). Messrs. J. Peed and Son, Norwood, staged over 100 dishes of Apples and Pears, having some good examples of Emperor Alexander, Ribston Pippin, The Queen, Warner's King, Peasgood's Nonsuch, and others (silver Banksian medal). Messrs. J. Laing and Sons, Forest Hill, staged sixty dishes of fruit of great merit, Alfriston, Cellini, Melon Apple, Lord Derby, Bismarck, and Tower of Glamis being very noticeable (silver Banksian medal). Mr. S. Mortimer, Farnham, staged twenty-one bunches of Alicante Grapes of beautiful finish and a good collection of Apples, the varieties being Barchard Seedling, Warner's King, Wellington, Golden Noble, King of Pippins, Blenheim Pippin, and Hanwell Souring (silver Banksian medal). Mr. J. Melles, Chingford, staged thirty dishes of Pears. A bronze Banksian medal was awarded. Seedling Apples were also shown in great numbers. Several dishes came from Mr. Becker, Jersey, one receiving an award of merit. Single dishes from Messrs. Longley, Faversham; Smith, Lavinton; Dicksons, Edinburgh; Bowerman, Hackwood Park; Morrow, Leominster; Noble, Bagshot; Ball, Ramsden; and Taylor, Isleworth. Apples from Mr. G. F. Bodly, Loughborough Park, a seedling Melon from Messrs. Saltmarsh, Chelmsford, but over-ripe, and a small collection of Melons from Syon House were also shown. From the R. H. S. Gardens, Grapes grown in the open were shown. These were most meritorious and of good flavour. Mr. H. Balderson, Hemel Hempstead, sent very nice examples of Muscat of Alexandria, Alicante, Lady Downe's, and Madresfield Court Grapes. Messrs. Veitch contributed some good branches of Superlative Raspberries. Dr. Hogg also sent Raspberry Catawisia, a variety of bright colour and good flavour. Mr. J. Willard, Holly Lodge, Highgate, had nice heads of Silver or Seakale Beet well grown. Messrs. Jarman, Chard, staged a collection of very large Onions, the varieties being Somerset Hero, Rousham Park, Ailsa Craig, and Prize-winner.

The competition for the prizes given by the society was better than usual, especially in hardy fruit. For six bunches of Grapes not less than three varieties, Mr. Hudson was first with fine Muscat of Alexandria, Alicante, and Lady Downe's. Second, Mr. F. Osman, Ottershaw Park, Chertsey. Six bunches for flavour: First, Mr. Osman with Muscat of Alexandria, Mrs. Pearson, very good, and Mrs. Pince, the last of a poor colour. For six dishes of cooking Apples and four dessert, there was a good competition. First, Mr. A. W. Porteous with a nice lot of large, well-finished fruit. Second, Mr. J. W. Melles, Chingford. There was fruit staged here certainly grown under glass. There were also more cooking varieties than was allowed. For six dishes of Pears, first, Mr. Melles, with large fruit, well coloured. Second, Mr. G. Wythes, Syon House, with fine fruit of well-known early kinds.

**Fruit drying.**—Mr. Ludwig, the agent of Messrs. Maylarth and Co., 16, Mincing Lane, E.C., some time ago gave a practical illustration of fruit evaporation in the Royal Horticultural Society's Gardens, Chiswick, and the following is Mr. Barron's report submitted to the fruit committee last Tuesday.

During the operation a temperature of from 175° to 200° is required for Apples, and the time occupied is about three hours.

lbs.		lb.	oz.
10	of Cellini	give	1 34 when dried.
10	of New Hawthornden	"	1 11 " "
10	of Blenheim Orange	"	1 12 " "
10	of Frogmore Prolific	"	1 9 " "
10	of Lord Suffield	"	1 2 " "
10	of Small's Admirable	"	1 3 " "
10	of Beauty of Hants	"	2 4 " "

The parings and cores have to be added to the weight of the dried fruit when calculating the exact reduction by evaporation. For Plums the temperature required is about 250°, and the time taken is from eight to ten hours. The committee marked their approval of the success of the experiments by recommending a silver-gilt medal to Messrs. Maylarth and Company for the apparatus, with the expression of their great satisfaction at the results achieved.

Mr. Carruthers, in the course of his lecture on Cycads, stated that he did not intend to treat on the management of the plants, but would divide them into three classes and endeavour to explain their habits. He went at length into the various genera and the formation of the plants, their distinguishing features and the way they flowered, the formation of cones and the way they increased. A choice collection of cones of various species was sent from Kew to illustrate the lecture; some of these were large and most interesting. Leaves of a great number of varieties were also sent, and the leaf formation was specially pointed out. He explained that those with little knowledge of these plants often looked upon them as belonging to Ferns and Palms, but they were quite distinct and formed a small group, although a widely scattered one. Cycads were found in most tropical regions, some in North America and others in Australia. They were found in numbers on the borders of the Indian Ocean, in the Malay Peninsula, and he knew of no plants more simple in structure or leaf-growth. Encephalartos are closely allied to Cycads, and form a useful group. He showed cones and explained that these cones vary greatly. Zamias are also allied, but not so widely distributed; some are found in Mexico and much resemble Palms. In the case of the several species, many of them assume the same habit of growth; they also require a resting period, and even when their curious pinnate leaves fall and the trunks present a dry appearance, they have been known to break into a new existence after two or three years of inactivity. At times the trunk decays at the base, but by cutting away the decayed portion and placing in a warm moist atmosphere a new growth soon starts. At times they do not make new growth for years, and, of course, will require less moisture. He also referred to the dried specimens of trunks staged in the building, and to their method of growth and their beauty when in



good health. Cycads require less care than many plants. They are invaluable for decoration. Mr. Watson said all the species were readily cultivated, and though some did fairly well in a cool house, a stove temperature was much best; indeed, they were at home in such houses and were readily started into growth. He likewise named a few of the best varieties. Mr. Wills spoke of their value for decoration.

At the meeting held on October 4, Mr. Elliott, Stourvale Nurseries, Christchurch, Hants, exhibited several forms of *Dracenas* (Cordylina section), including *D. australis nobilis*, a robust growing form, partaking nearest of the character of *D. a. lineata*, but as shown both paler in colour and shorter in the leaf; *D. australis aurea striata* is another addition to the variegated section, with rather shorter leaf-growth than in *D. Doucetti*, the leaves having a disposition to twist themselves in corkscrew fashion; it should be a distinct variety as growth proceeds; *D. australis compacta nana* is quite a dwarf and compact variety, bidding fair to be a useful decorative plant; *D. australis lusiformis* as shown has not any particular merit; *D. australis elegans* is, however, an acquisition, with long, narrow and arching leaves; *D. Doucetti* was also included, and that in good condition. Additional collections of Michaelmas Daisies were sent from Chiswick and elsewhere. The Chiswick collection embraced the greater portion of the best varieties for general cultivation, the most striking being *A. Novi-Belgii* Robert Parker, *A. Novi-Belgii densus*, *A. Novæ-Angliæ roseus*, *A. Novæ-Angliæ præcox*, *A. arcturus*, *A. Amellus bessarabicus*, *A. A. major*, *A. Amellus* and *A. versicolor* var. *Antigone*. Another collection, but much the worse for travel, being also past their best, came from Mr. Henry Southall, The Craig, Ross. From Mr. T. Ware, Tottenham, came some lovely flowers of *Iris alata*, a dwarf variety of much promise; also of Carnations several good varieties, of which *Irma*, a deep pink, very free; *Lucifer*, a bright scarlet, and *Marie Forest*, a pure white, were the most promising, all being of good habit. Mr. Ware had also several species of *Nerines* (Guernsey Lilies), the best of which were *N. sarniensis*, *N. coruscans major* (extra fine and very bright in colour), *N. excellens* and *N. amabilis*. Messrs. J. Veitch and Sons, of Chelsea, exhibited that beautiful, but all too scarce autumn-flowering stove shrub *Amasonia punicea* from British Guiana, the inflorescence of which is particularly striking, having a series of the richest vermilion-crimson bracts in racemes a foot long with pendulous tubular flowers of a creamy-white colour. Of this plant several finely grown examples were shown. From the same source also came *Caryopteris mastacanthus*, of dwarf growth, with blue Veronica-like spikes of bloom, and a boxful of hybrid *Streptocarpi*, which are continuously increasing in beauty. New shades of colour with well-defined markings and a profusion of bloom are the chief features; none the less valuable, however, is the dwarf and compact growth. Mr. Leach, Albury Park Gardens, exhibited his new *Mignonette Her Majesty* in first-rate condition from seed sown on June 17. The growth is dwarf, but erect; the spikes of flower large enough for any purpose, but not club-headed, as in the *Machet* type, making it all the more effective. Mr. Leach also exhibited the *Sea Buckthorn* (*Hippophaë rhamnoides*) in profuse berry-bearing condition—a very effective autumn decorative shrub. Rev. W. Wilks exhibited a few rare forms of Michaelmas Daisies, *A. decorus* being a decidedly fine variety. Another addition to the yellow Carnations was to be seen in one called *Button-hole*, shown by Mr. Fry, Lewisham. It is a pale yellow of medium size. Messrs. Cannell and Sons had another boxful of cut blooms of tuberous *Begonia Rosebud*, one of the prettiest of all, and a trayful of winter-flowering zonal Geraniums, of which *Hyacinth*, a deep scarlet; *Maud of Wales*, a bright pink; *A. W. Wootton*, a rich salmon; and *Beauty of Kent*, a pale salmon-pink, were among the best. Messrs. J. Laing and Sons showed a beautiful lot of *Saxifraga sarmentosa*

*tricolor superba* well set up in green Moss, giving the plants an effective appearance. A small collection of hardy flowers was sent by Mr. Crook, Forde Abbey Gardens, Chard, consisting of things in season.

The competitive classes for hardy herbaceous perennials and bulbous plants made an excellent display. For eighteen varieties, Mr. Sage, Ham House, was first with large bunches, the best of which were *Aster Amellus*, *A. Novæ-Angliæ roseus*, *Lilium auratum*, *Pyrethrum uliginosum*, and *Rudbeckia Newmanni*, with good herbaceous Phloxes. For twelve varieties, Mr. Kidler, Coker Court, Yeovil, was first with an excellent assortment; *Phygelius capensis*, *Lilium tigrinum splendens*, and *Gladiolus ramosus* var. *Princess Clothilde* were in fine condition. Mr. Hudson, Gunnersbury House, Acton, was first for eight varieties, showing large bunches of *Aster Amellus bessarabicus*, *Pyrethrum uliginosum*, and *Helianthus multiflorus maximus*.

## PUBLIC GARDENS.

**Recreation grounds at Oldbury.**—At a recent meeting of the Oldbury Local Board three recreation grounds were presented to the town by members of the firm of Messrs. Allbright and Wilson, chemical manufacturers. Mr. Arthur Allbright presented a park for Largely, and £1000 to provide for its maintenance; his son, Mr. W. A. Allbright, gave a recreation ground for the centre of the town; and Messrs. Wilson £1000 to provide a recreation ground for Rounds Green.

**Chrysanthemums at the Inner Temple.**—Chrysanthemums are now being shown in the Inner Temple, by permission of the Master of the Garden (Mr. Bulwer, Q.C.) and the benchers. Mr. Newton, the head gardener, has over 600 of these pretty winter plants on view, of which seventy-seven are new specimens of the Japanese and incurved varieties. The exhibition will be held in the new conservatory near the Thames Embankment.

**The Peckham Rye extension.**—The Press Association states the Parks Committee of the London County Council has decided to deal with the Peckham Rye extension as a place to be closed at night-time, but not as a park. The architect of the County Council has been requested to bring up an estimate to provide for the erection of a suitable open iron boundary fence. The decision of the Council is in accordance with resolutions passed by the committee which negotiated the scheme, and also by the Camberwell Vestry.

**Open spaces.**—At the monthly meeting of the Metropolitan Public Gardens Association, held at 83, Lancaster Gate, the Earl of Meath in the chair, the secretary stated that the association had received a legacy amounting to £75, and also special donations amounting to £110 for a drinking fountain, the provision of seats in thoroughfares, and for other purposes. It was agreed to grant seats for Southgate Recreation Grounds, N., conditionally on the local authority defraying half the cost, and for a chapel ground in West Ferry Road, E., to offer to lay out the churchyard of All Saints, Poplar, E., and a triangle in Caledonian Road, N., provided the local authorities agreed to maintain them, and to approach the London School Board with a view of inducing that body to complete the work of opening the playgrounds on the Saturday whole holiday. The completion and opening to the public of Spitalfields Churchyard, E., and Great Church Lane recreation ground, W., were announced, and it was stated that the association had begun the laying out of Goldsmith Square, E., and that similar work was in prospect at Duncan Terrace, N., Victoria Park Cemetery, E., Marigold Street, E.C. By the kindness of the Duke of Westminster the association had been able to take charge of and open to the public Lower Grosvenor Gardens, S.W., during the summer months, and about £5000 was needed for carrying out the work in hand or in prospect, towards which contributions were solicited. A petition with nearly 1000 signa-

tures was presented by residents in Islington, begging the association to use its influence with Lord Calthorpe to induce him to sell at as low a rate as possible a piece of land adjoining Colebrook Row to the Islington Vestry as an open space instead of disposing of it for building purposes. It was decided to comply with this request.

**Parcel Post regulations.**—Tin boxes should always be used for Damsons, Bullaces, Blackberries &c., which are largely sent by parcel post at this time of the year. Chrysanthemums should invariably be enclosed in a box or basket, as by this means all risk of damage is prevented. Shrubs and dwarf trees should have the roots encased in bass matting, and the branches and twigs tied together with bassorstring. Dwarf standard Rose trees should have bands of bay, or of bass matting, wound round their entire length, so as to prevent all risk of injury to the young shoots. Wooden boxes should be used for flowers and soft or tender plants. The address label attached to such parcels should bear the words "By Parcel Post," "Fruit," "Plant," &c., as the case may be, or "Perishable," and every effort will be made in the Post Office to deal with parcels so marked as speedily and carefully as possible.

**Death of Mr. R. Bullen.**—We very much regret to hear of the sudden death of Mr. R. Bullen, curator of the Glasgow Botanic Gardens. Mr. Bullen was especially successful in the cultivation of Orchids. We understand that the appointment will rest with the Glasgow Town Council who recently took over the management of the garden.

**Book on kitchen gardens** (*A Subscriber*).—"The Vegetable Garden." John Murray, Albemarle Street, London, W.C.

**Grafting Roses.**—Can Roses be grafted on Thorn or Crab tree?—and if so, are the results as regards flowering good?—LADY MARGARET CECIL.

**Streptocarpus.**—I should be greatly obliged if some grower of this plant would kindly give me a little information as to wintering it. Should it have the same temperature, or should it be injured to a cooler house? I have mine at present in the stove.—T. R.

**A garden account book.**—Can any of your readers put me in the way of obtaining a book in which my gardener can enter the work done day by day by himself and four assistants, also wherein may be entered the quantity of fruit and vegetables gathered day by day, and how it has been disposed of, whether in the house, or sold, or otherwise, or any other information useful to an amateur not well enough to look minutely into matters?—M.

**Seeds for New Zealand.**—I have a relative living near Auckland, New Zealand, and I wish to recommend him the best seeds to grow. What will be most worth while for the general markets? Best Peas, Cauliflower seed, Cucumbers or Sweet Peas, Stocks, Zinnias amongst the flower, or, if other things, what? And particularly, what is the climate best suited to bring to perfection? The situation is on a creek out of the harbour. Frosts are quite unknown on the upper portion of the estate.—A. D., Godalming.

**Names of fruit.**—G. S.—Fondante d'Automne. —W. E. Bevan.—1, Blenheim Orange; 2, Striped Beaufin. —Cakenhead.—1, Bergamote d'Espéren; 2, Burré Hardy. —Jasper.—1, Hawthorned; 2, Braddick's Nonpareil. —Dorset.—Local soil; impossible to name.—W. Richardson.—1, Durandean; 2, Burré Chirgeau. —W. King.—1, Warner's King; 2, Thompson's; 3, Mère de Ménage.

**Names of plants.**—L. B. G.—1, Lockhartia robusta; 2, Lissocylus Krebsi; 3, Angreum Scotianum. —G. Webster.—If you reverse the numbers, you will be right; 1 is Vanda stavis and 2 is V. Roxburghi, blue-lipped form.—T. G.—It is Angreum uniflora; the flower of the form called churea is three times as large as that sent.—T. Williams.—Leaves shrivelled up; impossible to name from such specimens.—G. T. Lunce.—Utterly impossible to name from such poor specimens; send characteristic specimens and fertile.—H. H. C.—1 and 2, varieties of Helianthus multiflorus.—W. Hardoy.—Farfugium grande.—A. J. W.—Magnolia purpurea.—North Bute.—Please send better specimens; the labels had become detached.



## WOODS AND FORESTS.

### ORNAMENTAL WOODLANDS.

THE bareness and cold-looking appearance that are characteristic of not a few English woodlands should not now be allowed, as we have quite a host of well-tried shrubs and shrubby trees that succeed admirably beneath the shade and drip of our general forest occupants. This clothing of the ground beneath our large forest trees, when these are not grown in too confined spaces, is, perhaps, most to be recommended where the woodlands are situated in the park, or made accessible by drives and roads, those at a considerable distance off and difficult of access receiving only minor attention in this way. But in almost any case, whether for ornament or utility in the way of game covert or both combined, it is wise policy to have open spaces in old woodlands planted up, the underwood at certain periods coming in for firewood and faggot-wood, which now-a-days realise a fair price per load or hundred.

Where ornamentation of the woodlands is a point of first consideration, the proper distribution and arranging of the clumps should not be lost sight of, for it is just as easy and not at all expensive to lay out the shrubs in a natural way as it is to plant in the homogeneous masses that unfortunately too often mar many of our public and private woods. The whole ground planted up closely as we sometimes see it is inartistic, unnecessary, and far more expensive than judiciously laid out clumps and masses. What is wanted is clumps of diverse sizes and shapes planted at varying distances apart, and in the more open and bare portions of the woodland. Formality should be studiously avoided, this and stiffness of arrangement being unfortunately rather characteristic of our present style of shrub planting, and imparting to our woodlands an unnatural and disagreeable appearance. The size and shape of the ground will to a very great extent decide the distribution and arrangement of the clumps, but, generally speaking, the most open positions should be chosen, and the masses so arranged that in viewing the wood from any point the eye may not pass along a straight bare line, but become arrested by the clumps in passing to the opposite side.

There are many shrubs suitable for such planting, and by careful selection and arrangement great diversity may be obtained. Where the shade is not too dense, the common Laurel succeeds very well, and soon forms wide masses of the richest green. Its too luxuriant growth is the one drawback, but this can be rectified by stopping and layering, for few shrubs succeed better under such treatment than the Laurel. The growth is then greatly thickened, and by pegging down the outer shoots the clumps may be greatly increased. In the common Box, too, will be found a shrub of delightful foliage tint for planting along the margins and in the more open parts of the woodland, it growing away freely, and by reason of its dark green leaves affording quite a marked contrast to the generality of our shrubs. It, too, bears cutting back with impunity, and if the branches do not come downward on the stem for, say, a score of feet from the ground, it will succeed beneath our larger forest trees. The Mahonia and Barberry are other subjects that will grow vigorously where the shade is not too dense, and, being highly ornamental, are peculiarly suitable for the purpose under consideration. Gaultheria Shallon and the St. John's Wort (*Hypericum calycinum*) do well in similar situa-

tions, the latter growing and flowering freely from year to year in an old Oak wood I know, and where there is an almost unbroken leaf canopy.

Should larger growing subjects be desirable, we have the Yew, the Holly and the Evergreen Oak, all of which remain as green and healthy within the woodland as in more open and exposed situations. But there are hosts of other shrubs and small-growing evergreen trees that will, if wanted, succeed perfectly well in the shade, and therefore there is small reason for the neglect generally experienced of the want of a bit of green in our winter landscape.

A. D. W.

### SEASONABLE WORK FOR OCTOBER.

SOME of the best of our forest and ornamental trees mature their seeds at this season, including the British Oak (*Quercus robur*). There are, however, several varieties of this tree in cultivation, two of which by some botanists are considered distinct species. Be this as it may, the most approved tree is *Q. robur pedunculata*, which produces its acorns on footstalks, while the other, which is named *Q. r. sessiliflora*, has its acorns sessile or without footstalks. The planter should prefer the acorns of the former tree, and in gathering the seeds the largest nuts should be selected. The nuts may be sown at once or at any time during dry favourable weather up to the month of March. Sow the seed broadcast on well-worked nursery ground formed into beds 4 feet wide, press down the nuts with the back of a spade or roller, and finish by covering them with about half an inch of soil. One bushel of acorns should be allowed for 25 lineal yards of a bed the above size. In some parts of the country the young seedling plants are apt to be sowed by late spring frosts, and in order to guard against this the seed-bed should be protected in spring by sticking into the ground here and there a few evergreen branches and twigs as a screen and shade until the danger is past.

THE TURKEY OAK ripens its seed at the same time as the common Oak and requires the same treatment, with this difference, that the young plants are generally of a larger size the first year than those of the native species, so that they had better be planted out into nursery rows when one year old. The plants of the native species are generally allowed to remain two years in the seed-bed before being planted out into nursery lines.

THE COMMON BEECH combines the useful and ornamental to a large extent, and when planted on suitable soil and allowed plenty of space it always commands attention. It prefers a loose friable compost of a calcareous nature, but will grow on any ordinary soil provided it is dry and well broken up previous to planting. The Beech seed when ripe generally drops to the ground, and may be gathered up with little trouble and sown at once or kept in a dry place during winter and sown in spring. The seed should be sown broadcast in a regular and uniform manner on loose sandy soil formed into seed-beds 4 feet wide. One bushel of mast should be allowed for 40 lineal yards of a bed the above size.

THE SWEET OR SPANISH CHESTNUT (*Castanea vesca*) is both useful and ornamental. It likes a dry, gravelly soil of a free open nature. When planted in proximity to other trees the side branches lose their vitality, so that the stem presents the appearance of a fine clean shaft free of knots, and of a pretty uniform thickness for about three-fourths the length of the trunk. The seed may either be sown in drills about 18 inches wide from centre to centre, the seed 3 inches apart in the rows, or in beds 4 feet wide and covered with 1 inch of fine sandy soil. One bushel of sound seed should be allowed for thirty lineal yards of a bed the above size.

THE WALNUT when planted on dry, friable soil attains a large size, and is very valuable as well as

ornamental. Sow the nuts in drills in a similar way to that given above for the Sweet Chestnut, and cover them with 2 inches of fine soil. Sharp sandy soil is most suitable. When the soil is of a soft texture and rich in organic matter the plants never ripen their wood sufficiently in autumn, and are apt to be cut down by frost.

J. B. WEBSTER.

**The Tansy-leaved Thorn** (*Cratægus tanacetifolia*).—In answer to Mr. R. Draper's inquiry in THE GARDEN, October 15, p. 338, regarding the size of this tree in the Botanic Gardens, Glasgow, the following measurements were taken by me some time ago: Girth of stem 1 yard from the ground, 3 feet 2 inches. At 5 feet from the ground the stem bifurcates and forms a round spreading head 10 yards in diameter, one side of which is well furnished with branches and spray of a pendent character, while the other is rather bare, which detracts from its appearance as a specimen. The estimated height of the tree is about 25 feet.—J. B. WEBSTER.

**The Holly** will thrive in any ordinarily good soil that is free from stagnant water. The finest Hollies usually occur on deep, fertile, sandy soils, and in districts where the yearly rainfall exceeds 25 inches. It is accounted a slow-growing tree, but its reputed slowness should never be allowed to stand in the way of its adoption where a substantial fence or noble undergrowth is wanted, and a reasonable time can be allowed for the trees to become established. The average growth may be reckoned at 6 inches per annum. In a cool showery summer a hedge that has not been cut or interfered with will increase in height as much as 18 inches, but in a dry hot season the increase will be scarcely appreciable, the growth of the most vigorous shoots amounting to only 2 inches or 3 inches. It is certainly the finest tree we possess for a protective fence, whether to give a fine finish to the boundaries of a property or to screen off keen winds or exclude trespassers. As a specimen tree, even in its common green-leaved form, it is altogether superb, but there are so many charming varieties, that the Holly must rank as the very first in importance amongst the ornamental evergreen trees adapted for general use in Great Britain.

**British woodlands.**—It appears from a recent return that ten years ago the woodland surface of Great Britain was computed at 2,458,000 acres. By the year 1888 the acreage thus occupied had risen to 2,561,000 acres, and the measurements taken in 1891 show a further advance to 2,695,000 acres. Of the 154,000 acres thus added to the approximate woodland area of Great Britain, 96,000 acres are assigned to England, 31,000 acres to Scotland, and 7000 acres to Wales. The largest woodland area to be found in England is the county of Hampshire, with 122,574 acres; Sussex, with 122,073 acres comes second, while the four counties of Hants, Sussex, Surrey, and Kent possess between them nearly a fourth of the English woods and plantations. These four counties have upwards of 11 per cent. of their surface thus occupied. In Scotland, Inverness-shire has no less than 169,000 acres of woodland, this being the largest area of wood land in Great Britain.

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"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—Shakespeare.

## ROSE GARDEN.

## ROSE JOTTINGS.

I FEAR I must plead guilty to "A. H.'s" indictment in THE GARDEN last week (p. 361) in regard to my apparent neglect of the single varieties of the Rose, but I may set off in justification of my offence that I have induced "A. H." to in part carry out, and I hope he will go further with the question, as he no doubt can from his experience and advantages, my suggestion in your issue of September 17, p. 245, that some practical grower should supplement my remarks on the Rose season of 1892 by an article on the desirable single varieties of the Rose. I have no good opportunity of testing any Roses but those which, as an exhibitor, I must grow, and although only one of the smaller growers, it is remarkable how many varieties one must keep in order to be able to show in varying seasons, and also to be in touch with those who are in the front rank in the Rose world. No one who has a love for Roses would willingly exclude any variety of merit from his collection, whether that variety were single or double, but necessity obliges many of us to confine ourselves to what we can manage with advantage and grow successfully. I have never seen Dr. Grill at any Rose show, and I think that if it were of sufficient size and substance, it would ere this have appeared in one of the professionals' boxes, as they are not backward in staging novelties, nor do I blame them for doing so, even if they turn out unsatisfactory to the majority. There can be no question of this Rose (Dr. Grill) being in colour most desirable; so also are other Roses which I either now grow or have grown, but only to be disappointed either by their ephemeral character as Roses, or by their delicacy of growth. I may instance Luciole, L'Idéal, Ma Capucine, and Fortune's Yellow; these are all very beautiful and desirable to most people who can grow them successfully. I have met with disappointment by losing them each winter, so year by year I am falling back more and more on what I feel are more certain and enduring varieties. I am told that this district where I live is reputed one of the coldest in England, and last winter on the grass the thermometer twice registered below zero. I myself do not keep such a register, but at 5 feet above the ground I twice noted 2° Fahr., or 30° of frost. I find that such low readings are very trying to Tea Roses. I have no doubt they might stand 20° unprotected, but in recent winters we have had much lower temperature. I therefore never dream of leaving my Teas unprotected. I believe both Mr. B. R. Cant and Mr. Frank Cant protect their Teas, and so do many other rosarians of great reputation.

I may be mistaken in my reading of "A. H.'s" remarks on another point, but it is one of the very greatest importance to me, and on which from my very limited space I am induced to make further inquiry—that is, the point of close planting. I infer from what "A. H." writes that he approves, at all events does not disapprove, of close planting. Now with me comparatively close planting is a necessity, but I should like to have "A. H.'s" opinion and that

of other experts on how closely dwarf Tea Roses can be planted without disadvantage to their proper development as producers of good Roses of exhibition standard! My own view is that many people who have ample space give far too much of it to their Roses, and where they are exposed it is by no means an advantage to plant Roses so widely apart. This is a question I have never seen discussed, and it would help many who are keen on taking advantage of every good point to have the opinion of good judges who are numerous amongst your readers. Another question I will ask "A. H.," and that is, with what would you carpet your dwarf Teas? If they are to have manure or manure water, you can hardly grow close-growing plants of any kind, although I acknowledge the appearance of the ground and garden generally would be much improved by such a base to the Rose bushes.

There can be no doubt that "A. H.'s" preface remarks are quite correct, that the love of Roses and gardening generally is vastly on the increase, for one person who took an intelligent interest in a garden ten or twenty years ago fully a dozen do so now. This interest is greatly fostered and increased by the admirable manner in which the garden press is placing before the general public subjects not generally understood in a way at once pleasant to read and easy to comprehend; thus also the practical knowledge of experienced men is given to younger gardeners, which enables them more thoroughly to appreciate their work, and in the case of amateurs adds zest to their pleasure in a garden. Taken altogether, the attention now given to gardening is one of the most interesting phases of life in the present day.

Croydon.

CHARLES J. GRAHAME.

## STANDARD ROSES.

THE season for planting Roses is at hand, and the mention of a few kinds which do exceptionally well on the standard Brier may not be out of place. To mention those that succeed on the standard would be legion, but out of these a few can be pointed out that seem to be quite happy in that position and grow and form large bushy heads, their health and vigour showing that they are thoroughly at home.

In a cottage garden not far from here there were about twenty fine standards of Jules Margottin, and finer heads I never saw. The stems of the Briers on which they were growing were half as thick as a man's wrist, and the heads were nearly a yard through. They were seldom out of flower, and the effect when in full bloom was not easily forgotten. This is one of the best Roses that can be found for standards, as the Brier seems to grow with the head. Mme. Isaac Perière is another Rose that is perfectly at home on the standard Brier; the heads of a few we have about here are outstripping all the others for size and vigour, and where large vigorous heads are favoured, this Rose is sure to please. Souvenir de la Malmaison is another good old Rose that thrives and lives for a long time on the standard Brier, and in the latter part of the summer the flowers are exceptionally good. Auguste Rigotard does splendidly with me; it is both vigorous and free-flowering and in every way a desirable variety for standards. La France is one of the very best Roses for growing on standard Brier, and though it may not make a very fine head during the first season or two, it continues to improve for many years. Most of the Tea and Noisette varieties do well on the standard Brier, and the firm growth made by them in that position seems to enable them to withstand the frost better than dwarf plants of these kinds. Some here withstood the severity of the frost two years ago with impunity.

For covering high walls the three following will be found most useful: Gloire de Dijon is a little

too rambling in growth for standards on walls, but when trained to the side of a building few Roses thrive better, and in such a position it goes on growing and flowering for a great number of years. Maréchal Niel is one of the most admired of all climbing Roses, and when a good warm, sunny aspect can be given it, a great space of wall may be covered by it, and it will go on thriving and extending for years. During the summer months it is seldom that a few blooms cannot be cut. But the main blooming is during the latter part of June. Celine Forestier is also a most beautiful Rose for covering bare walls. To see it at its best it requires plenty of freedom of growth and no pruning, and when the long flowing branches are in full bloom it is very beautiful. Cheshunt Hybrid is another free-growing variety and well adapted for covering bare walls and fences.

Clarendon Park, Salisbury.

C. WARDEN.

**Roses from cuttings.**—I read with some interest "A. H.'s" remarks on the above subject. With me it has proved a perplexing one, especially as regards Tea Rose cuttings, as from my own experience they have proved more or less complete failures. Some time ago I made up my mind to give them a fair trial in the open side by side with my other Teas on the Brier, and, curiously enough, I had twenty-four exhibition varieties very kindly sent me by Mr. Bury, of Mellor, Lancashire, to try how they would grow in my favoured garden. They were all in pots and were nice young plants, but of very weak growth. However, I determined to give them every advantage, and planted them by the side of their respective sisters on the Brier cutting and seedling Brier. The result after two seasons was disappointing, and their respective growths might have been well compared to the growth of a Mushroom and that of a Palm tree! It was simply ridiculous, for they had all the advantages of position that the others enjoyed, the only one of the twenty-four which made any growth worth speaking about being Marie van Houtte. "A. H." says that "the great pot Rose growers in America grow chiefly own-root Roses, especially Teas." This means, of course, that they are grown under glass, and not for exhibition purposes, as I fail to see how a decent sized bloom is obtainable from a Tea Rose on its own roots in the open. I can quite understand (as "A. H." says) there being a demand for them, but I am afraid those who attempt to grow them in the open will be grievously disappointed, as I have been. Although, perhaps, some of the strong-growing Dijon Teas might succeed, it would be very interesting to receive the opinions of other large growers of Tea Roses on the subject.—F. R. B., Birch Vicarage, Hereford.

**Among the Roses in October.**—Although we have had several sharp frosts and much rough weather, there are still sufficient blooms of Roses to merit the above title. To commence with, I have a plant of Climbing Niphotos on a warm wall that has put forth large quantities of flowers, from almost every eye in fact, and which is now a very pretty feature indeed. How long King Frost will allow this to remain so is very doubtful. Many of our strong growers like the preceding variety, Gloire de Dijon, William Allen Richardson and others often give us a good crop of very late flowers. Of course, if you have them now, you cannot have them from the same shoots next spring. But I would always like to see a few shoots ripen early in the autumn and then throw out late flowers, as plants of Climbing Niphotos and also of L'Idéal have done with me this month. I have a quantity of Gloire de Dijon that has been carrying flowers all this month, and I have cut some dozens of blooms daily. Augustine Guinoisseau, Viscountess Folkestone and other Hybrid Teas are also very showy in the case of some few plants. The Chinas and bulk of the Tea-scented varieties are still in full growth, but many of the buds will not open. When frost cuts back this young growth severely, it cannot but injure and cripple the plant somewhat; therefore, I am inclined to afford some slight protection during



first frosts as much as during the more severe weather of mid-winter. By this means you will assist your plants to ripen more gradually, which must be to their material benefit. I have frequently noticed how much better a small plant that was well ripened before hard frosts set in has thrived compared to one which was double or treble the size when the latter did not get its late growth properly matured. Teas and Noisettes continue to grow so late that they almost invariably get cut with the first frosts of any severity. Most of the Hybrid Perpetuals, on the other hand, are much earlier in ripening, and I think it is a further proof of the hardiness of the Teas that they survive such severe checks as we frequently know them to receive. October and November are undoubtedly the two best months for planting Roses, and no time should be lost in getting the work done, provided the plants are fairly ripe before lifting them. The check to growth given through lifting will assist them to mature more thoroughly. Lift early if your plants are ripe, or else they are apt to start into late growth more or less. This cannot possibly be beneficial to them, as they must be cut back by frost sooner or later.—R.

#### SIX GOOD WHITE ROSES.

WHITE flowers are always welcome, and a white Rose is doubly so. The Camellia has no scent; the Tuberose, Gardenia, Eucharis, and others, although white and sweet-scented, are apt to be bruised so very much more than a Rose, that although they are indispensable flowers when making up any floral designs, they are not so generally preferred as a good white Rose. There are many of these now, and as the planting season is with us, I fancy a list of half a dozen or so may be of service to intending planters. I will not attempt to place them in order of merit, because that would hardly meet with universal approval, each having their own favourites.

NIPHETOS was brought out by Bougère in 1843, almost fifty years ago. It is still one of the finest white Roses we have, and should be in every collection, whether for indoor or outdoor culture. Of free growth and flower, and always opening well, Niphotos will always be a grand white Rose. The buds are long and pointed, and as the flower ages it changes to the purest white colour imaginable. A Rose that has more than held its own through fifty years of improvement among Roses is indeed a good flower. There is now a climbing variety of this kind, and which is also extra good. In every respect except growth it is the exact counterpart of the normal variety. The growth is very rapid indeed, and it will cover a large space as quickly as any Rose, while the flowers are borne in the greatest profusion throughout the whole length of the shoots.

SOUVENIR DE S. A. PRINCE is probably the next best white Rose. This is, comparatively speaking, a new variety, having been sent out by Mr. Prince, of Oxford, in 1889. For general usefulness it runs Niphotos closer than any other white Rose I know. It is of good growth, free blooming, exquisitely sweet-scented, and altogether first-class. Like Niphotos, it invariably opens well, and is also grand indoors or out. This is a sport from another very good and popular old Rose, *Souvenir d'un Ami*, and originated both in this country and in America. The American production is named *The Queen*, and in every way resembles the one introduced by Mr. Prince.

THE BRIDE is also a sport from a well-known old Rose. This was sent out in 1885 by May, of America, and is a sport from Catherine Mermet. *Souvenir d'un Ami* was sent out in 1846, C. Mermet in 1869, Niphotos in 1843, so that we owe our three best white Roses to very old varieties. The flower of *The Bride* is large and full, besides being very sweetly scented. When young this grand Rose is pale lemon in colour, but gradually gets white with age. I only know of one Rose that will last longer in a cut state than this, *i.e.*, *Comtesse de Nadaillac*. To anyone who knows Catherine Mermet, *The Bride* may be briefly described as a white type of it, with a trifle stronger constitution.

BOULE DE NEIGE was distributed by Lacharme in 1857. It is a grand grower and bloomer, pure white except for a touch of pink on the edges of young blooms. This, however, is lost with age, because as the flower opens, its petals reflex and this characteristic is hidden, leaving a perfectly shaped and very fairly

pure white blossom. Baron de Maynard is very much like this exquisite little Rose, but *Boule de Neige* seems to me the better type of the two.

HON. EDITH GIFFARD, sent out by Guillot in 1882, cannot be described as a pure white Rose. It is a flesh-white, getting purer as it ages; a wonderful little Rose to stand when cut or upon the plant, and of medium size. This is a very useful Rose for the open border or in pots. It is rather more subject to mildew than the majority of Roses, but when well established, it will grow away very freely and bloom from every shoot.

DEVONIENSIS is the oldest of the lot, and I will finish my list with it. This Rose was sent out by Foster in 1840, and is still one of the best. It is, like E. Giffard, flesh-white in its younger stages, getting less so with age. It is grandly built up, very large and full, and possesses a perfume peculiarly its own. The old variety is short and stout in habit, but, like the first Rose on my list, it has produced a very strong climbing sport, which is grown under the name of *Climbing Devoniensis*. This is indeed a grand Rose when allowed to grow at will. I am acquainted with one on an old Sussex rectory that is an enormous plant. The lower stems are as thick as an ordinary man's wrist, and the plant covers a very large space with its grand and sweetly-scented blossoms each year. Many complain of this variety growing too strongly and flowering in a scanty manner. So did this plant until it got neglected for a couple of seasons, when the result was that it grew to its present dimensions, and has been very satisfactory ever since. If one is growing a strong Rose, he must provide room for it. Cutting away any of the wood is only waste, and never has the desired effect, the plant simply expending its strength in producing more of the same class of wood. Give this variety room, and only remove a little of the wood that has flowered to leave more space for the remainder, and there will be no need to complain of its shy blooming. A warm and somewhat dry wall and border are best for this Rose. Any position that suits the Banksians is admirable.

RIDGEWOOD.

#### DO ROSES DETERIORATE?

THE same question has been asked regarding other things such as fruits and vegetables, and Mr. Grahame's allusion on p. 319 to the fact of *Devoniensis* and *Cloth of Gold* Roses not being so good as in former days would seem to furnish partial proof that it is true of some Roses. Once when in the company of Mr. B. R. Cant after a ramble round his nursery, he brought up this subject, particularly alluding to *Devoniensis*, of which he said at one time he had not the slightest difficulty in growing great flowers like saucers. It is nothing like so free or constant now. This, then, surely is deterioration, but how and whence it arises it may not be so easy to determine. Adam and Safrano are both older than *Devoniensis*, and yet these two kinds have all their original character and leave nothing to be desired in them after fifty years' experience. Again, let us contrast *Cloth of Gold* with *Lamarque*, this latter being the older by about thirteen years, yet we were lately reading in these pages notes from several cultivators showing the high esteem in which the variety is held, and this not from sentimental associations with the past, but because of its sterling merits. I have had no actual experience of *Cloth of Gold*, but I believe from observation that it is among climbing kinds what *Devoniensis* has proved with me among all the best dwarf Teas, that is, the tenderest and most uncertain of all. Mr. Grahame hints at severe winters being a likely cause for the actual or partial disappearance of certain kinds. Herein, I believe, lies the cause of such deterioration as at present exists.

Another thing to be borne in mind when discussing deterioration is that our present-day standards of comparison are considerably in advance of what they formerly were. We find *Cloth of Gold* uncertain and inconstant compared with the grand *Dijon Teas*, that will clothe the highest walls in leaf and flower. Now that Roses are going to rest and do not engage our attention so fully, an interchange of ideas and opinions on this matter would be interesting and profitable. Perhaps some of our veteran growers like Mr. B. R. Cant or Mr. W. Paul would contribute some results of their

experience, which would be instructive, as it extends over such a long period. A Rose must have many good points if it is to stand the test of fifty years. A. H.

#### THE NEW FLOWER GARDEN AT SHRUBLAND PARK.

THE plan here given is that of the new flower garden at Shrubland Park, which is situated exactly in front of the house, and tells its own story to anybody who cares to look into it. It shows the simple form of beds adopted, planned to suit their places, in lieu of the complex pattern beds for carpet bedding, sand, coloured brick, and also one alternative to such gardening. The names of the plants used are printed in position. The actual way of grouping cannot well be shown in such a plan, but the plants are not in little dots, but in easy, bold groups here and there running together. The flower gardening adopted is permanent, *i.e.*, there is no moving of things in the usual wholesale way in spring and autumn. The beds are planted to stay, and that excludes spring gardening of the ordinary kind. But many early spring flowers are used in the garden, the mainstay of which, however, is summer and autumn flowers (as those are the seasons when the house is most occupied). Roses in the most beautiful forms of the Teas, in free groups, and Carnations, the finest selfs, are the principal plants used. No plans are repeated, and each bed of the garden differs.

**Grubs in garden (*Anon*).**—The grubs which you sent are certainly not wireworms, nor are they all of the same kind. Some of the whitish ones are, as you imagine, the grubs of a fly, the Carrot fly (*Psila rosæ*); the longer ones which have a row of reddish spots on either side belong to the snake millipedes (*Julus guttatus*). Both kinds are very injurious to plants, the former to Carrots, the latter to most plants. To prevent the parent flies laying their eggs on the Carrots, the chief point to be observed is to keep the ground round the roots smooth and unbroken. After hoeing, the earth should be trodden firmly round the roots and dressed with fine ashes, sand or sawdust soaked in paraffin oil. When the roots are attacked water the plants thoroughly at the roots with the extract of 5 lbs. of Quassia chips in 100 gallons of water. The snake millipedes may be caught by laying pieces of Potato, Vegetable Marrow, Mangold Wurtzel, Carrots, or Turnips round the plants, and examining them frequently.—G. S. S.

**Slitting flower-stems.**—Mr. Greenwood Pim draws attention (p. 356) to the advantage gained by slitting the stems of many flowers, *Hellebores* especially, to keep them fresh in water for a longer time than they would without doing this. As far back as December 20, 1890 (p. 576), I wrote of this in your pages, and since that time I have paid further attention to the matter, and increased experience only helps to confirm my suggestion made then, that fleshy-stemmed flowers were more benefited by this process than any other, though it will be found that many other things are helped in this way to live longer in water; and to those who wish to make the most of their flowers, I should suggest a trial of most things that they use. A very good rule to go by, though there are exceptions, is that stems on which the flowers naturally shrivel should be so slit, but that no benefit accrues from slitting the stems of those which drop their petals. For example, *Geraniums*, *Pelargoniums*, *Begonias*, and the like are in no way affected by the process. As I said in the note referred to above, I made the discovery of the value of split stems by accident, having used pointed sticks, which split the stems, for adding height to some of the Christmas Roses in a deep vase. The difference in the staying powers of the flowers was so great as to lead me to find out the cause.—J. C. TALLACK.



## STOVE AND GREENHOUSE.

## THE PALMYRA PALM.

(BORASSUS FLABELLIFORMIS.)

SOME little time ago it was officially stated that a healthy young specimen of the *Palmyra Palm* (*Borassus flabelliformis*) had been received at the Royal Gardens, Kew, from India as a gift from His Highness the Gaekwar of Baroda, and also that all previous attempts to grow this Palm to any size in the gardens had resulted in failure. Being anxious to see this very interesting plant, I paid a visit to Kew on the 28th of September, but was sorry to be informed that the plant had perished. This result is the more to be regretted.

has a balled-out appearance, suddenly becoming much smaller a few feet from the ground; the whole stem has a dark and rough appearance, which is crowned with a cluster of leaves of an exceedingly stiff and formal character. True, like the Date Palm, it rejoices in a stem as straight as a dart, unlike the Cocoa-nut Palm, the stem of which takes all kinds of fantastic bends and turns.

There is a small plant some 2 feet high to be seen in the Victoria Lily house at Kew. This I presume, has been raised from seed on the establishment. It has, in common with some other Palms of a small size in the same house, its pot immersed in the tepid water of the tank to a depth of about 1½ inches. The plant looks healthy enough at the present time, but, with all due deference to the able cultivators at

the sand, watering and covering them over. After germination takes place, these seedlings are planted out at intervals on the sandy tracts during what may be called the spring months and afterwards left to take care of themselves. They are never watered after planting out, for the simple reason that no water is available for such a purpose, this valuable necessity being in many localities only procurable from very deep wells, and is barely sufficient for the domestic uses and gardens of the villagers. The average rainfall in these desert portions of Tinnevely does not exceed 20 inches annually, and yet under such conditions it is indisputable that the Palmyra Palm flourishes. That it might flourish and reach its greatest maturity under a totally different mode of treatment, such, for instance, as the one at present obtaining with the little

Plan of the new flower garden in front of house at Shrubland Park, showing simple forms of beds filled with the most beautiful hardy flowers in groups and colonies, and many Tea Roses and Carnations.

as the Palm in question is one of the most useful of the group cultivated in India, and plays a very important part in the production of necessities for the natives in the more arid and rainless tracts of that empire, so that a typical specimen at Kew could not fail to be extremely interesting to many. I understand that the plant received from Baroda was some 9 feet in height; too large, I fancy, to be lifted and sent on a journey of some 7000 miles with any great chance of success. This Palm is, I believe, a native of Africa, but must have been introduced into India at a very early date, where it is now grown in immense numbers in the drier districts, as stated above. It is anything but what may be called a handsome tree, and has no pretensions to the grace and beauty of the Areca, Cocoa-nut, and other Palms seen in India. The stem at the base is thick and

Kew, I venture to think that this mode of treatment, if long continued, will not conduce to the plant's longevity.

In the collectorate of Tinnevely, in South India, the *Borassus* flourishes, attaining a great height and producing an abundance of fruit. The tree is seen in immense numbers on what may be termed the desert portion of the country, where nothing but drift sand is to be seen for square miles at a stretch with barely a vestige of vegetation save the Palmyra Palm, and where the dried droppings of cattle are almost the only fuel obtainable by the villagers. I have seen an exciting race between a bevy of women and children for the possession of the dead leaf of a Palmyra Palm which had just dropped from the tree. These groves of the Palmyra Palm are produced by placing a large quantity of the seeds or nuts in holes dug in

plant at Kew, I am not prepared to dispute, but I would most certainly take leave to doubt it.

That the requirements of the Borassus are different from those of the Cocoa-nut and one or two other Palms occasionally seen on the arid plains of South India is plainly demonstrated by the fact that in Tinnevely the Palmyra flourishes under the conditions described above. The Cocoa-nut Palm, on the contrary, which is sometimes used for roadside planting, requires the greatest care in watering, &c., for many years after planting, and the attempt to cultivate it is never undertaken except in the neighbourhood of tanks or where abundance of water is available.

The channel of the Tainburapurny River is supplied with water from the heavy rains which fall in the Western Ghauts, where the river has its rise. During certain seasons, and throughout the whole of its course through the province of



Tinnevely, it overflows its banks, the floods covering a considerable area of ground on both its banks. On these, luxuriant Rice fields abound, and huge forest trees of various kinds, but the Palmyra Palm is exclusively confined to localities far removed from the influence of these floods. Tinnevely has been called the land of Palmyras, and possibly it might be said with truth that there is not another tree in existence that could supply its place in usefulness to the inhabitants.

In addition to the many uses to which its stem and leaves are put and the quantity of toddy it produces, in which it almost rivals the Cocoa-nut Palm itself, the seeds or nuts are frequently buried in pits, after the manner described above, and the shoots allowed to grow to some considerable length, and which, of course, are beautifully blanched and tender. They are then dug up and used as a vegetable, salad, or in the manufacture of curry.

I noticed in the same house at Kew that the two double Cocoa-nut Palms and a few other species, such as the Doum Palm (*Hyphæne thebaica*), *Bismarckia nobilis*, from Madagascar, *Licuala grandis*, and some others had their pots immersed to the same depth as the Palmyra Palm. I do not know under what circumstances these Palms are found growing in their foreign homes, but one or two of them at least do not look over-healthy in the Victoria house at Kew, and it is sincerely to be hoped that the mode of warm-water treatment they are at the present moment subjected to may not in time prove an erroneous and fatal one.

I noticed that on the day of my visit (September 28) the thermometer in the Victoria house stood at 76° at 1 p.m., the day being very bright and sunny. This temperature differs very considerably from the dry, fervid heat of the Tinnevely plains, so congenial to the existence of the Palmyra Palm. J. LOWRIE.

#### CLEANING THE OUTSIDE OF GLASS-HOUSES.

THIS may in some cases be considered as of little importance, but it is not so, however, where a good and well-ordered state of things is aimed at. The paint itself if kept free from secretions of dirt in various forms will be all the better preserved, being necessarily kept drier, particularly the lower ends of the top lights. The putty where still employed will also be preserved in a sounder state if kept clean, whilst in any case of faulty putty repairs should at once be resorted to before matters go from bad to worse. Cracked panes of glass besides being an eyesore are also a nuisance, whether it be in fruit or plant houses; these may hold on for a time, but often give out in frosty weather, when the replacement is neither desirable nor an enviable matter. The glass itself should also be well cleaned down even where no shading has been smeared upon it in lieu of blinds. This work should be done every few weeks in the vicinity of towns and cities where deposits from the consumption of coal are plainly evident. Where, however, fogs are at all prevalent the case is more aggravated still, frequent cleansing being a most essential matter. The guttering where of lead should undergo a close examination as to its soundness. Cracks may not be evident to a casual observer, but be existing all the same, letting the water through to the wood; hence causing decay at a most vital part of the structure. Even where sound the gutters should be kept clean, so as to afford a free channel for the water, whilst all down pipes ought also to be quite open. If these latter empty into a receiver near at hand, it is an easier matter to accomplish this. Whilst writing I am thinking of some which are buried in a Vine border, which is a most undesirable plan where it can be avoided. These gutters, as well as the lower sash bars,

should be painted every season as a preservative, more particularly where the first-named is of iron rather than of lead. Although not outside, yet it in a measure has to be seen to therefrom in the case of a contingency, is the condition of the ropes which hold running lights in their position. These, if of chain gearing, will be moderately safe in any case, but then if that goes all the lights go after it; therefore that system even needs some examination. Where running separately, the wire rope or sash lines ought to be looked to closely, for the time is now upon us when the lights may have to be pulled up in a hurry, which is the time when they are most likely to give out. Those who have houses ventilated by lifting lights rather than running ones, have nothing to fear from these contingencies. In these latter cases, however, a little more oil to the bearings will make the work of ventilation much easier. The hinges of front lights rarely get oiled, yet this is just what they want to keep them in good working order, thereby saving many a breakdown in this direction.

N. B.

**Saxifraga Fortunei.**—Ia going through the greenhouse at Kew the other day I noted a batch of the above. It was certainly one of the most attractive objects just now in flower. I have not yet grown it, but hope to do so, and I feel sure it may be recommended as a most valuable autumn-flowering plant.—F. H.

**Lapageria rosea** (Nash Court variety).—This is by far the finest form of this plant which has yet appeared, both in the size of the individual blooms and their colour, whilst the number of flowers which grow together is quite marvellous. This variety is now very beautiful in Messrs. Laing and Sons' conservatory at Forest Hill. There are also some improved seedlings. One in flower just now particularly struck me, being of a deep rich red without the white dappling of the common form of *rosea*, and having the segments well reflexed, which is a great improvement upon the old type.—W. H. G.

**Lasiandra macrantha.**—This old plant is not so often seen in collections of plants as it should be. It is one of our most useful blooming plants in the autumn and winter months. It is also known as *Pleroma macranthum*, and does well in an intermediate or warm greenhouse temperature. It is usually classed as a pillar plant or used for covering bare walls or trellises, and is well adapted for the purpose, provided it is kept stopped occasionally to prevent the growth all being at the top. The flowers of this species are very showy, and being borne at this season, when there is less choice of brilliant colours, it is doubly valuable. The deep rich purple, large, solitary blooms are produced freely at the ends of the shoots or branches. These continue to bloom for a long time, and when a large plant is grown there is scarcely a day through the winter but one or more blooms will be fully expanded. It thrives well in a compost of equal parts loam and peat, with a fair quantity of sharp sand, and is readily propagated by cuttings in the early part of the year, care being taken to get them a little matured, as if too soft they damp badly. They strike freely in a light sandy compost in a frame or propagating house. Of late years I have grown these plants in quantity for winter furnishing. Struck early and potted on into 6-inch pots, they make charming plants for the warm conservatory. The plants are easily grown in a cold frame through the summer months, transferring them to their winter quarters in September.—G. WYTHES.

**Ixoras in bloom.**—The different *Ixoras* form a class of beautiful flowering shrubs that contribute greatly towards the embellishment of our stoves for a considerable period of the year, but especially so at this season. The list of garden varieties is a long one; still, when a number of them are in flower together it is at once evident that the range in colour is not great, and in most gardens a few varieties will suffice. Such forms as *Pilgrimi*, with its handsome foliage and bright orange-red flowers; *Fraseri*, bright orange-salmon;

*coccinea*, glowing red; and *Prince of Orange*, cinnabar-red, are all good, even if in some cases they pretty nearly approach each other. Quite a distinct colour is furnished by *Ixora Colei*, whose blossoms are pure white, and for which a place should if possible be found. It is of a good, freely-branched habit of growth, well furnished with deep green foliage, while the flowers are freely borne. This can be grown and flowered well in pots not more than 6 inches in diameter. The last to mention is one totally distinct from any other *Ixora* that I am acquainted with. This is *I. macrothyrsa* or *Duffi*, a much stronger grower than the forms in common cultivation. It does not lend itself to be trained into a symmetrical-shaped specimen, as many of them do, but usually produces a few strong shoots, that grow in an erect manner, and are clothed with long deep green leaves. The flowers, which are borne in terminal heads, are of a rich scarlet-crimson colour, and in the case of a vigorous specimen each head will be from 6 inches to 9 inches in diameter. This *Ixora* is a native of Sumatra, and when first introduced about a dozen years ago was distributed under the name of *I. Duffi*, having been named after Mr. Duff, of the Sydney Botanic Gardens, but after a time the name was changed to *I. macrothyrsa*. Although well known in gardens, and a really magnificent plant when in bloom, it was only last year that this *Ixora* was awarded a first-class certificate by the Royal Horticultural Society.—H. P.

**Begonia Haageana.**—*Begonias* of the tuberous-rooted section are now so popular, that little attention seems to be bestowed upon any of the others; still, there are many beautiful forms among those with fibrous roots, both hybrid varieties and typical species. Of these last one of the more recent introductions is *B. Haageana*, which first flowered at Kew about four years ago, and at that time was particularly noticed. It is a fine bold-growing species, somewhat in the way of the old *B. metallica*, but is quite distinct. *B. Haageana* forms quite a sturdy bush, a yard high or thereabouts, whose stout stems are clothed with bronzy-green leaves veined with red. The blossoms are borne in large, closely packed clusters, and from their weight are quite drooping. The individual blooms are of a pale pink colour, thickly clothed towards the base with large reddish hairs, which present a somewhat singular appearance. This *Begonia* has also been known under the name of *B. Schaffiana*.—H. P.

#### TUBEROUS BEGONIAS AT STANSTEAD PARK NURSERIES, FOREST HILL.

THE frost of September 17 had cut off the greater part of the blooms at the time of my visit, and in the case of many of the doubles, which were smaller plants and appear to be of a more tender constitution, had robbed them of all their beauty, as not a flower was to be seen. The whole of the plants had been picked over, however; they had made new growth and fresh flowers, and if one had not seen them earlier in the season he might have thought they were simply passing over consequent upon the time of year. I have been into many gardens within the last week, and many of the *Geraniums* and the majority of the plants which I saw used were over, whilst the *Begonias* at Mr. Laing's were full of life and colour, crimson, scarlet, pink, and yellow in various shades being in great force, whilst of the less decided colours, rose, salmon, pure white, and other tints were in great numbers. Mr. Laing has this season cleared away all obstructions and greatly extended his space for the accommodation of these plants, and he now has 400,000 seedling plants in the open air, which is considerably over 100,000 more than he had last season. The *Begonias* of Mr. Laing's strain are notable for the following characteristics—vigour and robustness in their constitution, wonderfully free-flowering habit, the flowers



too, being of great size and good substance, whilst although so large, they stand up and look one in the face, which is a decided advantage. When planted in beds and borders, upon rockeries, and other positions in a gentleman's garden these Begonias have a much better chance of withstanding the early frosts of the season than do Mr. Laing's plants, which all stand in the open upon a dead level.

The pot plants, although growing somewhat lanky and requiring tying up, are still producing beautiful flowers, some of them being of a prodigious size. I was told these plants had been blooming indoors for over seven months, and they certainly look as if they would last well through the present month. There is no sameness, no lack of variation, for here are doubles of every shade and tint, saving blue. What is noticeable about these doubles is, that they are perfect flowers; there is none of that confusion which used to be the great failing of double Begonias arising from there being several centres. The single flowers are remarkable for their size and great substance. Indeed, size now has had its day. Mr. Laing has succeeded in that direction, and he is now devoting his energies to the production of new colours. There are some flaked and bizarre flowers. Here, too, is a rare combination, rich pure yellow tipped with scarlet. There also are varieties the flowers of which are fringed, as in *Camellia imbricata*. Small pots are now used for growing them in, fine plants laden with flowers in a 6-inch pot being quite the order of the day. These contrast wonderfully with the enormous pots which used to be the fashion here. Some few dozen bulbs which I saved through the last winter have been blooming with me in an unheated house for nearly five months and are good yet. This will show how very useful they are for those having such a structure. My plants are in 6-inch pots, but I have given them about once a month a little stimulant, which starts them afresh, causing them to make new growth and to throw up fresh flowers.

W. H. GOWER.

**Fuchsia dependens.**—When a coloured plate of this Fuchsia was given in THE GARDEN during the spring of last year its striking features attracted a considerable amount of attention, as it was then almost unknown, though its beauty at Kew and at Pendell Court had been previously noted. As a roof plant it possesses many desirable features, one of which is the fact that its growth is not sufficiently dense to injure the plants underneath to the extent that some climbers do, while the long pendulous clusters of flowers of which a succession is kept up for a lengthened period are especially striking when hanging from the roof. This Fuchsia was found by the late Dr. Jamieson near Quito, and in a native state its rambling branches were supported by neighbouring trees. It is somewhat in the way of the better-known *F. corymbiflora*, but is more of a climber and not so robust in growth. As it is, like the other members of the genus, of easy culture, there is no reason why it should not become far more generally grown.—H. P.

**Camellias.**—Despite the fact that the *Camellia* has fallen somewhat into neglect, the flower has yet an individuality of its own so marked that the gardener is bound to recognise it. Its blossoms are most acceptable through the late winter and early spring months. They are perfect in outline, massive in petal, and can be employed in many ways with great effect. Many amateurs, having no convenience for planting out, grow a few *Camellias* in pots. We may assume they have been standing out in the open all the summer, which is the usual custom, and now has come the season of the year when they should be housed. A considerable amount of care is required when the plants are

taken within doors, as undue watering may cause the buds to drop. But, it may be asked, what condition of soil should be maintained that will carry the plants through the winter in safety? One writer recommends a happy medium, *i.e.*, keeping the soil in such condition that it shall be neither too dry nor too wet, so that the roots may not be surrounded by a wet, clammy soil, nor, on the other hand, be kept too dry. Too much wet and too much dryness both operate to cause buds to fall. A close, dry atmosphere should also be avoided. On warm, sunny, drying days a little syringing may be resorted to, with a free circulation of air at all times when the wind is not frosty. Disbudding is sometimes necessary where the buds are formed in clusters. It is a good plan so to thin the buds that each individual flower can freely expand and assume its rightful proportions. Should any grower require blooms of large size and full, say for exhibition purposes, it will be necessary to thin out to one bud. Anyone requiring a list of good varieties will find it in the following: *Mathotiana*, maroon-crimson; *C. M. Hovey*, rich crimson; *Mortini*, clear, deep rosy-pink; *Princess Charlotte*, white, fine shell petal; *Reine des Fleurs*, pale salmon-red; *imbricata*, white; *centifolia* and its white variety; *L'Amour*, pale pinkish-red, very fine; *alba plena*; *Countess*, soft pink, flaked with red, sometimes pure white in the ground; *Benvenuti*, delicate blush; *Donkelaari*, semi-double, very distinct; and *Comtesse de Hainault*, delicate pink, margined with white.—R. D.

**Bouvardia Purity.**—The above is certainly a grand variety and the perfection of a white *Bouvardia*, and when better known will be a special favourite. It is of recent introduction, and one of Mr. May's best novelties of late years. I have this summer found this plant thrive admirably planted out, and for pot culture its compact habit and free-flowering qualities make it an especial favourite. I may describe it as a compact *B. Humboldtii* with a much shorter tube, but equally fragrant. This is a decided gain, as it was often difficult to use *B. Humboldtii* on account of its weak long tube. When planted out it assumes a dwarf habit and requires little care to get good plants well studded with bloom. This is not the case with some of the weaker growing varieties, and those who can only grow a few kinds should include *B. Purity* in their selection.—G. WYTHES.

**Urceolina pendula.**—This is a very beautiful bulbous plant, though perhaps not quite showy enough to become popular for market purposes, or anything in that way. Given favourable treatment, however, it will be sure to please the lover of uncommon plants. A coloured plate of it, accompanied by full cultural details, was given in THE GARDEN, May 12, 1888, and a glance at that illustration will convey more than a column of description. In a few words, it may, however, be noted as a bulbous plant, with foliage a good deal like that of the *Eucharis*, but instead of being evergreen it is deciduous, or nearly so, while the blossoms, which are borne in a cluster on the summit of a naked spike, are urn-shaped, pendulous, and supported by long slender peduncles. The body of the flower is of a rich golden-yellow colour, while the contracted portion is bright green, with a narrow edging of white. The peduncle supporting the blossom, which is an inch or more in length, is also bright green. With a few healthy plants flowers can be obtained throughout the autumn and well on into the winter months. This *Urceolina*, which is often met with under the specific name of *aurea*, was discovered by Mr. Pearce while travelling in Peru for Messrs. Veitch, and it first flowered in their establishment in 1864. Mr. Pearce about that time was responsible for the introduction of many other notable plants, prominent among them being the first tuberous *Begonias*, represented by *B. boliviensis*, *B. Pearcei*, *B. Veitchii*, and *B. roseiflora*, a small beginning, which, in the hands of the hybridist, has produced such mighty results. Returning to the *Urceolina*, a very interesting feature may be noted, viz., that a distinct hybrid between it and *Eucharis grandiflora* has been raised by Messrs.

Clibran, of Altrincham, who exhibited a few blossoms at one of the meetings of the Royal Horticultural Society during the past summer. It was shown, I believe, under the name of *Eucharis Clibrani*, but, following the principle laid down with other hybrids between different genera, a title formed from the names of both parents has been suggested, and it is now to be known as *Urceocharis Clibrani*. This remarkable hybrid produces numerous blossoms just intermediate in shape between those of its parents, but in colour they are white, as in *Eucharis*. In structural arrangement the flowers show a combination of both parents. When distributed, it will no doubt be much sought after.—H. P.

#### SEASONABLE NOTES.

**BULBS.—LATE LILIUMS.**—Where newly-imported bulbs of varieties of *L. lancifolium* are not yet in flower, save an occasional bloom here and there, they should have a slight warmth to assist in the development of the flowers. A late batch of these Lilies in pots for the present month is very useful, carrying on the flower season well up to the *Chrysanthemums*. They may thus be had without any difficulty by potting late and keeping cool during their growth up to the time of the flower-buds showing, when a sunny spot will be better for them. Grown in 6-inch pots, one bulb to a pot, they make useful decorative plants. Other Lilies that are past their best, such as varieties of *lancifolium* and *auratum*, should not be overlooked. If still out of doors, it will be advisable to lay the pots on their sides to avoid any excess of moisture. Do not cut down the stems until the leaves turn yellow and drop, all their functions having then been performed. On the other hand, as regards water, do not let them get unduly dry; if well cared for, having been carefully potted and given proper attention throughout the stages of growth, the roots will still be alive and on the move. For this reason I prefer to water occasionally during the resting season when in small pots; bulbs in a cluster in larger pots with a mass of soil around them will not be so liable to suffer even if not watered.

**EARLY LILIUMS.**—This has more particular reference to *L. Harrisii* (so-called), but in reality nothing but *L. longifolium* sent to Bermuda as such, and returned thence to this country as *L. Harrisii*, or the Bermuda Lily. This useful Lily can now be had nearly all the year round by successional potting and careful management. Those for the early batch should have been potted some few weeks ago, but the present is a very good time to start. Extra large bulbs should have 6-inch pots, others a size smaller. A good soil for them is two-thirds yellow loam with some turfy peat, with a free use of river sand and road-scrappings or silver sand, an extra dash being given for the base of the bulb to rest upon. Potting should be done fairly firm, but forcing ought not to be attempted until the roots are well advanced. For some time to come no water should be given, the moisture in the soil being retained by a surface mulching of cocoa fibre. It pays to take pains with this useful Lily, a second and third crop of flowers being thus obtainable before it degenerates to the ordinary type of *longifolium* again. Where a later batch of bulbs is desirable, they may be retarded after potting or be covered with fibre and then be potted later on.

**FREESIAS, &c.**—*Freesias* should all be potted up within a few weeks; it is a mistake to postpone this work, resulting in a weakening of the bulbs. In my own case they are some 3 inches or more above the soil, but still in a quite cold pit, where they will remain until frost sufficiently hard to penetrate to them comes. These bulbs should not be covered as in the case of *Hyacinths*, but merely have a light surface dressing to save watering. If *Lachenalias* have not yet been shaken out and repotted, no time ought to be lost. Where the growth of roots is found too much advanced it will be better to let them alone, merely removing the surface soil and replacing it with good rich compost. Thus treated, they will do very well,



especially if they were shaken out and repotted after having been assorted twelve months back. When attended to, the pots should be stood upon or plunged in a bed of ashes in a cold frame, as near to the glass as possible, with but little water until growth is well advanced. Sufficient protection to exclude frost is all that will be needed for several weeks to come. *Triteleia uniflora*, although a hardy bulb, makes an excellent variety in pots, so unlike anything else. It should be treated the same as the *Lachenalias*, its special use as a flower being upon the plants for the show house or vases. Pots of *Agapanthus umbellatus* if still out of doors should not be risked much longer; it is true that they may be left out in the more favoured spots, but at the best it is a risk. When taken under cover no water should be given through the winter, otherwise the risk of a scarcity of bloom another season may be run. Christmas Roses for flowering in pots should be potted up soon even if left exposed afterwards; it is never desirable to postpone potting until the flowers commence to show themselves. Do not divide or otherwise disturb the crowns now, but rather leave this work till after the flowering. Where much use is made of plants for decoration in somewhat unfavourable positions, the Funkias or Plantain Lilies are worthy of notice; they are hardy, it is true, but, nevertheless, extremely useful in pots, remaining in good condition for two or more seasons; even if not in bloom, the foliage itself is quite sufficient to recommend them.

**EARLY FORCING BULBS.**—Of these the Roman Hyacinth is, of course, one of the first to come into use, as it is also one of the most desirable. If potted up early, as advised for autumn flowering, the growth will now be well advanced. In my own case the forwardest, which look remarkably promising, are now 3 inches and 4 inches high; these will come into flower without any or but little warmth, although some are already in warmth merely to hasten them on. The most useful season for this bulb is from the end of October to the end of January; a succession through that period can be had without any great difficulty. The chief point to observe is not to place too many in heat at any one time; a few pots or pans every week according to the demand is far better than a larger number once in three weeks or so. The Roman and the large-flowered Paper-white Narcissi are fitting companions, and are well suited to open up the long season of the Daffodil family. The latter kind with me is just about showing flower in the cold pits. For the present these should constitute the kinds of bulbs for the earliest flowering. They may flower at the same time as the Chrysanthemums are in full force, but these latter need not entirely monopolise the attention of flower-lovers.

JAMES HUDSON.

## CHRYSANTHEMUMS.

### PREPARING THE BLOOMS.

MUCH may be done towards improving the blooms before they are fully developed when growing on the plant. Those of the incurved section especially can be improved by timely attention in this way. Of course, the great point to study is the perfect incurving of all petals. Plants which have been grown freely throughout the season without a check of any kind and which set their buds exactly when required will develop their flowers perfectly, but where all these conditions have not been fulfilled, perhaps through no fault of the cultivator, the blooms do not unfold properly. Where the buds were taken at too early a stage, or the wood has been prematurely ripened through lack of moisture during dry weather in the summer months, or, it may be, the roots of the plants were crippled by an excessive dose of manure of some particular kind, blooms often develop crooked centres, that is, all the petals do not promise to incurve toward the centre, as should be the case. Instead of this, some of the petals point outwards, or, it may be, some of them are much shorter than the rest, or

they show a tendency to reflex instead of incurve. To make the best of defective blooms like those described is what must now be considered. This more often occurs in blooms of the Queen family than any other. If the plants can be so arranged that the stems can be trained in such a manner as to admit of the blooms being hung downwards, so much the better. Where vineries or Peach houses are available this can be accomplished. In the former case the pots can be stood on the border at the front of the house, the stems trained up the wires among the Vines, and the blooms easily hung downwards, which induces the petals to incline in the same direction towards the centre. Much may be done towards improving such blooms by the aid of a pair of medium-sized steel tweezers and a steady hand. First pull carefully out all seed vessels which will be found at the base of the petals; more space then will be given to the development of the best formed petals. All those to which I referred just now that are short should be promptly removed; any of those mis-shapen also are of no use and only crowd others. Badly formed flowers should be gone over several times at different stages of their development, and by removing several petals each time it is surprising how much the blooms can be improved. Where the flowers in the centre appear perfect, do not interfere with them. Some persons are under the impression that so much of the centre must be taken out to admit of the remainder developing properly; such is not the case.

**KEEPING THE BLOOMS** is a phase in the culture of Chrysanthemums which needs much attention. This is one strong point in this flower that it will keep fresh a long time either on the plant or in a cut state. In some seasons a large number of fine blooms are rendered useless through the too early development of some of the varieties for a particular date, but now that we have so many exhibitions taking place in October, there need not be so many blooms lost. By judicious management, blooms can be kept in good condition a considerable time. Those possessing the darkest shades of colour—namely, the chestnuts, bronzes, violets, and the deepest shades of lilac—retain their freshness the shortest period; while the white and yellow flowers continue the longest in good condition. Some growers cut the blooms when expanded and strive to keep them a long time by placing them in dark closets or rooms, but I have not found that they will keep fresh longer than about six days. To have blooms in the best possible condition on any given date, four days previous is quite soon enough to cut them. If cut too early, the florets lose their necessary solidity and freshness. When the centre of a bloom is fully developed and the lower florets fresh, the bloom is in the right stage for cutting. Nine inches or 12 inches of stem should be cut with the bloom to admit of a small portion being cut off the end each day, which will assist in the keeping of the flower. A little salt in the water, say three-quarters of a teaspoonful in three half-pints of water, will keep the flowers fresh a longer time than clear water only. A small portion of sulphate of ammonia is beneficial also in this respect, but not mixed with the salt and water. Place the blooms in a cool dry room partly darkened, but where possible I prefer to keep them on the plant until required, or at least a couple of days before, when they may safely be cut.

E. MOLYNEUX.

**Chrysanthemum Avalanche.**—It will be a long time before we either get or want a better variety than this; not only does it produce the finest white blooms during October, but a full crop of late blooms can be had from plants grown on the bush system. Under any form of cultivation it never loses its great charm, purity of colour, combined with the entire absence of coarseness of petal. Another strong point in its favour is the fulness which the blooms possess, not the slightest sign of a hollow eye either in large or small flowers. As an exhibition bloom, *Avalanche* will hold its own against any other sort, and for conservatory

decoration it has no equal as a white variety. Its habit of growth is all that could be desired, being strong, yet sturdy.—E. M.

### Chrysanthemum Beauty of Exmouth.

Every year sees the introduction of some few sterling novelties to swell the already long list of Japanese varieties, but if we are to have many as meritorious as the above, some of the older kinds will have to be discarded. This is an English-raised seedling, the flower of large size, about 8 inches in diameter, the colour ivory-white, the petals narrow. As they unfold the flower reminds one of Thunberg somewhat, owing to its incurving towards the centre, but as it expands the petals open outwards, although they still retain the curl at the tip, some in an upward and others reverse, giving it a novel appearance. Altogether this must be classed as one of our leading varieties, being a full, massive flower.—E. MOLYNEUX.

### TYPES OF BLOOMS FOR EXHIBITION.

CULTIVATORS who have been assiduously attending to the wants of their plants for the last ten months will now be anxiously looking forward to the time when they may reap reward for their labour in the winning of prizes. Beginners in competition will be partly at a loss in selecting the blooms best suited for the shows now that the lists of the different sections are so long and the form of the flowers so bewildering. The main point to study is the type of bloom in each section which is likely to have the most weight with the judges when determining the relative positions of each competitor. Although there are judges who have most decided preferences for some particular type of flower, they should not wholly shut out other types of flowers which may be quite as meritorious, though not of the same formation. Unfortunately for exhibitors, perhaps, there is no definition of a strict show bloom to guide the judges; it is very much a matter of individual taste when the competing stands are very close in order of merit. Of course, there are some clear lines to work upon which cannot be ignored, such as size when in proportion with the depth of the bloom. What exhibitors ought to avoid more than anything is extreme width of the flower in comparison with depth. A large spreading bloom, but very thin in its florets, so that the boards underneath are displayed, should be ignored. Blooms are wanted of the style of *Avalanche*, W. W. Coles, Vivand Morel, Mme. Marie Hoste, Miss Lily Measures and A. H. Neve among Japanese. In all the cases named the florets are horizontally formed with a slight drooping at the points which gives grace to the bloom; all idea of coarseness of the florets of such as those is dispelled. Varieties such as *Meg Merrilies*, *Baron de Prailly* and *Etoile de Lyon* when developed from early formed buds are not to be chosen as a standard to set up.

Referring again to the last-named when the buds are not taken before the middle of August, the flowers exhibit none of that coarseness so common in this variety when the buds form earlier; the colour, too, in the late buds is quite distinct from that of the early buds. It is because of examples of too early bud-selection that this variety has become disliked, and it is also due to inferior examples of many sorts that the large bloom method of cultivating Chrysanthemums is decried. Exhibitors are to blame for setting these inferior examples before adverse critics of the most popular system of growing the plants. Colour is a decided point to study in exhibition blooms; ascertain the correct colour of each variety, and stage none other, is a wise plan to follow. A medium-sized, deep, fully developed bloom bright in colour is much to be preferred to one that is large in diameter, but thin in its florets, and of bad colour also. The same rule applies equally to the incurved section. Blooms of the type of *Lord Alcester* are to be preferred to any other. Medium sized flowers, yet deep and solid in the build, are more to be admired than those that are larger in width, but have large, loose petals which are flabby and do not incurve at all nicely. If the formation of the petals is not correct, incurving



toward the centre, all such should be avoided as representative blooms. Judges are quite right in leaning towards the smaller if neat, solid, and of good colour. Freshness is a point to which much attention should be paid. Very often upon a close examination the bottom row of florets is found to be dull in colour and flabby, denoting age. Blooms of this character lose points in competition.

S. P. H.

## FLOWER GARDEN.

### FLOWER GARDEN DATURAS.

AMONG the numerous plants available for garden decoration, but which are mostly conspicuous by their absence, several species of annual *Daturas* occupy a prominent place. The genus includes five or six species, possessing some claim to notice; but those which more especially merit attention are

*D. CERATOCALUA*, probably one of the best known. It grows from 2 feet to 3 feet high. Its sweet-scented, trumpet-like flowers are produced from the axils, the corolla being often 6 inches in length and 4 inches or 5 inches across the limb,

in preference to such as is of a heavier nature. But few gardens exist where appropriate situations for one or more of the species may not be found, and in most there is abundance of room for all those here named. Most of the *Daturas* thrive well in the neighbourhood of the sea.

### NOTES FROM CLAREMONT, TAUNTON.

VERY different in character from the two gardens of which I have recently given some notes is that of Mr. W. Herbert Fowler at the above residence, within a couple of miles of the county town of Somerset, and yet I think equally well worthy of notice, for although our tastes may differ, we ought all to be able to recognise energy, intelligence and skill when they are brought to bear on every branch of our favourite pursuit.

Mr. Fowler's special favourites are the Rose, the Carnation and Picotee, the Begonia, and the Chrysanthemum, and in each of these he has in a short time achieved signal success. It is now three or four years since I first saw Mr. Fowler's name amongst the exhibitors of Roses at the Taunton show; the flowers were not very grand, but evidently showed the direction in which his

Burnside in the county of Hereford grows the two varieties to perfection, and his blooms of Anna Olivier have a colour in them that I see nowhere else. Why here in the same garden and under the same conditions these two varieties should not equal the others is certainly a puzzle. Mr. Fowler thinks highly of a comparatively new Rose, Mme. Elie Lambert, which has a pale flesh-coloured centre and the exterior petals white. I find that Mr. Prince also highly commends it, and says that it is a good exhibition flower. Another flower with which Mr. Fowler has achieved signal success is the *Gladiolus*. It has always struck me as a very curious thing that in the neighbourhood of our most successful raiser and grower, Mr. Kelway, of Langport, so few amateurs should have set to work to grow and exhibit *Gladioli*. I have now judged at Taunton for many years, and I remember only two amateurs whose exhibits were at all up to the mark—Mr. Dobree, of Wellington, who long since retired from the field, and Mr. Fowler during the last three or four years. The others were and always have been of the most inferior character, the blooms exhibited without names, and far inferior to those of the two gentlemen whose names I have just mentioned. Mr. Fowler has now entered upon the culture with great enthusiasm. Last year he not only carried all before him at the provincial shows in the west, but he came up to London, and there took the first prizes both at the Crystal Palace and Aquarium. This year he has not done quite so well. His plants have been strong and healthy, but the difference of climate and seasons must be taken into account. Taunton is mild; the bulbs are in bloom much earlier than with us in the east of England, and on August 12, when I had not a single spike out, Mr. Fowler was enabled to show exceedingly well. His soil is good, but not so good as Mr. Lindsell's, and he treats his bulbs as he does everything else that he grows generously. The beds are well manured and are heavily mulched when the plants are coming into bloom, and it does not appear to affect the healthiness of the bulbs, for he loses but few. Perhaps his time is yet to come, for I know well how often they are disappointing.

Some of the early-flowering sorts had fine spikes, and the later ones promised well. They are mostly French varieties, such as Pollux, Baroness Burdett Coutts, Horace Vernet and Enchantress; one, indeed, of Mr. Kelway's, named Mr. Fowler, was conspicuous for its novelty and beauty. Enchantress was very beautiful, and a spike of Mont Blanc which I saw staged in his stand in the Aquarium was magnificent. Mr. Fowler speaks highly of another white variety, Albatross, which I have not seen, but which he staged, he says, in fine form at Exeter. He had besides the full-grown bulbs a bed of spawn in which were many that were showing flower; while that of the present year was like a piece of wheat, so fresh and green was it. This, I am sure, the only way in which we can make way against the losses which are continually occurring among the full-grown bulbs.

Another flower with which Mr. Fowler has obtained a remarkable success is the Chrysanthemum. He has adopted a plan of growing these plants for single blooms that I believe to be perfectly unique. Everyone who grows Chrysanthemums knows what plagues earwigs are, and how they will eat into the shoots and destroy the hopes of the season. Of course, there is the usual remedy of trapping them, but prevention is better than cure, so Mr. Fowler has had a series of zinc troughs made. These are about 6 inches deep and wide enough to hold the flower-pot and leave a space for water all round it. Each trough holds five pots; these are not allowed to stand in the water, but a 6-inch drain-pipe is stood on end and on it the pots rest, and each plant is secured in its place by a long piece of stout wire which stretches from end to end overhead, and to which each plant is tied by the stake. The plants are thus secure, and as earwigs and woodlice are bad sailors, it is hoped that this plan may effectually circumvent them. As this is the first season Mr. Fowler has tried it, I shall be anxious to know how it succeeds. Of course, it is



Flowering shoot of *Datura meteloides*.

which is white, tinged with violet-purple externally and at the angles. The flowers, both of this and the following species, expand towards the close of the afternoon and close the following morning.

*D. METELOIDES*, a native of Texas, of which a figure is here given, differs from the preceding in its broader foliage, as well as in its somewhat large flowers, in its calyx-tube not being split on one side, and in the capsule being spiny; the limb of the corolla is usually more completely suffused with pale violet.

*D. FASTUOSA*, if less remarkable for the size of its flowers than the species already referred to, has, nevertheless, merits peculiar to itself. Even the single form of this plant, which in the type is creamy white on both surfaces, yields a very effective variety with the corolla of a deep violet externally, the interior being white, as in the type. The most striking forms of this species are those bearing double flowers, the primary corolla having a second, and sometimes a third arising from its tube, all perfectly regular in form, and often partly-coloured, as in the single variety with violet flowers.

The culture of these *Daturas* offers no especial difficulty. Fresh seeds are readily raised in an ordinary hotbed, and the young plants should be pricked out singly into pots while small and finally planted out where they are to stand. They need ample space for their full development, and should be grown in light sandy soil

thoughts were running. When I first visited his garden, it was, among other things, to convince myself how far the statement was correct that he had failed in the cultivation of Teas. His garden then contained a few beds of Tea Roses and a large number of Hybrid Perpetuals. He is one of that numerous class which has arisen of late years amongst rosarians who almost ignore the splendidly coloured flowers of the Hybrid Perpetuals and cling to the lovely and refined blooms of the Teas. He has been gradually weeding out the former and replacing them with Teas. He is making a still further change; he is convinced, as are a good many rosarians, that the best stock for the Tea is the half standard Brier, and so he is substituting Roses on that stock for dwarfs. The cultivation here is of the most generous kind; heavy mulchings of manure are given and water is plentifully supplied. Among his greatest successes are Comtesse de Nadaillac, Souvenir d'Elise, and Cleopatra, of all of which he exhibited grand blooms at the Taunton show. These are not by any means the easiest varieties to grow among the Teas, and one seldom sees them in August in such style as at Mr. Fowler's at Taunton, and yet although these seldom so display their charms, he has found it impossible to bloom successfully two very much more easily grown varieties—Rubens and Anna Olivier. The plants grow well, as I can testify, vigorous and healthy with fine foliage, but it is found impossible to get anything like satisfactory blooms. They are thin and flaccid. Mr.



somewhat expensive, and it is not everyone who can indulge in such experiments.

There are two other classes of plants grown here and with which Mr. Fowler has secured the first place at the local exhibitions—*Begonias* and *Carnations*. His plants of the former at the Taunton show were models of what such plants ought to be. They are grown in a low span-roofed house which was filled with well-grown plants of the best varieties. In *Carnations* and *Picotees* also Mr. Fowler has made steady progress. The system of exhibiting them is different to that in London; the florist and border varieties are shown together, and the practice of dressing has not assumed the character of a fine art. To some this is a decided advantage, as the flowers are seen in a more natural condition. Mr. Fowler has some good beds of these, for he does not grow in pots, and those I saw were strong and healthy.

DELTA.

### CARNATION NOTES.

ALL who grow *Carnations* to any extent in the open ground are now agreed as to the advisability of autumn planting. There is practically no better time than from the middle of September to the middle of October, and a special effort should be made to get all planting done during that period. The weather that we have experienced of late, however, must have considerably delayed planting. In my own case, having a soil to deal with that is naturally well drained and workable a few hours after the heaviest rain, planting was finished after many hindrances on October 12, but doubtless many have been quite unable to get upon the ground. The plants of necessity want considerable pressing or treading to make them as firm as is essential to their ultimate welfare, and this cannot be done—at least, harm would result from treading the soil firm when soddened with excessive moisture. Advice is often given to get beds and borders ready before general planting commences, but in such a season as this it is necessary to modify usual practice according to circumstances. By doing so, the most can be made of a fine day, and ground may be got ready and planted at once. As I plant *Carnations* in rotation to early summer hardy flowers, such as *Eurothias*, and in succession to *Antirrhinums*, *Zinnias*, &c., this has greatly facilitated operations. Beds so occupied are not unduly wet, and if cleared and deeply dug they are in a very good state for immediate planting. By this means alone was planting commenced and completed, and even then a week's work, given fine dry weather, was this year prolonged over three weeks as opportunities occurred. Now the plants are in position, there is little more to be done among them for several months, and the cultivator who has all or nearly all his plants in the open ground and well established by winter has little cause for anxiety. One simple detail only has to be observed throughout the winter months, and that is to press back into their places any plants loosened and partially or entirely upheaved by the soil's expansion during frost, this, of course, being done during a thaw.

The layers this year have done remarkably well. One can never tell till planting time, for it sometimes happens that though the shoots look promising enough, it is chiefly through sustenance derived from the parent plant, and on taking them up they are found to be indifferently or poorly rooted. The season, I believe, has often much to do with this, for with all care in putting the shoots down, experience extending over a number of seasons gives varying results. This refers more especially to plants flowering in the beds and borders, and I believe the extent to which they flower is a factor to be

reckoned with. It is a great tax upon the plant allowed to develop all the spikes that appear and to expand all its buds to further give an abundant stock of early well-rooted layers. I am convinced that to have *Carnations* in full perfection in the flower garden and to keep up a vigorous stock of the best kinds we must have a duplicate stock grown on purpose for layering in accordance with the nursery plan that I have previously advocated in these pages. So far as some kinds are concerned, the nursery is an absolute necessity. Certain French selfs that I grow send up successional spikes from the current season's growth to such an extent that layers fit for planting are practically unobtainable from flowering plants. A letter just received from a friend contains this remark, "I find I shall have to put some of my kinds into stock in a nursery as you do in order to ensure as far as possible a strong, healthy lot for autumn planting." But what is of first importance for some is really better for all, and my ultimate aim is to treat the *Carnations* in the flower garden solely as flowering plants, destroying them entirely at the end of the season. The gain from such a practice would be great and beneficial from whatever point we regard it. Towards this end I have this season managed, with one or two slight exceptions, to plant some rows, more or less according to merit, of every kind in a nursery. At planting time the superiority of nursery stock was clearly demonstrated by the same kinds grown in one case solely for layering, and also layered in the usual way upon the flowering plants in the flower garden. The strength and vigour of the former were double those of the latter. The difference will be even more apparent when another flowering season comes, for these strong layers produce three and four spikes of bloom to one upon plants obtained in the usual way. If we have not to consider the necessity of providing stock for the future from the plants that we take to adorn the flower garden, it follows that we can plant them in a variety of ways either alone and closely massed, or in association with equally choice and charming things. There is no doubt that the very need of summer layering has deterred some from planting *Carnations* to the extent that they otherwise would have done. Although what I here advocate looks like so much extra, and some may think needless, work, it is much more profitable than that involved in keeping up a stock of tender things whose ultimate sacrifice we do not regret from the very fact that they are useless when they have served their purpose.

Last, but far from least, such diseases as *Carnations* are prone to are certainly engendered when layers are crowded between flowering shoots. Especially have I noticed this with the Countess of Paris. In the flower garden it has all through manifested a tendency to what we commonly call gout. The plants flower all right at the first part of the season, but do not go on in the same way that I have seen the kind elsewhere. The old stem rots entirely in the centre, and, further, the evil is communicated to the layers. Recently when a quantity that were put down upon flowering plants were lifted, many of them, though having abundant roots and otherwise looking in perfect health, had to be thrown away, because close examination revealed the fact that the heart of the shoots was quite decayed. They were as useless as if they had been bored clean and hollow by wireworm. The plants so affected were grown in sweet, well-drained, unmanured maiden loam. There was nothing to induce rank growth, nor were any conditions or sur-

roundings calculated to produce the disease. The experience of three years here with this kind proves that only by nursery stock could I manage to keep it. This may be only a local peculiarity, but such things are embarrassing till one has found out a means of meeting them. A large group of *Marguerite Carnations* full of flowers and buds will soon be black with spot. I recently saw healthy batches in several gardens and many plants potted up for winter flowering. Last year about this time disease came among these, as it has done now, and for this very reason I purposely made this year's plantation upon a spot where *Carnations* had never before been grown. Had the disease been prevalent amongst the selfs, there would have been apparent reasons for its attacking these under notice, but the selfs never were healthier nor freer from it, and in their present state they promise well for the coming winter. A. H.

### PLANTING DAFFODILS.

THE article under this heading in your issue of the 15th inst. (page 336) signed "E. J." is exactly what is required by many amateurs to save them the trouble, annoyance and great expense or waste of money such as I have personally experienced in past years. If I had had the good fortune some ten years ago to read such advice as "E. J." now gives your readers, I should never have attempted the growing of *Mary Anderson*, *pallidus præcox*, *Orange Phoenix*, *Leda*, *obvallaris*, *poeticus flore-pleno*, and some other varieties, more especially the delicate kinds, usually shown to be so by the smallness of their bulbs, although this does not apply as an invariable rule, *Orange Phoenix* having a large bulb.

At one time I was under the influence of the Daffodil mania, but through growing many varieties (those above mentioned included) that did badly after the first year, my admiration was tempered with prudence, and I adopted the more common sense and practical plan of only planting those varieties which experience showed also grew satisfactorily. I am thereby now saved annoyance and disappointment as well as expenditure, and I have such good kinds as *Emperor*, *Empress*, *Horsfield*, *Grande*, *Sir Watkin*, *Leeds*, *Barri*, *conspicuous*, *Cynosure*, *Stella*, *maximus*, *princeps*, and a few others which never fail to bloom well and do not deteriorate. *Poeticus flore-pleno* (the *Gardenia*-flowered Daffodil, as some call it) is very eccentric in its fancies as to where it will or will not grow. With me in my garden in Kent on sandy soil it grew like a weed; in my present garden in sandy loam it does nothing but develop blind flower-spikes. The Daffodil is such a lovely flower, and there are so many varieties and combinations of white, lemon, yellow, orange, and almost scarlet (in some of the cups this colour exists), that it is most desirable for the garden in spring, and for cutting hardly any flower is so lasting, but I have found it useless to plant the varieties of which "E. J." specially writes in depreciation, and I consider that your readers who are about to plant Daffodils will find his hints invaluable, as they are most practical and correct.

Croydon.

CHARLES J. GRAHAME.

**Spot in Carnations.**—It is very disheartening to look on a fine bed of *Carnations* and see them all going off with this troublesome pest. Three years ago I had a grand stock of border kinds. At the end of the summer and in the autumn they showed signs of a yellow cast in the leaves; this increased in the course of a few weeks, and by the spring the greater portion of the plants had gone off. These plants grew in open borders, and some were potted and kept in frames during the winter with the same results. In the autumn of 1890 I obtained a fresh stock from several different sources. Feeling I would be sure the soil and situation should not be at



fault, I resolved to use every means to prepare a good site for this lot of plants. These were planted out in the spring of 1891. It was on a south border in front of our glass houses. Here they grew away well and made good plants that summer, and last autumn and winter they did not show the slightest signs of disease. This summer they bloomed well, but this autumn they are going the same way again. In the spring I rooted a fine batch of Tree Carnations, potting them on. When the weather got warm these were removed to cold frames. Here they grew away well till July, when I thought I would harden them by leaving off the lights for a few fine nights. In the course of a few days the plants showed the brown spot in the leaves, and although the lights were put on at once, they have continued to go badly, till now many are worthless. Will other growers kindly say what they think is the cause and advise a remedy?—DORSET.

### THE GLADIOLUS.

THIS grand autumn flower still holds its position as one of the most charming of its season; but we still hear complaints of its habit of dying off when in full growth, or the bulbs becoming so badly diseased that they never flower again. The leaves seem to start away fairly well at first from such bulbs as are not quite healthy, but as the summer advances they become tinged with yellow, next streaked and spotted with brown, the tint of decay, and at last they disappear. From such diseased varieties I have taken the small bulblets which to all appearance were perfectly healthy. These have been planted out of doors and grown in the best part of the garden, and also in flower-pots where the greatest care has been taken to keep them in the healthiest condition, but the results have not been at all such as would lead one to recommend the practice. When a Gladiolus gets into bad condition, the best thing to do with it is to destroy it. Having been a very large cultivator of the Gladiolus for many years, I have come to the conclusion that much depends upon the perfect ripening of the bulbs. Probably this is not possible in this country, but the better we can ripen them, the better will the bulbs do the following season. It follows, therefore, that a fine dry autumn suits the Gladiolus best. In August of this year, when the Gladiolus should have been at its best, the rainfall in some districts was between 5 inches and 6 inches for the month. The gardener in such districts cannot possibly grow the Gladiolus successfully. Even under ordinary conditions much depends upon the skill of the cultivator and the opportunity he has had to prepare the soil. Anything like stagnant water, even at a considerable depth, must be avoided by draining the ground, and the free passage of the surface water to the drains is provided by trenching the ground to the depth of 18 inches at least. Heavy soils must also have dressings of light decayed manure, leaf-mould, coarse sand, or all of them together. Wood ashes form an excellent material to keep the soil open. A great point is to have the soil in good condition; see that it is trenched in August or September to be exposed to the weather. The plants like rich as well as deep soil, and the manure should be at least 6 inches below. When the surface of the ground which is in preparation for the bulbs becomes caked on the surface by rains, lightly fork it over when the surface is dry. Of course, I am taking it for granted that the ground is changed at least in alternate seasons, for if one has to plant the Gladiolus out on the same ground year after year, it is unlikely that good results can be obtained. By free exposure to the weather in autumn, winter and early spring, the ground gets into good condition for planting after the middle of March, which is early enough. Choose a dry day for the purpose and when the soil is in good condition. If it is not so dry as it ought to be, a good plan is to draw deep drills for the bulbs as for Peas. Place a little dry sand under each bulb, putting a little more over the top of each, and fill the drills in with dry sandy soil.

Siftings from the potting shed answer as well as anything, the object being to give the bulbs a start, as the roots push out more healthily in dry soil. The time of planting may vary. I have planted them out from the first week in February until the middle of April. The one-year-old bulbs, although not much larger than Marrow Peas, if planted in good soil and well cared for, will produce good spikes by the end of the season. I have known bulbs not larger than small Filberts produce plants 4 feet and 5 feet in height furnished with handsome exhibition spikes. When hot, dry weather sets in during growth, give the plants a thorough good watering and mulch over the surface around the plants and between the rows with decayed manure. Manure water not too strong, applied twice a week, is excellent. If the weather continues wet, so that no manure water or water of any kind can be applied, artificial manure in powder may be thinly sprinkled upon the surface. Guano is the best manure of this kind. When the flowers begin to open, no manure water is needed. Each spike must be tied to a stick and shaded when the flowers open.

When I used to exhibit the Gladiolus, I merely put down three sticks around a plant at the distance of a foot or more from it and bent the sticks together, tying them together at the top, and fastened a paper shade to these. This is sufficient to keep out rain and protect from sunshine. I noticed a much more elaborate arrangement in the nurseries of Messrs. Stuart and Mein, the great growers and exhibitors at Kelso, N.B. They had two boards fixed together to form an angle, and the third side of the angle was a square of glass. This was the best way I had ever seen of bringing the spikes up to good form. The flowers all turn naturally to the glass in front. They are also kept clean and altogether in capital condition.

The spikes of the different varieties do not come into flower all at one time, but at irregular intervals during a period of six weeks or so in the months of August and September, the greater irregularity being found amongst the seedlings of the previous year. Bulbs ranging in size from a Pea to a Filbert will continue to flower until frost comes; but the crucial point in their culture also comes in here. In many districts wet and cold weather sets in before the plants are ready to be taken up, and to drain the water away from the roots, it is a good plan to draw the soil up to the stems with a hoe or a fork, which throws it into the trench or drill between the rows. The best varieties ought to be crossed for seed-saving, and if distinct and good species are grown, there is a good field open to the hybridist. About twenty or twenty-five years ago Mr. John Standish, of Ascot, raised some very fine hybrids between *G. brenchleyensis* and *G. cruentus*. One of them named Alice Wilson is figured in the *Florist and Pomologist*. Gladiolus *purpureo-auratus* has been used with excellent effect to hybridise with varieties of *G. gandavensis*. The well-known and strikingly distinct *G. Lemoinei* varieties were produced from this cross.

J. DOUGLAS.

### THE FLOWERING SEASON OF CARNATIONS.

THAT the exhibition of the National Carnation Society (southern section) is, as the title implies, primarily designed for the exhibits of southern growers seems self-evident, and I am surprised that "A. H." should apparently only learn it now from a chance observation of my own. In speaking of "southern" exhibitors, I did so in the sense well understood among Carnation growers as meaning those from the districts which include the south midland counties and everything south of them. The exhibitors of open-ground Carnations on July 26 from Somersetshire, Kent and Middlesex are in our view purely southern growers, and my friend Mr. Douglas, who hails from Ilford, in Essex, would be very much surprised if he were described as anything else. In former years, "north" and "south" meant for us simply north and south of the Trent. Since then we have the northern and

southern sections of the National Society holding their exhibitions at appropriate dates in Manchester and London, and the two midland societies meeting at about a week's interval of each other at Oxford and Birmingham, so that practically every exhibitor can find his billet now-a-days in the matter of date.

"A. H." asks why, in spite of late seasons, the usual date has been adhered to in London. Our date has to be arranged with the Royal Horticultural Society nearly a twelvemonth beforehand. We have to show at one of their fortnightly exhibitions, at which, of course, ours forms only a part. At the advanced period when we are able to say with any certainty that our bloom will be unusually late or early, it would be impossible to alter a date for which the growers of things under glass had long before arranged.

As to the judging of the border Carnations last year, I do not see that any question of fringed edges entered into it. I am not in the secrets of the judges on that occasion, but it seems to me that sorts like Ketton Rose and Aline Newman, beautiful in form and colour as they were vigorous in growth, were rightly preferred to Queen of the Bedders, meritorious as the latter undoubtedly was. The lover of Carnations, whether growing for stage or border display, wants something beyond the "bedder" in his favourite flower. Besides strong growth, he looks for excellence of form and colour and for character in his flowers, and I presume these features told last year just as they did three years before in the competition at Gravetye, where among many meritorious competitors first prizes were justly awarded to Ketton Rose, Emma Lakin and Harmony, because in addition to vigorous habit they possessed in a high degree the refined qualities we desire in a good Carnation. Amply have they since justified the decision. Ketton Rose last year scored once more, and Emma Lakin and Harmony have become fast favourites, as will also Aline Newman when it gets to be more known.

M. ROWAN.

### MICHAELMAS DAISIES.

THE large number of Michaelmas Daisies shown at the Drill Hall on Oct. 4 and a collection exhibited the next day at Earl's Court were educational, first, to the student botanically inclined; and secondly, to the gardener who is seeking not mere botanical knowledge, but more light in deciding what to select for effective planting and for use in the cut-flower bowl at a season when even the majority of hardy plants are getting shabby, and it is difficult to get effective groups of flowers in the outdoor garden. With the former class of student this note has nothing to do, but having taken some interest in Michaelmas Daisies from a gardener's point of view for some years past, and having spent some little time in studying and taking notes of the most effective kinds, a few words may be helpful to others who are similarly placed. It is generally conceded that there are far too many kinds at present in cultivation, and a dozen of the best will be quite as many as the ordinary gardener will want. The nomenclature of these Asters has been in such a confused state for so long a time, that it is gratifying to see something like uniformity arrived at, though even now there is much to be done in this way. It matters little what a plant is called so that one knows what he is ordering and does not get nurserymen's scraps of the same thing over and over again under different names. One of the exhibits at the Drill Hall was an excellent example of "how not to do it," for the flowers were shabby in the extreme, and were set up in horrid looking jars with no uniformity of size or shape. Surely in these days of cheap ware such an eyesore should be made impossible; such things bring anything in connection with them into discredit.

The best of these Asters for general purposes would include those mentioned below, and there would not be too many for a moderate-sized garden. For use indoors as cut flowers they are valuable, and a great thing in their favour is the im-



provement in colour and delicacy that takes place after having been in water for a few days, as the flowers gain a more chaste appearance day after day, and will continue to open for a long while; the stems do not taint the water in any way.

A. *Amellus bessirabicus* is a dwarf form with large purplish blue flowers, and a fine showy variety for a bed or group. A. *grandiflorus* has very large bright purple flowers, with small neat distinct foliage. A. *Novæ-Angliæ roseus* is a most beautiful kind, flowers bright rose colour with orange centres, very free and showy. A. *Novi-Belgii* Robert Parker is about the best variety of this, and one of the most useful Asters in cultivation. A. *cordifolius elegans* has small pale blue flowers which are very elegant, and excellent for cutting or in a group. A. *versicolor Antigone* I have not grown, but it was beautiful as seen at the Drill Hall, and the variously coloured flowers were very striking. A. *vimineus* is a pretty little white-flowered kind, and though not very effective in the garden is excellent for cutting. A. *ericoides* is very useful in the same way as the last mentioned. A. *lævigatus* is of a deep flesh colour, medium-sized, fine for garden effect or for cutting, very beautiful and delicate when seen by artificial light.

A few other hybrids might be added as approved, but anything like a collection should be avoided, as this only leads to confusion.

CORNUBIAN.

#### FLOWER GARDEN NOTES.

IN many places no sharp spell of frost has destroyed the more tender inmates of the flower garden up to the present date (October 10), but the majority of beds are shabby and flowerless, and it is as well to clear them by degrees, leaving any bright spots until the last moment. The late bright spots in the summer bedding are again the Begonias, which have held their own well in the summer of 1892. A special note for another season in connection with Begonias is carpet plants for the different colours. Let me recommend Jeanne d'Arc double Ivy-leaved Pelargonium, Mesembryanthemum variegatum, and Cannell's dwarf Ageratum for respectively the crimson, pink, and light shades of Begonias. There is a future before the double Ivy-leaved Pelargoniums for summer flower gardening; they are admirable as specimens, as carpet plants (pegged), or as a mixture with any other plant that may form a pleasing contrast to their respective colours. The large flowering Begonias which in the early part of the season had to give way to Worthiana are now better than that variety. It will be necessary to stake isolated plants of Worthiana another year; it makes a lot of strong rather weedy growth, and wind and heavy rain in late summer are answerable for its downfall. As to this staking, it is sometimes recommended to group Starworts as an absolute security against partial prostration, but this recommendation must be qualified so as to draw a line between the tall and the dwarf varieties, those of stiff and compact and those of thin, somewhat weedy habit. The latter, of which *vimineus* may be taken as a type, are certainly all the better for staking, whether planted as single stools or in groups; anything in the way of "huddling up" in the tying must naturally be avoided. One or two correspondents are noting the nipping of buds of pot Chrysanthemums by early autumn frost. May I suggest for another year a shelter that I find very serviceable for the outdoor plantation? This consists of a skeleton frame made of any fairly stout wood (Fir poles answer the purpose admirably). It should be high enough to allow the covering to clear the plants and strong enough to bear the weight. The top and a portion of the sides, say about 18 inches down, will be all it is necessary to cover, and an occasional tie at the sides will keep the covering tight in case of wind. Stout tiffany is the material used; it will keep out anything under 12° of frost, more if vegetation is

dry, and by its aid we generally manage to secure plenty of outdoor flowers until November is well advanced. The plantation, by the way, should be renewed annually, and the free hardy varieties in the Japanese section are most acceptable for cutting.

Claremont.

E. BURRELL.

**Marguerite Carnations.**—I have seen these in several different gardens. As autumn flowering pot plants they are certainly valuable, dwarf in habit, free flowering, and with a great variety of bright and distinct colours. The flowers are rather small and cannot be specially recommended for cutting. Yet, in a mass they are very effective for the conservatory and come in very useful at a time when flowering plants are not over-abundant.—F. H.

**Aster ericoides.**—This is one of the best of the Michaelmas Daisy tribe. The habit is all that



Flower of *Cypripedium macranthum*.

could be desired, being stout, yet fairly tall; in good soil the plants grow 5 feet high. This variety is capital for cutting; the flowers are thickly produced on stout stems. In arranging Michaelmas Daisies in a cut state in vases, a mass of any one variety is sufficient in itself without other flowers.—E. M.

**Carnation Winter Cheer.**—I have previously recommended this fine winter-flowering Carnation for outdoors, and I find it comes quite up to my expectations. In Messrs. Veitch and Sons' Chelsea nursery a bed is planted with it, and although all the other varieties have long been past, Winter Cheer is still flowering, and when I saw it the other day there were some really good blooms, and a quantity of flowering stems with buds well advanced. With favourable weather the plants would keep up a succession of bloom fully up to Christmas. A great recommendation is its dwarf habit and vigorous growth.—F. H.

## GARDEN FLORA.

### PLATE 881.

#### HARDY LADY'S SLIPPERS.

(WITH A COLOURED PLATE OF 1, *CYPRIPEDIUM ACALE*; 2, *C. PUBESCENS*.)

THIS section is scarcely less beautiful than that containing the tropical species, from which the hardy kinds are readily distinguished by their herbaceous habit. One of the freest and most vigorous of the whole group is the white-flowered rosy-lipped *C. spectabile*; and *C. pubescens* and *C. humile* seem to do much better than any of the others, if we except *C. Calceolus*. The majority succeed tolerably well for a year or two in a cool, moist peaty compost; and, if grown in pots, they should be plunged in a cold frame with a northern aspect, and protected from the mid-day sun. *C. spectabile* may be planted out in a border of peat and leaf-mould, where it will flower several years in succession if kept regularly moist and cool at the root. *C. Calceolus*, on the other hand, prefers a strong chalky loam with an eastern aspect, sheltered on all sides from rough winds and



Flower of *Cypripedium guttatum*.

sun. If these hardy Lady's Slippers are grown in pots, they should be well drained, as has just been recommended; and, if syringed every morning, so much the better. The pots should be surfaced with fresh green Sphagnum to prevent undue evaporation from the soil, such surfacing also keeping the soil cool by acting as a non-conductor. The roots should never be allowed to become dry, even in winter—an evil to which may be attributed the loss of many of these interesting plants. A collection of these hardy species, planted in a peat border outside at the back of a Heath house, used to grow well in Messrs. Rollisson's nursery at Tooting. During winter and spring they were protected by a layer of Sphagnum 2 in. to 3 in. in thickness. The following are the kinds usually grown:—

**C. CALCEOLUS** (common hardy Lady's Slipper).—This is one of the rarest, and also one of the most beautiful, of our native Orchids. It grows about a foot in height and bears one or two showy flowers at the apex of the strongest leafy stems. The sepal's are of a deep purple tint, the petals being narrow and tapering with wavy margins. These are also of a purple colour tipped with yellow at their apices. The lip is rounded or swollen, and, being of a clear golden-yellow colour, contrasts well with the dark sepals and petals. It is found in woods in Russia, Asia, and Eastern Europe and

\* Drawn for THE GARDEN by Gertrude Hamilton in the Royal Gardens, Kew, June 14, 1892. Lithographed and printed by Guillaume Serreyens.



the Arctic Circle, but is more sparingly distributed over Western Europe; in Britain it is almost, if not quite extinct. One of the best-known habitats of this plant was Castle Eden, Dean, Durham, and it has also been found in Yorkshire. According to Thunberg, it is also a native of Japan.

**C. PARVIFLORUM** (small-flowered Lady's Slipper).—This has been more than once referred to the last-named species, from which, however, it is readily distinguished when both are seen side by side. The plant is similar in size and habit, but the lip is larger and distinctly flattened or even depressed in front, and the flowers are also delicately perfumed. The sepals are of a rich chocolate-brown colour, while the slender, wavy, or twisted petals are green at the base and streaked and spotted with dark brown. The lip is of a clear yellow colour, with a row of crimson or reddish dots around the mouth. The leaves are of a fresh apple-green. It is a native of Canada and probably of North America.

**C. PUBESCENS** (hairy Lady's Slipper).—This is a free-growing species, both stem and foliage being covered with whitish hairs. It is very distinct from both the last-named kinds, and grows well

the apices of the stems. The petals are striped, and the lip, which is inflated, is distinctly netted with dark veins. It is a native of Siberia, and is well worth general culture.

**C. VENTRICOSUM** (inflated Lady's Slipper).—This is another rosy purple-flowered species, much resembling the last in general appearance, but easily distinguished from it by the petals being shorter than the lip, a very unusual occurrence in this genus. The lip itself is shaped like that of *C. macranthum*, but it is of a much deeper colour. It is a native of Siberia.

**C. SPECTABILE** (showy Lady's Slipper).—This is one of the most beautiful of the hardy species, and one which succeeds perfectly well planted out in a cool peaty compost, sheltered from the midday sun. It also makes a splendid pot plant plunged in a cool and partially shaded frame. The stems rise from 1 foot to 18 inches in height, and bear from one to three large flowers at their apices; both leaves and stem are covered with short white silky hairs. The flowers, which each measure about 3 inches across, are of pearly whiteness, the rounded lip being suffused with bright rose around its mouth. It is a native of the United States and

dull green colour streaked with reddish brown. The flowers, which are solitary, scarcely measure an inch across and are not showy, although the plant is worth culture where variety and botanical interest are appreciated. Native of Canada.

**C. ACAULE** (stemless Lady's Slipper).—This is one of the commonest of hardy Lady's Slippers, and is frequently met with in good collections of hardy plants. Treated as a pot plant in a cool frame, it does remarkably well, and blooms freely every spring along with *C. Calceolus*, *C. spectabile* and *C. pubescens*. It grows well in an open compost of spongy peat, and, like its congeners, must have a copious supply of water at the root. The whole plant is 6 inches or 7 inches high, having two broad green leaves at the base and a solitary nodding flower borne on a slender scape. The lip is rosy purple, netted with darker veins and curiously folded inwards in front. It is sometimes known as *C. humile*.

## THE WEEK'S WORK.

### HARDY FRUITS.

**STRAWBERRIES.**—It is doubtful whether mulchings of manure do not do strong young plantations more harm than good. Quite fresh straw litter in a dry state would afford a certain amount of protection. This keeps the ground about the plants warmer, but manure well advanced in decay has quite the opposite effect, unmulched plants frequently flowering earlier and more strongly than those mulched. When, however, Strawberries have occupied the same site for two or three clear seasons, they greatly impoverish the ground, and would, as a rule, start more strongly next season if given a liberal dressing of unexhausted manure now. On no account should manure be dug in between the rows, this process inevitably destroying the best of the roots. Instead of doing this, the plants should be fed from the surface, and everything done to keep the roots active near the top of the ground. If old beds are retained, and there are still numerous cultivators who are in the habit of saving Strawberry plants for many years, a thorough soaking of sewage water or liquid manure would do these good. All plants should be kept cleared of runners and the ground free of weeds.

**RASPBERRIES.**—Now, or before the whole of the leaves have fallen, is a very good time to transplant fairly large clumps of Raspberries, and should the plantations have become sickly-looking, removing the rows to a fresh site may be the means of greatly improving their health and vigour without the loss of a crop. Young canes also move admirably at this period of the year, and in many cases, or when transplanted while yet many of the leaves are green, will form fresh roots quickly, starting all the more strongly next spring accordingly. They ought to be either moved now or not till next spring just when the sucker growth at their base is 2 inches long. The most profitable plantations are those that are never dug among, and which also are kept rooting near the surface by means of summer mulchings. If once their roots are allowed or caused to strike down deeply into a cold clayey subsoil, weakly growth and light crops are the outcome. What they require is warmth as well as moisture and fairly rich food, and for this reason the coldest and lowest parts of the garden are only suitable for them when other sites have been found too hot and dry. If the ground is trenched for Raspberries, and in many cases they pay well for this attention, see that the manure is not deeply buried. It should be applied in moderation to the top spit, burying solid manure deeply having the effect of attracting too many roots downwards. Cold clayey soils would be greatly improved by having fresh loam, lime-rubbish, and burnt earth freely added to the top spit. Avoid burying the collars too deeply. These ought only to be just below the surface, and the ground should be made firm about them.



The Mocassin Flower (*Cypripedium spectabile*) in the rock garden

treated as a pot plant in a shady cold frame. The sepals are of a creamy yellow colour, striped with bright red; petals narrow, very much twisted, also yellow streaked with red, while the lip is of a clear golden tint. In shape the flower reminds one of that of *C. Calceolus*, but it is readily distinguished from that species by the yellow sepals and twisted petals, and also by the flower being scentless. It is a native of North America.

**C. IRAPEANUM** (Pelican-flowered Lady's Slipper).—This is a very fine large-flowered species. In shape the flowers resemble those of *C. spectabile*. They are fully 4 inches or 5 inches across the fully-expanded segments, and are borne one and two together on the leafy stems. The colour is a bright golden yellow throughout, and the lip is blotched within with bright reddish crimson, and in shape reminds one of some of the large flowered *Calceolarias*. It is a tender species. It requires plenty of water at the root when growing, and an airy atmosphere suits it better than a close one. It is a native of the Savannas, or great natural meadows of Upper Mexico, where it is found at an elevation of from 2000 feet to 5000 feet.

**C. MACRANTHUM** (large flowered Lady's Slipper).—This grows from 6 inches to 12 inches in height, and bears one or two rosy purple flowers at

North America, and should be grown in every collection of moisture-loving hardy plants.

**C. GUTTATUM** (spotted Lady's Slipper).—This charming little plant resembles *C. acaule* in habit, but has snowy flowers blotched with purple. The whole plant is only a few inches high, its short stems being two-leaved. It is a native of Siberia, North America, and Northern Russia, where it grows in swamps and spongy bogs.

**C. CANDIDUM** (milk-white Lady's Slipper).—A pretty little species, similar in habit to *C. spectabile*, growing about a foot high, and bearing a solitary flower at the apices of its leafy stems. Its sepals and petals are white or greenish white, more or less streaked and shaded with pale brown. The lip, which is inflated, is pure white. A native of boggy marshes, and extending into Canada to the northward, and to the Platte and Rocky Mountains to the west.

**C. ARIETINUM** (Ram's-head Lady's Slipper).—Botanically, this is remarkable as being the only species with free lateral sepals, and this character serves to distinguish it from all the other species at present introduced. The lip tapers from the mouth to a blunt point, the colour being white, curiously chequered with bright rose, like some of the *Fritillaries*. The upper sepal is ovate, the lower sepals and petals being nearly linear, of a



**GOOSEBERRIES AND CURRANTS.**—The present is a good time to transplant these. Being remarkably fibrous rooted, quite large bushes move readily, and, seeing how necessary it is that some sort of protection be afforded from birds, both buds and fruit being greedily preyed upon, it is very advisable that they be grouped together. Permanent wire-netting-covered structures are the most economical in the long run, and these may be formed either in the open or in the form of a lean-to against a cool wall, which should be covered with Plum trees, and the borders with Gooseberry and Red and White Currant bushes disposed not less than 4 feet apart each way. In order to utilise these structures to their full extent they ought to be filled at once with moderately strong bushes from other parts of the garden. Let them have the benefit of deeply worked fairly rich soil, that of a somewhat retentive character best suiting them. Permanent "Gooseberry houses" should be so constructed as to admit of portions of the front being taken down with a view to admitting insect-eating birds whenever there is no likelihood of injury being done to the bushes or fruit by other birds. Large netting-covered shutters answer well. All the while the bushes generally grow very vigorously they scarcely require manuring, but it is a great mistake to neglect any that give signs of being impoverished at the roots. Let these have either good soakings of strong liquid manure during the winter, or a surfacing of manure, but do not dig among them. W. IGGULDEN.

### THE KITCHEN GARDEN.

**MUSHROOMS.**—At this period care is needed in the cultivation of Mushrooms, especially if they are growing in structures which are heated with hot water, as in these there is the danger of their being kept too hot for the well-doing of the Mushrooms. The temperature requires to be kept as near 55° as possible. When kept much above this temperature the air becomes too arid, and instead of the young Mushrooms developing, they either spindle or wither up before coming to any size. Beds which are in bearing in the above-named temperature must not be kept closely covered up, as this has a tendency to draw the spawn to the surface, and so prevent young Mushrooms appearing. In those structures where the temperature has to be kept up artificially, mats are the best covering, these being kept off the direct surface of the beds by strips of wood resting on bricks. The floor and walls should also be damped daily through a syringe if at all arid. Beds which have been prepared in sheds or other similar unheated structures will need closer covering, and in these cases dry hay should be used, this being turned as often as occasion requires if the surface should appear too damp, and the thickness varied according to the weather, the aim being to keep the temperature of the beds from dropping too low. Beds in the open air must also be kept covered according to the weather.

**WATERING MUSHROOM BEDS.**—Mushrooms will not grow on dust-dry beds any more than other crops, and if they are to be productive the beds will have to be kept in a genial state of moisture. Too wet beds would have the opposite effect; therefore watering must be looked upon as a necessary evil, and be varied according to the structures the Mushrooms are growing in. In sheds, cellars, or other unheated structures the beds do not dry so quickly. In the former, as long as the Mushrooms grow freely and the surface is not dry, water should not be given, the covering in these cases being sufficient to conserve the moisture in the bed. Water must not be given in large quantities, but gradually over the bed through a fine rosed watering-can, so that the material will become properly moistened. Beds that are in the heated Mushroom house must have a gentle watering just as the Mushrooms commence to appear, and if covered up with mats afterwards the moisture will become conserved until the crop is on the wane, when another may be necessary. It, however, depends greatly upon the state of the atmosphere. Soft

water should be used at a temperature of 90°, a pinch of salt to a canful also being valuable. Ridge-shaped beds in the open air are also apt to become dry at this season if the weather should be bright and dry. If so, give a gentle watering in the morning of a fine day, applying it through a 6-inch covering of litter, afterwards covering with mats.

**ASPARAGUS.**—The tops of Asparagus must not be too hurriedly cut off, or not until they are quite yellow. There cannot be any set time for such work, as in some soils and situations the tops change much more quickly than in others. In cutting off the tops cut them over within an inch or so of the surface, afterwards clearing off all rubbish and weeds. Where the precaution has not been taken to stake the growths so as to prevent wind-waving, there are often spaces around the stems caused by friction, these if not filled in often causing the crowns to decay. The beds are the better for being left exposed throughout the winter, and not top-dressed with manure till the spring. On light and sandy soils, and which are consequently warm, injury may not follow the practice of winter mulching, but on cold soils it most undoubtedly does. The roots cannot take up nourishment whilst in a dormant state, and this is best applied just previous to growth starting in the spring.

**CLEARING VACANT GROUND.**—At this season the remnants of the summer crops are often allowed to remain on the ground until such quarters are dug over, even if this latter does not take place until spring, or rather the turn of the year. Such is a very unwise proceeding, for not only are slugs and other insects harboured, but the air and frost are prevented from acting upon the surface. Whether it is decided to dig the ground over in the autumn or not, the surface should be perfectly clear. The value of such material when burned is of the utmost benefit to all soils and crops. I have commenced already to burn all such refuse for future spring crops as well as a portion for the fruit borders, and for mixing with the soil in all relifting operations. The ground after being cleared should be hoed over so as to leave all tidy for the winter.

A. YOUNG.

### ORCHIDS.

We have just finished surface dressing and repotting the cool house *Odontoglossums*, and a few other plants needing similar treatment in the cool house. The plants will go on all right if we merely keep the surface moist in the winter; heavy waterings cannot be desirable in winter, and in many instances are injurious. Any plants with large spikes of flowers upon them would, of course, require more water than those with no spikes at all. For this house we still keep up the temperature rather over than under the minimum of 45°. We seldom allow the temperature to fall below 50°. By and by, when the plants have taken firm hold of the new material, and we are at mid-winter, a lower temperature may be desirable, but this depends a good deal upon the state of the atmosphere outside. Sometimes a steady severe frost sets in about Christmas, and it is well rather to let the minimum temperature range between 40° and 45° than to over-heat the pipes to get it up to 45° and 50°. In milder weather the higher average may be maintained with advantage. The management of the cool Orchid house in winter is very easy. The temperature can easily be maintained, and the plants need but little attention if perfect ventilation is provided night and day. By perfect ventilation I mean that a current of air should continually filter through amongst the hot-water pipes from what is termed hit-and-miss ventilators in the front wall. The colder the night the warmer the pipes need to be, of course; therefore it does not much matter if the ventilators are open, even on frosty nights, for the air must be heated before it reaches the plants, however cold it may be when it passes through the ventilators. Moreover, it is well known that the

cold air passing into the house will not pass upwards in the warmer atmosphere until it is sufficiently heated. We close the top ventilators whenever there are signs of frost, but on mild nights at present they are not shut quite close; but it is not desirable to run any risk of injury from cold draughts, and the anxiety of cultivators to obtain constant ventilation may sometimes be unnecessary.

We are now looking carefully after all plants coming into bloom, and are placing those opening their flowers in the temperature where they will develop most perfectly; and when the flowers have opened out in good condition, the plants need to be placed in a house where they will remain in good condition for as long a period as possible. The *Cattleya* house is kept rather dry at this season to suit the flowering plants, and as yet the temperature does not fall much below a minimum of about 55°. We are getting some nice flowers from plants in the warmest house, especially such as *Cypripediums*, which never fail all through the winter. *C. Sedeni* and varieties of that section have been in bloom since August, and we will not be without flowers of them until the new year. *C. Spicerianum* and *C. Leeanum* are now in. The best varieties of the last-named are exceedingly beautiful, and they last long in good condition. We have not been without flowers of *Miltonia Roezli* since midsummer, but the plants are never taken out of the warmest house. In this respect it is far superior to the allied *M. vexillaria*, which generally flowers in May and June, and no flowers are seen of it at this season. We have a solitary spike in our collection, but the flowers fade so soon after being cut from the plants, that they are not worth anything for room decoration; whereas *M. Roezli* has very sweet-scented flowers, reminding one of some *Roses*. They are not only more beautiful as cut flowers, but last well in a cool room. The deciduous *Calanthes* of the vestita type are now pushing up very strong spikes, because of the judicious waterings with weak liquid manure, and what a useful class of plants these are! During recent years the garden hybrids have been introduced plentifully. In the early years of my garden experience *C. vestita* in three forms was grown—the original species with a yellow blotch on the lip, one with a red-purple blotch, and the pure white form grown as *Turneri*, which was always later to flower. *C. Veitchi* created quite a sensation when it came out. These are all grown now, with the addition of *C. Regnieri* and many exquisite garden varieties, some with large pure white flowers with long spikes like *C. Veitchi*, others with rose, rosy blush, and rose-carmine flowers. The best are *C. Aurora*, *C. Barkeriana*, *C. bella*, *C. Halli*, *C. lentiginosa*, *C. porphyrea*, *C. Sandhurstiana*, *C. Sedeni*, &c.; they carry the flowering period well into the spring. The plants are kept in the warmest house until the spikes have grown up so far that the first flowers are opened. When they are arranged in the *Cattleya* house they come into flower in succession, and last long in beauty either on the plants or cut and used for room decoration. I have known spikes of these *Calanthes* remain in good condition in a cut state for two weeks. A few *Cattleyas* are in bloom to give brightness to this house, and from henceforth there need not be any lack of flowers. *Lælia autumnalis* has an excellent effect at a little distance; the flowers have a disagreeable smell when too nigh. *L. albidia* is, I think, even prettier. *Cattleya Bowringiana* and *C. labiata* in variety are also making a good display of their rich purplish crimson flowers. The *Barkerias* when well managed, which is not often, are charming at this season; the plants grown on blocks or in teak baskets and placed near the glass roof. The little *Pleiones*, too, in their modest beauty seem to please everybody. The leaves are gone, of course, before the flowers open, but we arrange the flower-pots or shallow garden pans containing the plants amongst nice plants of Maiden-hair Ferns, and the effect is very good. We have now in flower *P. maculata*, *P. Wallichiana*, and *P. lagenaria*. An important point in the culture of these plants is this: Even before the flowers pass away roots are



pushing out, and as soon as the flowers are removed report for next year. They need only be repotted once in two years. If the flowers are wanted do not cut them, but gently pull them out of their sockets. J. DOUGLAS.

### PLANT HOUSES.

**STOVES — PLANTS GOING OUT OF FLOWER.** — Many of these, if not partially pruned or tied into closer compass, will occupy more room than it is desirable that they should do from now onwards through the winter months. Some, in order to overcome this difficulty, remove their plants to other houses where probably the temperature is not sufficiently high to preserve them in safety. Many have found out their mistake in respect to this after their plants have come to grief, being either killed outright or so weakened as to require a season wherein to recover themselves. This is notably the case when dealing with *Clerodendron Balfourianum*, *C. splendens*, and *C. fallax*, also with *Allamandas*, *Vincas*, and *Rondeletias*. The better way to overcome the difficulty of storing these and kindred plants when resting or partially so is to place them together in a heated pit where a temperature in the coldest weather of at least 55° as a minimum can be maintained; a lower temperature than this is not safe. This description of plant whilst at rest will not require much water. Now and then a little should be given to save the wood from suffering through the main roots getting too dry. In this manner the stove house itself can be more particularly devoted to plants now in season or those which are of permanent interest. Thus the house can be made far more effective, whilst the others not requiring much water are just as well in pits, to say nothing of the advantage as to tidiness.

*Allamandas* on trellises will mostly be over now as regards flower; the weakly wood may be thinned out of these and the stronger shoots shortened, then the remainder can be tied into much closer compass. *Stephanotis floribunda* should merely have the weakly tips nipped off and barren-looking wood cut away, and then be treated like the *Allamandas*. *Bougainvilleas* may have the same treatment as the *Allamandas*, saving, however, a good length of the stronger wood; this refers more particularly to *B. glabra*. The stove *Vincas* will have proved useful for cutting from; hardly any further use of the knife in their case will be needed. Take care, however, to remove all decaying leaves, otherwise these will affect the wood and cause that also to decay. These plants would no doubt be grown more if they were but managed more carefully in the winter season. *Rondeletias* will only require thinning out of the weakly wood. Climbing *Clerodendrons* require the same treatment, preserving the strong wood; bush *Clerodendrons* may be about half pruned. The varieties of *Hibiscus* also take up too much room; these also should be pruned, and then be treated as advised for *Allamandas* and other plants mentioned. If they happen to be too tall to stand upright in a pit, they can be laid on their sides. The shrubby *Begonias* should not now be allowed to take up too much space; partial pruning is advised where past their flowering stage; most of these will be safe in a temperate house of about 50° minimum when kept dry at the root.

Of plants which it is more advisable to retain in the stove, so that they can be the more closely inspected, are the *Ixoras*, which should be treated as Evergreens and not as deciduous stove plants. They do not, it is true, require nearly so much water from now onwards; but if kept, on the other hand, too dry, they will suffer considerably, falling an easier prey to thrips. For my own part, I prefer to continue the use of the syringe all the winter through upon *Ixoras* and other evergreen plants, as *Gardenias*, *Francisceas*, *Medinillas*, and the *Stephanotis*, where it retains its foliage to any extent. *Dipladenias*, even if kept without water, will retain a fair amount of foliage. The extreme of excessive dryness is not, however, commendable, although it is much safer to err on this side than to allow the least possible excess. By

continuing to ply the syringe, watering at the root is, to some extent at least, obviated, particularly in the case of plants in large pots. This is the season when evergreen stove plants should undergo a thorough cleansing. If passed over now and young growth again commences with insect pests rife, more trouble is in store for another season. A close investigation now, followed by another before the end of the year, will greatly help to set matters right.

Climbing plants upon the roof should not now be allowed to obstruct the light from plants underneath. By a moderate thinning out, this can be done without any detriment to the climbers themselves. Scrubby-looking or useless plants should not on any account be retained. It is far better to grow on young plants year by year than to place too much reliance on older ones, which may in their prime have done good service; pensioners, however, in the form of plants, cannot be recommended in the slightest degree. Where the room is all too limited, those plants which yield the least return should, if not quite done away with, be at least not kept in duplicate. Again, too many plants of one given kind, whilst they may for a time give a good display, will afterwards leave to some extent a blank. This, too, also leads to overcrowding, which is bad enough at any time of the year, but infinitely more so during the winter, with less of light to impart vigour to them. It may happen that too many plants have been propagated and grown on; then, not being desirous to throw any aside, they are packed together in some fashion, suffering consequently thereby with more labour expended in doing it than in growing a less number of plants in a healthy state. In some cases plants will have far exceeded the size which it is advisable to have them; thus they occupy too much room, at the same time detracting from the merits of others. Rather than let this continue, it is better to dispose of them in one way or another, scope being thereby given for variety in the arrangements. This latter subject is one which should receive more attention than it often does; fresh interest is thereby created in the contents of the house; whereas, if one line is always followed, the inference is that there is nothing fresh to see. J. HUDSON.

## KITCHEN GARDEN.

### CUCUMBERS IN WINTER.

In some establishments Cucumbers must be had during the winter, and in unsuitable houses it is difficult to maintain the plants in a free fruiting healthy state. I know of no better system than pot culture, as there is less fear of canker, and the plants may be grown as near the light as possible without the danger of sinking of the bed, as is the case with plants planted out. Growers who furnish the markets with these fruits are often better able to grow them than gardeners with large airy houses often badly heated. I have tried both systems and prefer pot culture, but even then care must be taken not to over-crop at the start so as to unduly strain the plants. If allowed to carry a heavy crop they are often permanently injured at the start, becoming a ready prey to insect pests. I do not think the variety is of so much consequence as keeping the plants in a healthy condition, but I would certainly advise a medium growing kind, as a large kind is not so useful. Telegraph and Syon House are difficult to beat for winter cropping, and if raised from seed in August and placed in their fruiting pots the following month, the plants will now be strong for winter work. At this date this note refers to cropping more than the early preparation of the plants, as so many plants are crippled at the start by allowing the first lot of fruits to mature, when all the energies of the

plants should be devoted to furnishing the house with good healthy foliage. For winter I prefer 16-inch or 18-inch pots, and if these stand on inverted pots or bricks there is free drainage and no sinking, this latter often causing injury to the plants trained to the trellis when manure is the heating agency. Some fresh warm litter can frequently be added to the bed the pots are plunged in when pots are used, and this system is most serviceable, as the atmosphere is charged with ammonia and a steady heat to encourage new roots is kept up. The tops of the pots may be surfaced with good turf round the rims and a rich top-dressing given every two or three weeks. By thus getting new roots from the stem canker is less troublesome, and a short sturdy growth is secured. It is wonderful what crops Cucumbers grown in this way will produce, and it may often be accomplished in pots where a bed could not be utilised. Good crops can be had from plants grown on shelves if the roots are not soddened or exposed to a strong heat from hot-water pipes. Plants may also be secured from cuttings struck on a good kind early in August and potted on, but the plants from autumn sowings give such good returns that few plants are raised from cuttings.

It is also important to grow the plants as hard as possible for winter use, that is, not to keep too high a temperature at the start, as often in severe weather the plants suffer if kept very warm at the beginning. I consider 70° quite sufficient for young plants, and 5° to 10° higher during the day by sun heat, airing carefully. The night temperature should be 65° to 70°, and on cold nights the minimum temperature will be a safe one. Much may be done to maintain a steady heat without driving the fire by covering the outside of the glass with mats or dressed canvas. By keeping a low temperature at this time of year the plants start off into fresh growth early in the year, when 5° to 10° more heat is given, and with liberal top-dressings plenty of fruit will be secured in February and March from the new growths. The plants should through the autumn be regularly stopped. Every means should be taken to get the bottom of the trellis furnished and to keep a lot of bearing wood at the base, as there is no difficulty in getting a free growth at the top of the trellis. For winter Cucumbers I prefer to begin pinching back at the first joint as the laterals form, and to follow the same course as these increase. By this means a mass of strong healthy foliage is secured. When left too long in the winter they do not do so well, as the shoots all push to the top of the trellis. Feeding is essential to success, and this may be done with liquid manures or a good fertiliser. When liquid is given it should be in a tepid state. Care must be taken not to over-heat the pipes. Stable litter to which has been added plenty of fresh leaves is a sweet heating material. This should be placed in a heap to ferment before placing indoors. Good light fibrous loam with some decayed manure should be employed for surface dressings, adding a small quantity of bone-meal. Even fresh droppings may be used for top-dressing early in the year. G. WYTHES.

**Beets.** — Those who purchase seeds, especially of vegetables, not unfrequently have to complain of the imperfect nature of the stocks from which these seeds are saved, but, on the whole, there seems to be a great deal more reason to be pleased with the high quality found than to be displeased with indifferent quality. Beets present admirable evidence of the care shown in securing the finest and purest stocks. Happily, these roots have little tendency to degenerate or vary, except when grown



for seed-production in too close alliance. There ought now never to be seen a bad or irregular breadth of Beetroots. Those who have been privileged to look over any extensive seed trial grounds have had ample reason to be pleased with the care shown to have stocks pure and up to the standard. When I was in the gardens at Longford Castle Mr. Ward showed me his stock of Pine-apple Beet, one of the most perfect to be found, but then he grows no other. At Sherborne Castle Mr. Pragnell had his old selection of Pragnell's Exhibition Beet in perfect form, and it is one of the very best. At Reading recently I saw a stock of the Blood Red, the most perfect form of the Dell's Crimson type I have seen. At Bedford I saw a capital pure stock of Cheltenham Green-top, and all devoid of coarseness of growth. These four varieties probably can hardly be excelled for general excellence, whether for ordinary garden culture and use or for exhibition. We must not omit reference to the Turnip-rooted, of which there is a fine deep-coloured selection also, though it may sometimes happen that soils affect the texture and colour of this section, as at many summer shows when judging Beets I found roots externally handsome that had coarse pale flesh, and others that had flesh the colour of a Mulberry and of fine texture. Beets often suffer by being sown too early, and very often coarse roots and leafage follow from what are otherwise good strains. It is better to sow towards the end of April or even early in May than at an earlier date. The soil should not be too rich, for no one wants big roots, but those which are smooth, even, and handsome.—A. D.

#### TOMATO ROOTS DISEASED.

HEREWITH please find diseased root of Tomato brought in by a customer who states he has a house full of same, this being a fair specimen. He has manured them with ordinary stable manure, and till now had not noticed anything the matter with them. Can you explain what is the matter with them? We may add that the plants have borne a medium crop in spite of the disease affecting them.—HUBERT & MAUGER, *Guernsey*.

\* \* This is one of the worst cases of Tomato roots being rendered useless that has ever come under my notice, and it is most surprising that the grower should have obtained a medium crop from such crippled plants. The roots were badly swollen, many of them being near the thickness of a man's little finger, and all in various stages of decay. I had no doubt as to the cause of all this mischief, and found, as I fully expected, numerous tiny eel-worms (*Anguillule*) in an active state, and also many transparent eggs from which other eel-worms would shortly have emerged. These insects, when seen with the aid of an ordinary pocket lens, have a marked resemblance to an eel about the head, and wriggle about in a similar manner to eels when exposed. It is their operations inside the roots that cause the abnormal swelling and a complete check to the functions of the roots. As a rule, badly affected plants flag in the sunshine and soon collapse, and it is most astonishing that the Guernsey grower's plants did not do so. It may be they were largely supported by the salt-laden atmosphere of that island, and the rich food supplied them may have also caused the formation of many fresh roots. Once the roots are attacked there is no remedy, as the worms cannot be got at without also destroying the roots. Shading during the hottest part of the day and causing the plants to strike root in a rich top-dressing have in some cases prolonged their life long enough to mature a moderately good crop, but I have also known instances of complete failure. These troublesome pests appear to be introduced into the soil by means of decayed or decaying animal manure, and the less of this there is used in the compost mixed for Tomatoes, the greater the likelihood of the avoidance of any attack from eel-worms. Where the latter have been present this season, the precaution should be taken of clearing out all the soil, and none of it should be used again unless previously charred. Nothing like virgin loam for

Tomatoes. I ought, perhaps, to add that I found numbers of small millipedes in the decaying roots, but these were not the cause of the trouble.—W. I.

#### THE POTATO CROP.

I WAS glad to see in THE GARDEN prominent notice of that most excellent of the Hebron type of Potato Duke of Albany. It may not be suitable for all soils, but in anything approaching our West Surrey sandy loam it is the *beau ideal* of a Potato either for the mansion or cottage garden. A grand cropper, the average per acre for several years past would be between 10 and 11 tons, with very few small sets. It is excellent for table, and specially valuable for its earliness. I planted it side by side with good types of Ashleaf for two seasons, and it finished quite as quickly and was ready for lifting almost before disease had made its appearance. Besides the above, the sorts grown in quantity this year were Sutton's Seedling, White Elephant (the true white type), and my special favourite for late work, the Bruce. The Elephant is a tremendous cropper, but rather too coarse, and gave a much larger percentage of diseased tubers than either of the other three varieties. Having to supply a continuous and large demand, and not a great amount of ground to do it with, I am always inclined rather to hold fast by established favourites than to try new varieties, and see no reason for planting next year anything but plenty of Duke of Albany and the Bruce, although one or two of those on trial this year at Chiswick, notably Boston Q. Q. and the Canon, were of such all round excellence, that I am tempted to grow a few of each. Writing of the Chiswick trial reminds me to ask, what of Bouillie Bordelaise? Those who send Potatoes to the Gardens for trial are doubtless, as a rule, anxious that everything possible should be done to secure a good crop of sound tubers. In the face of the statement that a very large proportion of tubers in the above trial were diseased, it would be interesting to know if the new remedy was tried, and, if so, the proportion used at each spraying, and at what stage or stages in the growth of the Potato the mixture was applied. Personally I am inclined to think that freedom from disease is not likely to rest so much with any bother about mixtures, double earthing, or anything of this description, as in the planting of those varieties which combine the useful qualities of good keeping and doing their work so quickly as to be ready for lifting before the disease makes any headway. It is the combination of those qualities that tends to make Potatoes of the type of Duke of Albany and Puritan so valuable. What one would ask of the hybridiser in the way of new sorts would be the earliness and cropping properties of the above combined with a dwarfier and more compact haulm and a more even and regular tuber. From the latter standpoint many of the varieties on trial at Chiswick left nothing to be desired; they were a beautifully level, even sample, but then they were so diseased that no just criterion could be formed as to their merits.

Claremont.

E. BURRELL.

**Disease-resisting Potatoes.**—A late removal caused me to plant a patch of Potatoes in the first week of July. Of course no proper seed could be got at so late a season, so I put in some sort out of a shop such as I could get. It turned out a kind of hard yellow second-rate kidney, mixed with just a few of a better kidney or half kidney variety. I also was much taken with some pretty shaped roots, of which boxes were coming from Malta along with the Channel Island earlies. These Maltese Potatoes were all sprouted for some unknown reason. This it was which suggested the idea of planting them. All grew alike and came on well, and five weeks after planting there were Potatoes. These Potatoes grew for three more weeks, when the wet first week of September came, and the disease along with it all over the patch in one night, and then the interesting fact

was apparent that a certain small number, all one sort, had resisted and stood up like veterans in the field. On digging them it appeared that the hard, inferior kidney forming the main bulk had all taken the disease; there was hardly a root free. But these others, somewhat like Beauty of Hebron, but with a stronger haulm, were quite bright and free, bearing double the crop and all clean. The Maltese Potatoes were not ready until now (October 14) and they were perfectly free, and without exception made good tubers. Thus there are varieties which really resist the disease. Of course next year I can try these two sorts again, and I shall probably also send a few to be tried on the chalk soil of Kent.—A. D., *Godalming*.

#### PROTECTION OF EARLY BROCCOLI.

QUANTITIES of early Broccoli are annually planted for use during the closing months of the year. In some seasons good heads may be cut from the open until quite the end of November or even later, but the weather is so uncertain, that if means are not taken to give some protection, a single night's frost may spoil heads sufficient to have lasted for several weeks. About now I take the precaution to place leaves taken from others which are cut over those heads which are forming. This, however, is not enough now that the season is so advanced, for oftentimes during the early days of November, frosts of such severity are apt to come upon us and spoil the whole crop if left exposed, whether heads have formed or not. To a certain extent, of course, it depends upon the means at command as to what protection may be afforded. If we could ensure the weather keeping open, it is much better to allow the heads to form to a fair size before removing them, as, of course, the re-lifting will check them. Now that the heads of the latest plants are already formed, they will be sure to grow to a size suitable for use if care is taken in the removal. Planting them in deep brick pits, on floors of vineries and Peach houses, or even in a narrow border at the base of a wall in the open air, where they may be covered with mats, &c., answers very well. It is not all vineries or Peach houses, however, that are adapted for protecting Broccoli, or, at least, it is not wise to avail one's self of their use, that is, where the floor is mainly taken up with borders for the roots of the Vines or Peach trees. But otherwise these structures are admirably adapted for affording protection to those plants where the heads are not very far advanced, as here, with some fairly rich soil for the roots to work in, and this kept sufficiently moist to afford support to the plants, the heads grow to a size large enough to be appreciated. Fairly deep brick pits are the most suitable, as in these there is sufficient depth to accommodate the plants. They may be planted in thickly, it being more a matter of protection, or rather preservation, taking care, however, to protect them sufficiently in frosty weather, as with the least touch of frost the heads would become discoloured or, in fact, spoiled. It is also advisable to keep them wholly covered in frosty weather, as at these times, as a rule, the sun shines brightly for a few hours, this quickly having the effect of turning the curds to a dirty white. In the case of those plants where the heads are not sufficiently developed, wholly or even partially divesting them of their leaves would stop their growth; therefore the main leaves must be preserved. These plants must be taken up carefully with a portion of soil attached to the roots, as if wholly divested of this, the plants would wither and be afterwards



useless. Wherever the plants are to be stood, sufficient fairly rich soil must be placed beforehand, as if at all dry and poor the plants would fail to root, as obviously nutriment is necessary for the support of the plants to enable them to develop the embryo heads. In planting, press the soil well about the roots, and although it is necessary to place the plants rather thickly, yet not sufficiently so to prevent a circulation of air and direct light. After planting, and on a fine day, give a thorough watering, taking care not to pour it on the heads, or rather over the foliage, also taking the precaution to apply it early in the day. By affording ventilation on all favourable occasions and also giving sufficient protection in case of severe frost, useful heads will be forthcoming for a lengthened period, or at least for special

#### THE TREE OR BULB-BEARING ONION.

FORMERLY this curious plant, which is generally regarded as a viviparous variety of our common Onion, was much grown for pickling. Introduced from Canada about three-quarters of a century ago, it was at one time much cultivated though now mainly as a curiosity. How it is that the stalks instead of producing a ball-like inflorescence that develops seed does nothing of the kind, but, instead, a cluster of bulblets, is a matter no doubt of a puzzling character. Thirty years ago an attempt was made to encourage a larger area of cultivation, and it succeeded for a time; but it was, perhaps, not found so profitable as was predicted. But that it is of great value for pickling there can be no doubt. The small bulbs should be scalded and cleansed of their skins, then put into glass jars with plenty of spices, the jars filled up with vinegar, and placed in an oven

ported and kept from being blown about by the wind. Treated in this way the produce is heavy, and it is found a valuable plant to grow. It is a good plan to have a single row along the side of a piece of ground, and by placing a few stakes a yard apart along by the side of the Onions and tying some string from one to the other, the stalks can be made secure and safe from damage. The Tree Onion is also known as the Egyptian or bulb-bearing Onion. R. D.

### ORCHARD AND FRUIT GARDEN.

#### BUSH FRUIT TREES.

THERE are many ways of growing fruit trees, and as the planting season is now with us, it is a fitting time to call attention to the advantages of the bush method of training now largely on the increase. It would be absurd, however, to lay down any hard and fast rules, as it is not in every garden that bush trees can be grown successfully. A good example of the bush training of Apple trees may be seen in the Royal Horticultural Society's Garden at Chiswick. On these trees we have seen this year some of the finest fruits it is possible to have. There is also the great advantage in bush trees that there is no necessity for ladders and very little occasion for pruning, as the heavy crops prevent too luxuriant growth. The main point is to attend to the trees while carrying their crop, at this time feeding them well, and seeing that the branches do not snap off with the heavy crop of fruit. An amateur in Kent, who grew the tree from which our illustration was made, thus describes his mode of culture:—

Two years since I took possession of my present dwelling, situated on the crest of a gravelly hill of no great elevation. The back faces south, and from it slopes a narrow strip of garden 150 feet by 20 feet. Two-thirds of the lower portion, which only produced a luxuriant crop of weeds, I have converted into a miniature orchard of dwarf fruit trees—viz., pyramid and bush Pear, Plum, and Apple. The soil is a shallow stony loam, in no part exceeding 18 inches in depth, with gravel subsoil resting on sand, below which is chalk. In selecting my trees, I was careful to choose such as were of sturdy, close habit of growth, well furnished with fruit-buds, and, so far as could be ascertained, best adapted for the locality. My neighbours unanimously agreed that in so dry and poor a soil nothing could be successfully grown save weeds. In no way discouraged, I had the ground well dug and my trees, fifty in number, planted from 4 feet to 6 feet apart, according to their habit and growth. Before planting, all injured roots were trimmed off and gross ones shortened back, care being taken not to plant them too deeply, and to see that the roots were well spread out before filling in the pits. The trees were securely staked and liberally mulched with rotten farmyard manure, with the twofold object of supplying nourishment and affording protection from frost. Every tree was well watered when planted, a top-dressing of manure lightly forked into the ground between, then left undisturbed till the ensuing spring. All blossomed freely, some of the more robust being allowed to set and mature a little fruit. The old mulching was replaced by fresh, the former being spread over the soil and lightly forked in as before. With the advance of summer the little plantation made healthy and vigorous growth, which was easily kept within bounds by timely pinching. Weeds were kept under with the hoe, and during exceptionally dry weather water was freely given once, and in a few cases twice a week. By the close of autumn the trees were abundantly supplied with stout spurs well furnished with fruit-buds. They were again mulched as in the spring. What slight pruning was requisite was done in winter when the weather



A bush Pear tree (Duchesse d'Angoulême).

occasions, as anything like a full supply could not be expected, especially as positions for wintering Broccoli under glass in large quantities are rarely, if ever found in any garden. Broccoli may also be protected sufficiently in the open air, and although it is not like a glass roof, yet if carefully taken up and planted rather thickly on a narrow sheltered border and there further protected with mats and any additional covering which may be needed, useful produce may be secured. I once wintered a lot in the open air in the severe winter of 1879 and 1880 by taking up the plants and placing them in a narrow border at the back of a heated lean-to pit. A slight warmth came through the wall, and by covering with mats useful heads formed until the end of January. A. Y. A.

heated only to the degree that they be thoroughly heated through, but not to boiling point.

The Tree Onion is an accommodating plant, doing well in any soil rich or poor. Anyone growing it and having a crop of bulblets to plant out is independent of seed-sowing; indeed, this plant does not produce seeds. The ground to be planted should be well dug, liberally manured, and trodden firm. It is best to plant the largest-sized bulblets; those are an inch or so in diameter. Lines should be drawn and the bulbs be about 9 inches apart each way, the bulbs be pressed firmly into the ground, and then covered with 3 inches or 4 inches of charred rubbish, turf, light rich soil, or sandy road-crapings; a mixture of these is best. Like the ordinary Onion, good soakings of water should be given in dry weather. The stalks should be sup-



was favourable. Hardy Plums, especially Victoria, have also done well, but the Gage varieties indifferently as to quantity, though above the average in size and quality.

#### TOP-DRESSING FRUIT TREES AND BUSHES.

THIS work is often left undone owing to a variety of circumstances, want of suitable materials being one great difficulty. In country districts where loam can be had at small cost the trees would often be greatly benefited by the addition of new loam without a great quantity of manure. Of course, manure when obtainable for surface-dressing is invaluable, but there are gardens where it cannot be obtained in quantity, so that resource must be had to other materials to assist in retaining the roots on the surface and feeding them. I once had some very old trees of Pears that were given a good surface-dressing every two years with good loam to which was added a fair portion of a good fertiliser, and these trees produced wonderful crops. Apricots and Cherries are much benefited by an annual dressing of good loam to which has been added some bone-meal; in heavy soils such well-known materials as burnt garden refuse, mortar rubble, and wood ashes are excellent fertilisers and greatly encourage surface-rooting. I have a great liking for autumn surface-dressing of fruit trees and bushes. I include bushes because such trees as Currants and Gooseberries require food quite as much as other fruits, and if placed on the surface early in the spring with a season of drought or dry easterly winds, the surface food is dried up and does not do as much good as when it is washed into the soil by winter rains. In the case of bush fruits infested with caterpillar I have found autumn manuring beneficial, as if the loose surface soil is raked away and burnt to destroy insect pests and a top-dressing of manure placed over the surface, there are a vigorous growth in the spring and few caterpillars. Top-dressing wet borders with a north aspect may not be always the best system. In these cases much would depend upon the state of the soil and if drainage was efficient; also if the soil was light or heavy. If the last named, I would prefer top-dressing in the spring. For shallow or surface-rooting trees in light soils, I advise top-dressing in the autumn giving another dressing in May to act as a mulch and to feed and assist in swelling up the fruit. Some may think two dressings yearly unnecessary, but in poor light soils they are absolutely necessary. If it is not intended to root-prune or remove fruit trees of any kind and growth is bad, a top-dressing will often do much good, especially when good loam is employed. Pyramid trees that are large and in the summer months much covered with leaves would often be benefited by a rich top-dressing applied now, presuming the roots are in a proper state to benefit by the new soil or manure. If root-pruning has been tried and the fruits are not so good as expected, richer soil and manures are needed, and I think no plan is better than to apply them on the surface. Raspberries on light soils are often in need of assistance, and to get first-rate fruit it is necessary to apply heavy top-dressings of manure at this season. When top-dressing impoverished borders it is well to remove a large portion of the old surface soil, preserving the roots carefully, and spreading out in the new compost. After the new material has been made firm it is well to give the roots a covering of short litter. This will greatly assist new roots to push into the new soil.

G. WYTHES.

**Keeping qualities of Plums.**—Everyone will agree that a long and continued supply of Plums is most valuable. In a season like the present one, when there are, comparatively speaking, no Pears, dessert Plums are doubly valuable. It is true Plums were not abundant in many places; consequently where there were only a few kinds that would keep a long time they proved useful, as there is no denying the fact that some kinds will keep much better than others. This year I had

but few Plums on the open walls; consequently I was obliged to use great caution in using them, so as to keep up the supply as long as possible. Everyone who has had much to do with Plums must have noticed that they, like most other kinds of fruit, vary in the thickness of their skins. It is those kinds that have thick, tough skins that keep the best. During this autumn I found that Victorias would not keep half as long after being gathered as Jefferson, although they were gathered equally ripe. Notice what a bad keeper Pond's Seedling is. Magnum Bonum is not good and many others I could name. Compare the above with such kinds as Golden Drop, Ickworth Impératrice, Reine Claude de Bayay, and many other equally good kinds. I have kept the two former kinds from four to five weeks on dry shelves, and at the end they were none the worse.—J. C. F.

#### EARLY GRAPES FROM POT VINES.

CONSIDERING the vast quantities of pot Vines produced by the trade annually, besides those in private gardens, it is evident that they are still relied on for the earliest supply of Grapes, and they are certainly to be preferred for this purpose where Grapes are required from the latter part of April until the middle of May. The most is not made of them, however, and it will depend upon the subsequent treatment whether they will prove worthy of the trouble bestowed upon them. To grow good Grapes from pot Vines requires very close attention, at least as regards supplying them with food. The roots are confined to a small space, and the Grapes as well as the foliage will very quickly feel the want of moisture, though during the early stages watering can easily be overdone. In fact, over-watering in the early stages, or before fresh roots are formed, is very apt to cause the roots to decay, and is perhaps the primary cause of many failures. The best structures for early forcing are snug lean-to's, or span roofs well exposed to the sun, or such as are used for Melon and Cucumber growing. These being well heated, a suitable temperature is easily maintained by night as well as by day. We must make due allowance for cold weather, when the wisest course is to allow the temperature to fall a few degrees rather than to try to maintain it to a set degree by over heating the pipes, yet when forcing as it were against time, the temperature should not be allowed to drop too low. The day temperature, when it is not being raised by sun-heat, should be well advanced or up to the set degree by 9 a.m. Therefore, right throughout the forcing operations the above details must be taken into account. The question of bottom-heat must also have due consideration. That good Grapes may be grown without such assistance there cannot be any doubt, but it assists in a regular break of the buds and helps the Vines through the early stages by keeping the roots on the move. Later on in the season or from the turn of Christmas it is not so much needed, and should be very slightly applied, if at all. Some of the best pot Vines I ever grew were standing over hot-water pipes, not directly on them, but on an ordinary cutting box, filled with rough turfy loam intermixed with a little charcoal and old lime rubbish, into which the roots worked. But where the Vines are to be started throughout November and December, a little bottom-heat through the aid of Oak or Beech leaves will prove of great assistance, being much better than that derived from hot-water pipes covered with a plunging medium. Another advantage of a little bottom-heat when derived from leaves is that the soil is kept in a more equable state of moisture without frequent deluging of the

soil, which has the effect of causing the roots to decay. Watering requires the closest attention. In preparing the Vines for forcing, if not shortened two or three weeks beforehand where necessary to fit the trellis, no cutting back should be done as the Vines are put in to force, or the result may be a bad attack of bleeding, a state of things which cannot but be injurious to the Vines in the dull days of winter, when the buds are longer in starting than at the turn of the year. If it should be found necessary to curtail their length, let it be by disbudding after the buds have started. The leaves to supply bottom-heat would have to be confined in a pit, and as these would be found to settle down in time, however firm they may have been trodden in, the pots if stood on the leaves would settle down as the leaves ferment; therefore, some means must be adopted for keeping the pots in position. This is managed by building up pedestals with loose bricks for each pot to stand on, with a good turf placed upon the top which the roots of the Vine would penetrate. It would be found necessary to enlarge the drainage holes for the free passage of water as well as for the egress for the roots. Any loose soil should also be pricked out from amongst the surface-roots and replaced with a little fresh loam and some artificial manure, pressing it down firmly. The Vine should now be placed in position, giving the canes a rounded position or incline so as to ensure the back buds starting. The leaves should now be placed in the pit, pressing them in firmly and about half-way up the pots. A watering of tepid water given through a can with a rose will moisten the soil sufficiently for a start. No more should be given until the soil actually needs it, as the moisture arising from the leaves with the syringing overhead twice a day will keep the soil in a genial state for perhaps two or three weeks. A night temperature of 50° with the heat derived from the leaves around the roots will be sufficient until the buds commence to swell, when an extra 5° may be allowed, and as the shoots lengthen increase to 60° or even 65°.

With all the buds starting there would obviously be too many shoots, and these would have to be reduced—not by removing them, but by pinching every alternate one to three leaves. This will be much better than rubbing them off altogether, as that would check the swelling of the canes, while by retaining them, or rather pinching them to three leaves, the Vines are greatly assisted. The after-stopping of the shoots, also the sub-laterals, is familiar to all who have had experience of Vine culture. I will only dwell on the desirability of maintaining the temperatures as before mentioned early in the day, that is where forcing has to be carried out against time, as failure or neglect in this respect would cause the ripening of the fruit to be much behind the time intended.

The application of water and also feeding may need notice, as on these depends the degree of perfection the fruit will eventually attain. As my Vines are partially plunged in leaves, the supply of water is lessened at the time when the Vines are first started, and as root-action with Grape Vines does not commence until the growing shoots are somewhat advanced, it shows bad treatment to keep the soil in a saturated state when there are no growing roots to take up the moisture. Keeping the roots, as it were, slightly on the dry side will cause the ball of soil to be filled with small active feeders. The test of rapping with the knuckles is the best to go by, at least



during the first stages of the Vine's progress, as later on one can tell by the vigour of the Vine and also by remembering when water was last given. With pot Vines just started under my charge it has been three weeks before water was needful after the first watering, but later on, and while the crop was in full progress, I have found it necessary to water three times a day and even oftener on a drying day with the pots exposed over hot-water pipes. The least check when the Vines are in full progress and carrying a fair weight of Grapes will very quickly show its effects, as the pots are a mass of feeders and these must not be allowed to feel a check. As the vigour of the Vine increases, so will feeding become necessary, as something more than clear water will be needful to support them. The stimulants used should be varied. At one time Thomson's Vine manure should be given, at another Standen's manure, each to be alternated with clear liquid made from fresh cow manure and soot. That made from fresh horse droppings I do not care about. Liquid made from the best Peruvian guano is also a capital stimulant. One and all I have given to a set of pot Vines throughout a season. The fertilisers should be given weekly. The liquid should be in a perfectly clarified state, or the soil might become soured. When applying the fertilisers, wash them in with water through a rosed pot. Top-dressings will also prove of great assistance by keeping surface-feeders well on the work. Loam, cow manure rubbed through a sieve and intermixed with wood ashes and a sprinkling of Thomson's Vine manure, will suit the Vines well. It should be pressed upon the surface in a thin layer, with pieces of turf built around the sides to form space for the water. When pot Vines are treated in this way, the weight of crop they will produce is marvellous. Black Hamburgh, Foster's White Seedling, Madresfield Court, and Muscat of Alexandria are the best for growing in pots. Y. A. H.

**Cox's Orange Apple.**—According to my experience, this Apple always blooms well, but I find the flowers more tender than those of many kinds. This year some trees of Cox's Orange, King of Pippins, and Mannington's Pearmain were in bloom at the same time. Cox's were all destroyed, while the other two had fine crops. Some large trees in our orchard were in a sheltered spot. These were more forward and were all destroyed, while a third in a more exposed site, and consequently later, escaped, and produced a good crop of highly coloured fruit. The trees with me, both in orchard and in garden, were good healthy growers. This is, I think, the best dessert Apple grown. It does not bear well in an early state with me.—J. C. F.

#### CROPPING FRUIT TREE BORDERS.

THIS subject deserves much more attention than it frequently receives, and Mr. Wythes's note at p. 293 is well timed. It is to be regretted that in so many gardens the system of cropping fruit tree borders is compulsory. I venture to say that the majority of cultivators would be only too glad to give it up had they the chance. In these days, when there is an ever-increasing demand in most places for early vegetables and cut flowers, in not a few gardens those in charge are often put to their wit's end to know how to meet it. This most forcibly applies to small gardens, or where the garden is small in proportion to the establishment. I can speak from experience on this point, seeing the kitchen garden of which I have charge is very small in proportion to the demand made upon it. If I did not crop every inch of ground to the full extent, the supply would be a short one. In my case it would be out of the question to think of

allowing 3 feet at the foot of the trees to be uncropped. In this garden I have an Apricot border with south aspect, and the trees have a glass coping over them. This is the most sheltered border I have, and I am compelled to crop this in order to get choice vegetables. Early in the year I sow dwarf Peas at the foot of the trees; in front of these I grow early Potatoes, Cauliflowers, Beans, &c., in spring. When these are cleared off, I am obliged to sow dwarf Beans where the Peas grew, and Tomatoes are planted in every space between the trees where one can be trained.

At the present time (October 8) I am gathering a continued supply of dwarf Beans, and have a good crop of Tomatoes on these walls. I find this valuable, seeing our runner Beans and dwarfs in the open were all destroyed three weeks ago. To meet the demand of the roots for moisture, I deluge the border frequently with manure water during the summer-time. I do not attempt to dig close to the stems, but every winter I remove the greater portion of the top soil and add an equal quantity of fresh soil. I quite agree with Mr. Wythes as to the trees needing a lot of moisture. I believe the lack of moisture is the main cause of the roots going into the subsoil, and wherever cropping is resorted to, moisture and feeding should be applied accordingly.

Like Mr. Wythes, I do not think the trees last as long as they would could the borders be devoted to them and these borders be liberally treated to a mulching of manure and plenty of water through the growing time.

In dry soils the cropping of fruit tree borders is more detrimental than in heavy soils. Hard, non-cropped borders are well illustrated at Farnboro' Hill, Hants. The late Mr. D. McLaurin made walks over all the roots of the wall trees, and I have never seen better Pears, Peaches, Cherries (Morellos) than he used to grow in these gardens some twelve or thirteen years ago.—DORSET.

—My experience of this is decidedly against the practice of allowing vegetable crops to come within 4 feet at least of the wall against which fruit trees are growing, but of course there are some gardens which do not admit of so much space being given up to the fruit trees. Here this space has been held sacred for the fruit trees for at least ten years, and has not been broken up for that time, except when a new tree was planted; therefore, it can easily be guessed how hard it is about the Peach trees from constant treading on the soil in attending to the wants of the trees and the plants in front. It is not often one hears of the planting of Broccoli right up to the stems of the trees with the express purpose of robbing the trees of the richness of the soil, but such was my experience a fortnight ago in looking over an old-fashioned garden not far from Torquay, which contained the finest wall of young cordon trained Pear trees I ever saw. The soil is naturally well suited to tree growth, and in addition the borders had been heavily manured for the vegetable crop for some years; no doubt the result was that the trees had made extraordinary growth. In addition to the suggested root-pruning the trees are to receive this month, this crop of Broccoli was employed to impoverish the soil also, with what result I shall be curious to learn in a year or two.—E. MOLYNEUX.

**Ornamental Crab trees.**—Of late years more attention has been given to the raising of the above, and rightly so, for they are fine objects in a well-kept garden, invaluable for land-cape work, and not at all unprofitable, as some of the fruiting kinds make delicious preserves. When used for shrubberies they may often be kept in closer quarters by judicious pruning or spurring in, and when so treated they make lovely bushes, and as they usually fruit freely they are much admired. Some of the kinds are more drooping than others; these are useful as standard trees growing above the lower growing shrubs, their bright fruits making them very effective. In addition to their fruit and handsome appearance what is more beautiful in

May than their blooms, so that for the last good quality alone the trees should receive more attention. One of the best varieties I have seen of late is John Downie, with beautifully coloured yellow fruits flushed with crimson on the sunny side and produced freely in clusters. The Dartmouth, with deep crimson fruit, is also very handsome. Paul's Imperial Scarlet-fruited is very beautiful, whilst the Siberian varieties are very effective for growing as standards. Now is a good time to plant these trees in gardens to add to the beauty of the landscape in the spring and autumn.—G. WYTHES.

#### YELLOW-FLESHED NECTARINES.

OF the two sections of Nectarines, the white and yellow-fleshed, the latter are preferred by many people. The yellow-fleshed varieties are Humboldt, Pine-apple, Rivers' Orange, Pitmaston Orange, and Goldoni, all excellent and, when well developed, very handsome, as well as good in quality. Before commenting on their individual merits, I wish to draw attention to other characteristics connected with them, and amongst these their adaptability for cultivation against open walls. It has been said that yellow-fleshed Nectarines are not suited to this form of culture, but as grown in this garden I have a good opinion of them. It is remarkable, however, that the quality was best in the wet season of 1888 and the past one. In both the fruits swelled to a good size and were brilliant in colour, more so in this respect than in other seasons when there was far more sunshine. In quality they also were better than the white-fleshed. In 1888 the trees received plenty of water, and the roots were re-lifted two seasons ago, an operation which has left its mark—and this for the better—on all our Nectarines growing in the open. Yellow-fleshed Nectarines evidently require plenty of water. I have also noticed this particularly with trees growing under glass, as if these should lack a sufficiency of water, the fruits part from the trees before they have become fully developed; they also require to be ripened more gradually.

The first variety of this section was raised in Worcestershire, at Pitmaston House, Worcester, early in the present century. For the other varieties we are indebted to Mr. Rivers. Of these, Humboldt and Pine-apple are the best, Rivers' Orange partaking more of the appearance of its parent, Pitmaston Orange. Humboldt is really a splendid Nectarine, and well worthy of extended culture. With me the Pine-apple grows to a very large size, being good both indoors and in the open air. Goldoni I have not grown. All the yellow-fleshed Nectarines are handsome and realise a good price in the market. In this season of plenty, both the Pine-apple and Pitmaston Orange from open walls have realised sixpence apiece in the market. Being firm in the skin they carry well, as the fruits may be left on the trees until they are perfectly ripe. Nectarines if gathered before they are ripe are apt to be bitter. Y. A. H.

#### COLOUR IN FRUIT.

THAT some Apples colour well in one garden and fail in another is owing very much to some chemical action in the soil as well as to the difference in position and method of managing the trees. In the garden here, the soil of which is of a heavy retentive nature, but not actually clay, there is much chalk, owing to the fashion of "chalking" the land during the winter-time for agricultural crops. Chalk, I am told, contains 75 per cent. of lime. The mixing of lime with the soil in this manner may account for the high colour which all the sorts that are recognised as highly coloured invariably carry. In all cases the trees are managed on the extension system of pruning, which allows more light, air, sunshine, and wind to get to the fruit than any other method. Some sorts are hardly recognisable as compared with the washy coloured varieties of the same kind which we sometimes see. All sorts remarkable for high colour (as pointed out by Mr. Iggulden), colour here,



I may say safely, as well as it is possible, and some sorts which are not generally remarkable in that respect are exceptionally so. I allude now to Warner's King, Lane's Prince Albert, and Yorkshire Greening, for instance. The first is generally looked upon as a green Apple changing to yellow as it ripens, but we have had plenty of fruit which carried a bright cheek, so much so that some persons at first sight doubted its being Warner's King at all. Lane's is recognised as being at times striped with colour, but here at the present time we have fruit quite crimson on the side next the sun. I have not, however, been able to gather fruit of Lord Grosvenor or any Codlin with the faintest tinge of colour, even on the sunny side. Although I am of opinion that the soil has something to do with the manner in which certain Apples colour, I am also of opinion that along with the soil exposure must be combined. Fruit which has one half richly coloured and the remainder green or yellow, as the case may be, owing to that part being covered with a leaf fully proves this. It is not a case of soil alone, but a combination of circumstances. Another striking instance I had of this last year. A tree of Cellini growing against a wall had to be protected by netting from the birds. One Apple stood out more prominently than the others, the net lying quite on this particular fruit. This bore the exact shape of the meshes of the net in its skin colouring; where the net touched the colour was green, but elsewhere it was bright red. Whether double grafting has anything to do with the colouring I cannot say, but even with this addition it is hardly possible to have more highly coloured fruit of certain sorts than we have here without its aid.

E. MOLYNEUX.

#### ESPALIER FRUIT TREES.

THE branches of the espalier Apple tree which is noticed at p. 328 of THE GARDEN have now received their final shortening for the present year. Their respective lengths are as follows: The top branch is 2 feet 6½ inches long; second, 4 feet 10 inches; third, 5 feet 7 inches; fourth, 6 feet 4½ inches; fifth, 7 feet 3 inches; sixth, 8 feet 2½ inches; seventh, 11 feet 4 inches. The lower branches remain almost unaltered, and even the higher ones have not been much curtailed by the shortening process. The formation of fruit-buds varies somewhat in different species of Apples and Pears. In some these buds abound in the main branches, having been originally developed in the terminal shoots. In others they seem to prefer the lateral shoots, and that is why these shoots are shortened to about 4 inches, that any fruit found on them may be as near as possible to the main branch, and the length of 4 inches is chosen, because if made shorter they might lack the power of drawing to themselves a supply of sap sufficient to invigorate the buds that were formed on them, and as it is desirable that these should be kept in a dormant state, one of them, usually the terminal, is allowed to grow, and is itself stopped if it exceeds the length of 4 inches. This second stopping usually proves sufficient, and reducing their length to 2 inches at the winter pruning usually ensures the retention of at least one vigorous bud which may prove to be a fruit-bud; whereas, to leave it less than 2 inches might cause it to die, in which case it would have to be removed from the branch by a clean cut to prevent the branch from cankering. If it be objected that this universal and indiscriminate shortening might cause the possible removal of some fruit buds, I reply by saying that in the case of a rather young tree this would be an advantage, especially in the first or second year when a few fruit buds are found to be matured. Many years ago I planted a standard Dumelow's Seedling, and it was not until the third year after it had produced a few blossoms that I allowed any to remain on it, and I was then able to store more than a hundred Apples, the produce of this one tree. To grow an espalier to most advantage, the plan I recommend is this: About the beginning of November get a dwarf maiden tree well rooted and with plenty of top. Plant it if possible in the

place where you intend it to remain. Let it grow unrestrained the first year. At the commencement of the following year cut away all attenuated shoots no matter how conveniently they may be placed; leave only the stumps of the healthy, vigorous branches as points from which the permanent branches are to commence their growth, retaining those only which seem best suited for the purpose. It would prove an advantage if a little attention were given in the preceding year to the most promising branches to preserve them in the same plane and in the direction wanted. Keep a watchful eye over the tree during the month of June when the laterals are growing, for on their regulation the success in the years that follow will mainly depend.

It is obviously an advantage for all the branches of an espalier to start from the main stem at right angles to it, but this cannot always be done when it is desired that the tree should commence its growth with more than one pair of branches. The diagrams at page 328 will show why a curve was necessary in starting the branches immediately over the lowest.

B. S.

#### ORCHIDS.

##### ONCIDIUM VARICOSUM.

GAY sprays of this beautiful bright yellow-flowered kind come from C. Harold, and one flower is marked Rogersi, but to this name it has no right, and there are a great many plants in various collections in the same predicament. The true Rogersi is about the rarest variety of this the typical plant that I know of. The first plant I saw flowering in Messrs. Veitch's nursery, I think, in 1868, and the same plant was afterwards figured in "Select Orchidaceous Plants," ii., t. 31. A year or two ago I again saw the true plant in flower in the possession of Mr. Woodall, of Scarborough. When I was at the Messrs. Rollisson's at Tooting this plant was sent to us in great numbers, and many of them exactly resembled the variety Rogersi in growth, but none ever made their appearance in flower. Of the true Rogersi, larger-flowered varieties, it is true, came like the bloom marked and received from "C. H.," but this is not of the true kind. *Oncidium varicosum* first flowered in this country about forty years ago, and I suppose the plant was lost afterwards, for we heard little and saw less of it until about the time that the variety Rogersi first appeared in the collection of Dr. Rogers at East Grinstead. But since then it has come here from the province of San Paulo, in Brazil, in large quantities, and from this district also came the consignments of plants which were imported from time to time by the Messrs. Rollisson, of Tooting. It does not appear to be found in any other locality. I have heard it remarked that the plant does not last long in cultivation. Perhaps this is so, and may be the reason that it disappeared for so long after it was first brought to this country, but I think this is just a matter of treatment. In the early days of this plant we had nothing but steaming Orchid houses, just the places in which this plant would melt away like the snow before the sun; but now we have cooler places where Orchids from the mountains of Colombia and Ecuador thrive, and in such a structure should the *Oncidium varicosum* be placed, for I have found from experience that it does well under the same conditions as those in which the *Odontoglossum crispum* and *Oncidium crispum* thrive best. This latter plant was at one time most difficult to manage, but now it appears to be one that many amateurs and gardeners can be said to grow and flower annually. I think, however, that this and many

others that come from various parts of Brazil require more sun and light than the *Odontoglossums* do, and in such positions I have always placed them. They may be grown either in hanging baskets or in pots, but I prefer the baskets, as in these the plants can be suspended so that they are continually in the sunshine, and in a north house—the proper one for *Odontoglossums*—this will never be too powerful for them. Another system which used to be the prevailing fashion in wintering this class of plants was that of thoroughly resting them, by which many of the leaves and pseudo-bulbs were much weakened and shrivelled; so much so, that they never got over it. But now more sensible rules are followed, and it is found best to keep the plants cooler in the winter, which will allow them to remain quietly at rest, and to just give enough water to enable the bulbs and leaves to remain in a plump and healthy condition. In this manner the rest of Orchids is far better accomplished than by shrivelling them up. I do not say for a moment that in a state of nature many of the Orchids are not rested, dried, and shrivelled up beyond recovery, but this occurs to plants which lie exposed to the rigours of the dry season. A friend who resided in the Madras Hills, where *Aerides crispum* grows, told me that some little plants that grew on the bare rocks exposed to the full sun for half the day had very few leaves, but they used to flower in a marvellous way. Some plants of the same species which grew close to a cascade grew rapidly, some of them being 4 feet and 6 feet high. These had plenty of fine large leaves, but the plants never had a flower-spike on them, old or new. These plants succeeded in getting so much moisture during the dry season, that they kept growing and did not rest at all; hence, they never flowered. The same thing will occur with cultivated plants, with this difference, that if the plants are kept growing during the resting season, they are sure to be very weak from the lack of heat and light, and consequently the plants decrease in strength.

*O. VARICOSUM* is a robust growing plant, having deep green pseudo-bulbs, more or less tinged with black towards the upper part, which bear usually a pair of lanceolate leaves on the top; scape mostly erect, branching towards the upper part and many-flowered; the sepals and petals are small, pale yellow, spotted and barred with chestnut-brown; lip large, three-lobed, the side lobes small, but the anterior lobe large, of a rich golden-yellow, and deeply bilobed in front. It usually flowers at this season, and continues in bloom some two months if carefully managed.

*O. VARICOSUM ROGERSI*.—The name here used is applied to the true plant, and not to the plants which are usually to be found under this designation. It is similar in growth to the typical plant, but it is stronger and more robust; the scape is nodding, much-branched quite from the base, bearing in the case of the plant which I saw at Messrs. Veitch's nursery 170 flowers of a rich, clear golden-yellow, the small sepals and petals being dotted with reddish-brown, and the base of the lip transversely barred with reddish-brown. The peculiarity of the large front lobe, which is some 2 inches or 2½ inches across, is that it becomes four-lobed, through having three indentations in place of the one, as in the typical plant. I do not know if this feature is peculiar to the variety; if so, I must acknowledge that there are some very inferior types of the plant to be found in cultivation.

W. HUGH GOWER.

*Lælia crispa* (J. Whitehead).—The flowers you send are of a remarkably fine form of this plant, having a fine open lip, well coloured, and the white sepals and petals tinged with flesh colour.



But if you have purchased it for *Cattleya exoniensis*, you have been grossly swindled, for it has nothing in common with that plant, which was one of Mr. Dominy's best achievements in crossing Orchids. From the records of its parentage being lost, we are at a loss to know its real origin, but it is a magnificent flower; the scape is erect, bearing four or five large blooms, which have the sepals and petals white, tinged with blush, the latter prettily frilled and dentate on the margin; the lip is large, much frilled; the throat deep orange-yellow, and in front is a zone of white. The whole anterior part is of a deep, rich purplish-crimson, with a narrow white marginal border—a totally different flower from that received from you, which is not worth a twentieth part of the plant whose name it has usurped.—W. H. G.

**Cattleya Gaskelliana alba.**—"S. W." sends me a flower of the above variety, calling it a white labiata, which it undoubtedly is, but it is not a white form of the true labiata; the very fact of it having been in flower for a month is enough to condemn it. The true *C. labiata* always flowered with me at the end of November and during December, and I used to have a piece that was taken off Mr. Cattle's plant, so that I consider I know the true form. I have not seen a white variety yet. *C. Gaskelliana* was imported through Roezl and named by Mr. Sander, but it was not a new plant, as I had bought some large pieces of it under the name of the summer-flowering labiata some years before when travelling for Mr. B. S. Williams.—W. H. G.

**Lælia elegans Morreniana (J. Keeling)**—This is undoubtedly one of the finest of the dark forms of elegans. It is a curious feature of these dark-flowered forms that they bloom in autumn, whilst the varieties having white sepals and petals mostly flower in the spring months. In the flower before me, which measures upwards of 6 inches across, the sepals are of a rich rosy magenta, the side lobes white on the outside, inside of a rich glowing crimson, which is the colour of the large front lobe, with a marginal border of rosy lilac. These forms of *Lælia elegans* require to be potted in the same manner as the other *Cattleyas*, and they also like to be kept at the warmest end of the house.—W. H. G.

**Promenæa xanthina (C. Bryant).**—This appears to be your plant, so named by Lindley in 1843. I do not agree with those who seem to cast these little gems away by merging them into other genera to which they would appear to have but little affinity. There would seem to have been some little doubt in the minds of our great Orchid authorities about this plant. It was found by Gardner on the Organ Mountains in Brazil in 1837, and two years later was named by Lindley *Maxillaria xanthina*, which he afterwards changed to the name given above. Into this genus several very beautiful miniature plants came, all having a close affinity. *P. xanthina* in a year or two came to be called *citrina*, and so it continued to be known for many years, and under this name it has been figured. It does best upon a block of wood, as in this condition its roots do not become over-loaded with moisture. It should be grown in the cool house in the summer months, but during the autumn and winter it will require to be moved into a house with about 5° more heat, and here be allowed to rest. A similar plant with a dark blackish-purple lip which you say you have is doubtless one of the same genus, *P. stapelioides*, and it succeeds under the same treatment.—W. H. G.

#### SHORT NOTES.—ORCHIDS.

**Cattleya bicolor Measuresiana.**—"S. W." sends a very fine form of this old species, which I have no hesitation in saying is this variety. The flowers are large, each measuring about 4 inches across. The sepals and petals are broader than usual and of a rich bronzy green; the lip large and flat, deep rich purple, broadly bordered with white, serrated on the edge, the broad column being white tinged with purple.—G.

**Catasetum longifolium.**—This genus, which during the past few years has not been popular, is beginning to find fresh lovers. The plant figured represents a somewhat fine variety, which flowered in the Royal Gardens, Kew. This species, like all the other members of this genus, requires strong heat when growing, with an abundant supply of water to the roots and in the atmosphere, but when at rest it should be kept cool and dry.—*Orchid Album*, t. 456.

**Oncidium prætextum.**—"C. D." sends some good flowers of this plant, asking if it is *O. crispum*. It belongs to the same group of plants; indeed, it is found in the same region and is sent home with *O. crispum*. It is a very beautiful plant, and its flowers are valuable at the present time. This plant should be grown in the cool house in the summer-time, where, of course, it will be kept in a nice moist condition, and care must be taken that it never becomes dry.—G.

**Dendrobium Phalænopsis Schrœderianum.**—I am in receipt of sundry boxes containing flowers of this species and its variety; all are beautiful. There appears to be a good deal of variation in the colours of the flowers, yet very little in the size, none of the blooms now before me being exceptionally large. Having mixed the flowers from Scotland and Wales together, I am unable to distinguish them. I find the two flowers that came from Mr. F. W. Burton, Highfield, Gainsborough, to be the most richly coloured of the whole set.—W. H. G.

#### NOTES OF THE WEEK.

**Apple Bismarck.**—We find this Apple sent by Mr. Bunsyard of very good quality when cooked. It is a large and very fine fruit.

**Gardeners' Royal Benevolent Institution.**—Intending candidates for the next election of pensioners on the funds of this institution should at once apply for the necessary forms of application, which must be returned to the secretary on or before November 25 next, after which date they cannot be received.—G. J. INGRAM, Secretary, 50, Parliament Street, London, S.W.

**Scabiosa caucasica alba.**—Herewith I send flowers of the above, and I think you will say that it is a decided acquisition, and likely to become popular. The colour is a delightful creamy white; an abundance of bloom is now showing as the first flower-spikes were pinched out, the plants having been divided into small pieces. They have made strong growth, and there is every indication that they possess the vigour and persistent blooming quality of the typical kind.—A. H.

**The Mexican Thistle at Harrow Weald.**—I thought it might interest you to see the enclosed photograph of a plant of *Erythrolœna conspicua*, or Mexican Thistle. Its height is nearly 12 feet, and it has been covered nearly all the summer with most lovely bright carmine-coloured flowers. I grew two plants from a packet of seed sent me in the spring of 1890 by W. Thompson, of Ipswich. They were grown in pots the first year and kept through the winter in a cold pit.—F. FORMBY BACK.

\* \* A very fine plant, but difficult to photograph well.—ED.

**Pleroma macranthum.**—There are very few indoor plants with blue or purple flowers which can compare in richness and brilliancy of colour with those of *Pleroma macranthum*, and at this season there is certainly nothing to rival it. When to this advantage are added its quick growth and easy culture, it may be inferred that the species can claim a place in the first rank of indoor flowering plants. Grown as a pot plant it proves useful for the conservatory shelves, but it is only when planted out that its full capabilities can be judged. Two or three plants in the conservatory at Kew are now flowering freely; they are treated as climbers, a method of culture to which the slender growth well adapts itself. It may, however, be grown as

a specimen if given some support. The chief points are to place it in a warm, sunny position and to give it an open, well-drained compost, preferably of fibrous peat, loam, and sand. The flowers are usually about 4 inches in diameter, but we have seen them quite 6 inches.

**The Hop-leaved Vine (Vitis heterophylla humulifolia).**—Mr. G. F. Wilson has just brought us some fruiting branches of this graceful Vine. As its name implies, the foliage resembles that of the Hop in size and shape. The most striking feature, however, belonging to this variety is the clusters of bright sky-blue berries which it bears plentifully in autumn, and which, contrasted with the rich green of the leaves, produce a pretty effect. It was illustrated in THE GARDEN of Nov. 4, 1876.

**Bertin's Pampas Grass.**—Perhaps the most graceful variety of this is the one called Bertini. Unhappily, owing to the cold of our winters, this wonderful Grass has not fulfilled the promise of its early years. One seldom indeed sees plants of it so fine as were seen after its first introduction, when it was then so wonderful, that everyone took pleasure in giving it the best possible treatment. It certainly fails in exposed and cold places, especially in wet years. Its best place is in rich and warm valleys and soils, and even then it should get the best position and shelter if we are to enjoy its finest charms. Recently we saw the variety here mentioned, and admired it very much. We have no doubt it can be got easily through nurserymen.

**The Gladstone Peach.**—This excellent late Peach is not nearly so well known as its merits deserve. Grown as Mr. Speed grows it at Penrhyn Castle, it was truly a grand sight. The Gladstone and the Princess of Wales Peaches occupied the entire front trellis of a large house. There was a splendid crop, and every Peach was brought to the upper side of the trellis; thus being fully exposed to sun and light, the colour and quality were superb. The fruits were large, and the flesh has crimson stains near the stone—in short a very desirable late kind. Mr. Speed believes in extension training, and the frequent lifting of the trees so as to produce an abundance of fibrous surface roots. He said that many gardeners are too timid to take the necessary liberties with the roots, and that no fruit tree is more benefited by such rational treatment. With this I fully concur.—W. CRUMP, Madresfield Court.

**Fuchsia Riccartoni.**—At Penrhyn Castle this old favourite has been utilised in a very novel and pleasing way. An iron trellis has been erected over one of the paths bordering the flower garden, and huge branches of the Fuchsia have been trained to the trellis, thus forming a charming floral bower some 30 yards or 40 yards in length of lovely coral bells. Of course, this Fuchsia at Penrhyn does not get cut down yearly by frost, as in the midlands. Fuchsia bushes 20 feet over by 10 feet in height are not uncommon near the sea and sheltered from rough wind. There were also near by a number of plants flourishing, which we in the midlands find require a greenhouse in winter. I took no notes, but I recollect *Lapageia rosea*, *Arundinaria falcata*, *Agapanthus umbellatus*, *Chamaerops Fortunei*, *Ficus repens*, &c. *Lilium giganteum* was flowering well, also a variety of Japanese shrubs, very choice and rare, in sheltered nooks.—W. CRUMP, Madresfield Court Gardens.

**Cratægus tanacetifolia.**—The notes which have appeared on the Tansy-leaved Thorn having created some interest, I send measurements and a few particulars of a good specimen growing on the lawn here. The tree is about the size of the one in the Glasgow Botanic Garden, but would seem to be a better specimen, as the head is well balanced. Girth at 1 foot from the ground, 3 feet 6 inches; at 5 feet, where it commences to branch, 3 feet 4 inches; probable height, 22 feet; spread of branches, 26 feet. The stem divides into four main branches. Each of the specimens noted has its peculiarity, and the one here is not without a special characteristic, as two of the branches only fruit in the same year, the others following suit



in the succeeding year. This has gone on without fail for years past, so that, though never without a heavy crop on the branches whose turn it is to bear, the others are just as certain to be quite barren. The tree at Seaham Hall, Mr. Draper tells us, only fruits in alternate years, though it flowers freely every year. The Glasgow tree is bare at one side and well furnished on the other. It would be interesting to know whether similar vagaries are noticed in other specimens wherever growing.—J. C. TALLACK, *Livermere Park*.

**Fuchsia dependens.**—The value of this *Fuchsia* as a greenhouse climber is never more apparent than at this season of the year, for whilst many of the varieties with the rounded type of flower are past their best, this is now in its greatest beauty. The best idea of the individual flower and inflorescence can be obtained by turning to p. 458 of Vol. XXXIX. of THE GARDEN, where a coloured plate is given. It will be seen that it differs greatly from the common type of *Fuchsia* as known in gardens. The flower is from 2 inches to 3 inches long, the petals and calyx being both rose-coloured, but of different shades. The racemes carry numerous flowers, and as they are pendent, the plant is admirably suited for clothing the rafters of the greenhouse. A plant growing in the conservatory (No. 4) at Kew trained in this way is just now remarkably pretty, carrying many scores of racemes. To obtain the best results, it is necessary to plant this species out in rich, open, loamy soil. It should be given an abundance of water during the summer, but in mid-winter requires very little. When, however, as often occurs, it is necessary to plant it near the hot-water pipes, it will require more attention in this respect than pot plants stored away in a cool place. It was discovered by the late Dr. Jamieson, near Quito, on the slopes of the Pichincha Mountain. Although its introduction dates back many years, it has never been much grown, probably because it is not so well adapted to pot culture as *Fuchsias* in general are. For the purpose above mentioned, it may, nevertheless, be classed amongst the most effective of greenhouse subjects.

**Herr Max Leichtlin's garden.**—The beautifully situated garden of Herr Max Leichtlin is, of course, well known to many interested in horticulture, but after visitors have studied the many treasures with which his terraces are brimming over, they should not leave without noticing a beautiful specimen of *Larix Kämpferi*, a tree not too often seen and very graceful as it grows in Baden-Baden. There is also a nice specimen of *Cedrela sinensis* near it. Herr Max Leichtlin has also some healthy specimens of *Catalpa speciosa*, and he spoke of the wonderful durability of the timber of this tree. A fence in America made of it is known to have lasted more than a hundred years, and may be yet older. The untrodden eastern parts of Europe yield many treasures to this garden through the zeal of the owner's collectors. *Colchicum Sibthorpi* was in blossom in several shades at the end of August. Also noticeable were *Cotoneaster horizontalis* and *Polygonum capitatum*, an annual which sows itself freely. Herr Max Leichtlin also pointed out as new a plant with the unpronounceable name of *Tschichatcheffia*, a white *Linaria*, *Funkia* Thomas Hogg (from Japan *via* America), *Onosma albo-roseum*, *Morina longiflora purpurea*, *Inula glandulosa grandiflora*, *Arnebia cornuta* (annual), *Anemone sylvestris fl.-pl.*, *Clematis coccinea major*, *Sobolewsia clavata*, *Hibiscus palustris*, *Aquilegia Stuarti*, *Verbascum pannosum* from Bulgaria, *Cratægus Korolkowi*, *Trachelium Romalianum*, an umbelliferous plant from Persia not yet named, *Liriope graminifolia*, *Androsace lanuginosa* Leichtlini, and several striking *Tritomas* not yet named.

**Pueraria Thunbergiana.**—We have received from a correspondent a flower and a leaf of this plant which he has growing in a stove, but it probably might do better in a greenhouse. *Pueraria* is a genus of Leguminosæ with the habit, foliage, and flowers of a Phaseolus. There are nine species, all of them Asiatic. *P. Thunbergiana* was introduced many years ago from Japan, and used to be

called *Neustanthus chinensis*. More recently we have met with it in gardens under the name of *Dolichos japonica*. It is a tall, vigorous climber with very large trifoliate leaves, which are slightly hairy on the underside. The flowers are on stiff axillary racemes 6 inches long, clustered as in the Scarlet Runner, and coloured bluish-purple. A plant in the temperate house at Kew grew to a height of about 30 feet in a summer and formed a rich green curtain with its large leaves, some of the leaflets being 8 inches long and wide. According to M. E. Carrière, it grows with exceptional vigour in Paris. It used to be grown on a wall out of doors at Kew. For covering verandahs, walls, &c., in the open air in summer it might be made useful in the same way as Hop, *Aristolochia Sipho* and similar plants are. There are specimens of the stem, fibres, and cloth made from this plant in the museum at Kew, where it is called the Ko of China, and Kuzu of Japan, where it was formerly largely used in the manufacture of summer clothing, not getting limp, nor clinging when wetted, as cotton does. It is now nearly superseded by paper-cloth made from the fibre of *Broussonetia*.

## SOCIETIES AND EXHIBITIONS.

### NATIONAL CHRYSANTHEMUM SOCIETY.

A MEETING of the general committee of this society was held at Anderton's Hotel on Monday evening last, Mr. R. Ballantine occupying the chair. After a few preliminary business details had been settled, a motion was made to confirm the award of a silver-gilt medal to Mr. J. Earland for his exhibit of frozen Chrysanthemums from New Zealand. A vote of sympathy and condolence with the Dowager Duchess of Sutherland and the family of the late duke was passed, he having been at the time of his decease one of the vice-presidents of the society. An interesting letter from Mr. Briscoe Ironside was read relating to his garden and horticultural operations in his new home in Italy, and some amusement caused by his account of the Italian methods of classifying the Chrysanthemum and of the exhibitions there. According to Mr. Ironside's experience, he is more than ever persuaded that over-feeding has little or nothing to do with damping. His new collection comprises eighty varieties of all sections, and he hopes very shortly to do something in the way of seeding his plants. In reference to a proposal by Mr. N. Davis to encourage miscellaneous exhibits at the floral meetings, and thus render them more attractive, it was recommended by the chairman that the proposal be deferred until another year, when an opportunity of studying the financial prospects could be afforded. The question was therefore referred to the schedule sub-committee. A letter from the Ancient Society of York Florists was laid before the meeting as to the National Society taking the initiative in arranging the dates of local exhibitions to prevent them clashing. As the same matter has several times been brought before the committee without any successful result ensuing, it was felt that the society could not attempt to legislate upon such a matter. The secretary announced that the great November show of the society will be opened by Lady Saunders, who will be attended by the president, Sir Edwin Saunders. It was resolved that all the members of the floral committee be invited to the judges' luncheon on that occasion in recognition of their labours during the year. The resolution concerning the compulsory enlargement and adoption of the new show boards for Japanese blooms was next brought forward, when the chairman said that nothing could be done at the forthcoming show, and he would move, therefore, that the whole subject be left in the hands of the schedule sub-committee, and be brought forward for debate when they presented their report and draft schedule for 1893. Mr. E. C. Jukes intimated that he would offer the most strenuous opposition to the proposed change, and regretted that ill-health

alone prevented him from being present at the conference. The schedule sub-committee was then elected, consisting of the same members as the last, but with the addition of Mr. Fowler, of Taunton. It was also resolved that the annual dinner be held in December, and that a smoking concert similar to the last be also held somewhat later in the season.

**FLORAL COMMITTEE (Oct. 26).**—A good display of novelties was made at this meeting, there being many interesting seedlings, besides sports of equal merit. Amongst the most noteworthy were the following: W. H. Veale, a deep purple self-coloured Japanese Anemone, a sport from *Sœur Dorothee Souille*; F. H. Tiarks, a large crimson Japanese; Bay of Algiers, large bloom, deep crimson, semi-double Japanese, with petals something like those of Edwin Molyneux; Utopia, a loose-petalled Japanese incurved, flesh colour, tinted yellow; George W. Childs, very deep crimson Japanese, reverse golden, rather broad petals; Standard, a Japanese variety of deep amaranth, with silvery reverse; Mrs. Nisbet, deep crimson-amaranth Japanese, large bloom, silvery reverse.

First-class certificates were awarded to the following:—

**COL. W. B. SMITH.**—A very large-sized incurved Japanese; petals rather broad, of a deep yellow colour, shaded bronze. Exhibited by Mr. H. J. Jones.

**RYECROFT GLORY.**—A seedling raised by Mr. H. J. Jones; an early dwarf variety, blooms deep yellow and of medium size.

**MRS. HERBERT FOWLER.**—Very deep solid flowers of Japanese form; colour bright amaranth with silvery pink reverse. Exhibited by Mr. W. H. Fowler.

**BARON HIRSCH.**—A splendid old-fashioned incurved bloom of massive build and perfect form. The colour is yellow, shaded cinnamon, with inside of petals crimson-brown—a wonderful acquisition to the florist's section of incurved Chrysanthemums. Exhibited by Mr. R. Owen.

**JOHN SHRIMPTON.**—A deep velvety crimson Japanese of the type of Jeanne Délaux, but not so dark in colour, with golden reverse.

**WILLIAM SEWARD.**—Another dark velvety crimson Japanese bloom of great size and substance, with reverse of deep golden yellow. This and the preceding variety were staged by Mr. W. Seward.

**W. H. ATKINSON.**—A large spreading Japanese of a peculiar coral-red shaded cerise, with pale golden reverse. Shown by Mr. Blick.

Other varieties not awarded certificates, but which attracted considerable attention were *Lizzie Seward*, which the committee wished to see again; *Sylphide* and *Gaetan Guelphi*, sent up by Mr. C. Shea; *Enfant des deux Mondes*, a white hairy sport from Louis Boehmer; *La Belle d'Alger*, a seedling raised by Mr. C. Sibson, and several others from Mr. H. J. Jones, Mr. R. Owen, and Messrs. Pitcher and Manda. Mr. Ernest Calvat also staged some new seedlings. Mr. W. Wells had a collection of novelties, comprising several semi-double and single-flowering decorative varieties.

### STAGING CHRYSANTHEMUM BLOOMS.

WE are just on the eve of the Chrysanthemum exhibitions, and no doubt at various shows there will be adverse criticism as well as favourable comments made upon the awards of the judges chosen by the various societies for this important work. As an adjudicator at a goodly number of shows in various parts of the country, I would like to give the exhibitors a few seasonable words of advice by which they will greatly facilitate the work the judges have to do. This work I would say is oftentimes more than it is really reasonable to expect to be completed at the proper time by either a pair or a trio of the best practical experts at the work, so as to satisfy themselves as well as to do full justice to the exhibitors. This latter



body would greatly assist the judges by paying more attention to the rules of the respective societies at which they are staging their produce. One most important rule is far more honoured in the breach than in the observance. It is that of the clearing time for the judges to commence operations. Some societies fix it at 10.30, an excellent time where much has to be done, so that the show may be opened to subscribers and others at the proper time, mostly 1 o'clock, when of course the exhibitors expect to be admitted themselves. Others fix the time at 11 o'clock; this will do where there is a good staff of judges to get through the work. These times, however, with the exhibitors mean at the very least half an hour later, sometimes nearly one hour. In very many instances they do not even make an attempt to clear out at the proper time, but rather seem to put obstacles in the way by staging late, waiting at times to see what Mr. So-and-So is going to show, so that they can play their own cards to the best advantage; this shuffling about all takes time. Now, time is valuable at any season, but more so in the short days, for if the first of the company be not admitted at the proper hour, they will not be disposed to wait about outside at this season of the year; hence subscriptions may be withdrawn, ultimately to the financial loss of the society. Why some exhibitors are so short-sighted as not to facilitate the operations of staging so as to comply with the rules I cannot imagine. They are not backward in finding fault afterwards if the verdict has gone against them, but do not consider that they themselves have cut short the period allotted for judging. It is utterly impossible to do full justice if time be not allowed, and it is furthermore most unpleasant to have to judge anything with either the company or the exhibitors around you. Consequently the executive in many instances, as I have personally experienced, will come along and inquire, "how much more there is to do," stating also that the company must be admitted at a certain time, and so on. The result in such cases is that of hurrying over the work, especially the latter part of the schedule, ending in dissatisfaction to all concerned. In making these remarks it is hoped that some exhibitors at least will take note of them and act accordingly. By thus doing and using every effort to be in readiness at the appointed time, they stand a far better chance of having justice done to their exhibits. I have just taken up the first schedule that came to my hand. In this particular instance I find there are twenty-six classes for Chrysanthemums, most of which I have no doubt will be well filled. The judging in this case is supposed to commence at 10.30, and the public admitted (as advertised) at 1 o'clock. That gives a period of six minutes as near as possible on an average to each class, but, considering that five of those classes will absorb in all probability quite half of the time, there is none too much left wherein to complete the schedule, in which there is no sub-division of the labour. Now if the exhibitors are half an hour late in staging through their own fault, they will only have themselves to thank for thus detaining the judges; these worthies cannot do impossibilities any more than other mortals. In conclusion, it is only fair to say that it is not always the fault of the exhibitors, but rather that of the executive, particularly when this latter body is not practically conversant with their work. They may possibly be enthusiasts and lovers of flowers, but this does not qualify in itself for the responsible work of arrangement. It is an all-important matter that this work should be controlled by gentlemen whose experience is equal to the occasion. Do all, I say, that you possibly can both to exhibitors and committee to be in readiness for your judges by the time stated in each respective schedule. The work of the men selected will thus be made much easier, resulting in all things working more pleasantly.

JUDEX.

**Royal Horticultural Society.**—The next meeting of the society will be held as usual in the Drill Hall, Westminster, on Tuesday next, November 1, at 3 o'clock. A paper on "Fruit

Trees in Pots" will be read by the Rev. W. Wilks, M.A., secretary of the society. Among the exhibits Chrysanthemums will doubtless form a conspicuous item, especially as the council have offered prizes for competition in three different classes. Growers wishing to enter the lists should communicate with the superintendent of the shows as to space, &c., required.

## COMPETITIONS AND PRIZES.

FOR some time in various ways I have been endeavouring to bring about a reform in the method which at present prevails of awarding prizes at horticultural shows, but so far without being able to make any impression. I fear it will be a very difficult matter to move from out of our present rut, chiefly, perhaps, because it is one as easy as it is unjust. There seldom is a case where the subjects in competition are at all on equal terms with the differences in the value of the prizes, for whilst these often show great divergences, as, for instance, variations of from 20 to 30 per cent. in value, the differences between the quality of the respective exhibits are perhaps not more than 1 or 2 per cent. At the recent show at Earl's Court I was asked to point the collections of twelve dishes of vegetables, as there was some dissatisfaction with the judging, and found, on the most careful scrutiny being made, that with a total of fifty-seven points by which the first prize lot gained its position, it exceeded the second prize collection by half a point only, and yet the difference in the prize was 10s., or practically a fall of 25 per cent. The collection which should have been third, and was not, through hasty judging, came next with fifty-four and a half points, and the one that was placed third had fifty-one and a half points. Thus it will be seen that it was throughout very close running, and yet the difference in the value of the prizes marks great distinctions, and in no way corresponds with the relative merits of the exhibits. Take, again, the classes for Apples and Potatoes. In these the distinctions were so trifling, that it was hard to find them. Thus in the class for twenty-four dishes of Apples, the first, second and third prize lots ran so close, that allowing three points to a dish as the maximum, only two points practically divided the second from the first out of a possible total of seventy-two, and yet the prizes were £3, £2, and £1, a fall in each case of 30 per cent. This kind of anomaly is constantly cropping up everywhere at shows, and always leads to the creation of much injustice. The exhibitor who is fortunate enough to win first place by a small majority of points, yet takes the biggest lot of the prize money; in fact, as shown in the case of the Apples just referred to, his seventy-two points get as much cash as do the second and third competitors, who between them make up perhaps 135 to 140 points. Now, my remedy for this exceeding discrepancy in money awards as compared with the differences that may exist in the respective exhibits is to arrange the classes in this way, as, for instance, twenty-four dishes of Apples, £6 in three prizes to be awarded according to merit points; thus if one collection obtained seventy points, another sixty-eight, and a third sixty-six, the money should be divided in this way: first, 42s.; second, 40s.; third, 38s. That would be an equitable distribution according to merit. The judges should in all cases return the number of points given to each collection, and the committee or officers of the show should apportion the amount of the prizes accordingly. Another advantage of the point system would be that judges would have to take more pains over their work than is now often the case, and they would have to institute defined standards of pointing or judging. At present in so many things, an exhibitor is never sure as to whether his exhibits, vegetables especially, will be judged on this or that basis. It is of all things important that inherent quality should have the highest consideration, and this feature is relatively of more importance than is size. Far too much weight is given by judges to size, and huge exhibits too often receive awards that are not justifiable

Quality and beauty or finish should always dominate size, for this latter element is almost always associated with inferior quality. In the Apple classes at Earl's Court the huge kitchen fruits were placed before the smaller but far, more delicious dessert varieties. A. D.

**Diseased Cherry trees.**—I should be glad to have your opinion on a disease which has affected most of my wild Cherry trees, both young and old, for some years past. In July or August the leaves begin to wither and turn brown, but remain on the branches long after the autumn, often till May of the following year. The trees blossom but sparingly, and nearly all their beauty is spoilt. Enclosed is a specimen showing both healthy and diseased leaves. I cannot attribute the disease to the soil (oolitic stone brash and clay), as up to a few years ago all the Cherries were flourishing and beautiful. Even now only a portion of my grounds is infected, but the disease has spread, and I am anxious to check it.—H. HOBHOUSE.

**Grease bands for Apple trees.**—The Willesden Paper and Canvas Company inform me that they have many applications for their canvas and prepared brown paper for use on fruit trees against the winter moth, and ask for particulars as to mode of use. We use their "Brown Canvas D.D. extra" cut into strips 4 inches wide, and prepared brown paper of the same width. The paper is put round the stem of the trees about 1 foot from the ground and kept in its place by tarred twine; the canvas is then placed over it and secured in the same way. Common cart grease, without tar, is then spread over; this catches many females (wingless) of the winter moth, and some other moths. More cart grease should be added from time to time when it dries. Our Apple, Quince, and Damson trees were much injured till we adopted the above remedy, but they have been all right since. The bands should be on before the end of October.—GEORGE F. WILSON.

**Book on Orchids (Alpha).**—The most comprehensive work on this subject is Williams' "Orchid Manual." Published by the author at his nursery Upper Holloway, London, N.

**The London French Horticultural Society.**—Young men wishing to improve their gardening knowledge by making a stay in France can inquire at the office of this society, 27, Gerrard Street, W., on the first Saturday of each month at 8 p.m.

**Sikkim Rhododendrons.**—Will any reader kindly tell me where I can get some of the half-hardy Sikkim Rhododendrons, such as *R. campanulatum*, *R. fulgens*, *R. glaucum*, *R. lepidotum*, &c.? I can find none of them in any catalogues of trees and shrubs I have.—A. R. W.

**"Self help in an Alarm of Fire,"** by R. W. Boyd, Associate of the Sanitary Institute of Great Britain. Alex. Boyd & Son, 105, New Bond Street. The book has reference chiefly to middle-class houses, which, while continually in danger of fire from various causes, in many cases are not provided with the means of efficient protection. Suggestions and rules are laid down by the carrying out of which it is hoped the risk of fire and the dangers consequent on an alarm of fire may be minimised.

**Names of plants.**—*T. Cropper*.—1, *Nerine Fothergilli*; 2, *N. crispa*.—*J. W. K.*—Probably *Eria floribunda*, of no value.—*C. B. T.*—1, *Adiantum formosum*; 2, *Clematis coccinea*; 3, *Mesembryanthemum acinaciforme*.—*C. Bryant*.—*Promenaea xanthina*.—*S. W.*—*Cattleya Gaskelliana alba*, *C. bicolor Measurersiana*.—*J. Keeling*.—*Lelia elegans Morreniana*.—*J. F. B.*—*Oncidium sphacelatum*.—*C. D.*—*Oncidium pretextum*.—*G.*, *Berkshire*.—1, *Solanum capsicastrum*; 2, *Erica gracilis*; 3, *Alocasia Lowi*; cannot name *Caladiums*; try Mr. Laing, of Forest Hill.—*A. H.*—The White Beam (*Pyrus aria*).

**Names of fruit.**—*Anon.*—1, New Hawthornden; 2, Rosemary Russet.—*W. B.*—1, *Dumelow's Seedling*; 2, *Longville's Kernel*; 3, *Cockle Pippin*; 4, *Royal Somerset*; 5, *Tibbett's Incomparable*; 6, *Hornmead's Pearmain*; 7, *Ribston Pippin*.—*G. R.*—2, *Hacon's Incomparable*; 3, *Josephine de Malines*; 4, *French Crab*; 5, *Longville's Kernel*; others not recognised.



## WOODS AND FORESTS.

## WHAT TO PLANT.

THE first points of consideration should be the quality of the soil, the exposure of the ground, and the particular object aimed at in forming a plantation, whether for ornament or utility, or both combined. Larch is the tree that is generally recommended for forest planting, that is, where economic value is of first consideration, and rightly so, for certainly no other tree that has been at all extensively cultivated in this country can compare with that under consideration. Of course, it is understood that the soil is suitable for the growth of the tree, for Larch will no more turn out profitable either in gravelly or water-logged soils than the Alder and Willow can in dry, arid situations. There are many soils, indeed, the majority of those usually met with in this country, that are well adapted for the culture of the Larch, the exceptions being those of a gravelly nature, where the tree usually gets pumped, and in too stiff, wet, and cold situations. In most other soils the tree grows away rapidly, and produces timber of excellent quality. Generally speaking, it is to be recommended that the Larch should find a place in every woodland where the value of the produce is at all to be taken into consideration. No other tree—conifer at least—can bear comparison with the Larch for the value of timber produced, and that, too, at any age from the sapling of 10 feet or 12 feet in height to the full grown and perfectly developed tree. No other timber is equally durable, and it has stood the test of nearly a century, and in that time been compared with not a few other trees that were thought to supersede it. The growth of the Larch is by no means slow, trees of, say, twenty years' growth if favourably situated being from 25 feet to 35 feet in height and from 6 inches to 9 inches in diameter of stem. The value of the Larch in economic planting, too, is that the first thinnings, poles of from 6 feet to 10 feet long, can be utilised in many ways, or, in other words, the lasting qualities of the timber even in that young state are such that it is well worthy of being worked up for light fencing or other purposes. No other timber (coniferous) sells at an equally high price with that of the Larch, trees of fair size and clean bringing from 1s. 3d. to 1s. 6d. per foot, without the worry and trouble that usually attend the disposing of most other kinds of home-grown wood. Another point that should not be lost sight of in the culture of the Larch, and which, too, tends to increase its value commercially, is that a greater quantity of timber can be grown per acre than of any other of our general forest occupants. To grow the Larch well, that is, to produce clean workable timber, it is necessary that the trees be grown thickly together; in fact, that at all times an unbroken branch canopy be maintained throughout the wood, for the Larch, like most other trees, if grown widely apart retains its branches far down to the detriment of the stem and consequent value of the timber.

I have more than once seen plantations entirely of Larch, where the individual trees, that contained on an average 25 feet of wood each, were standing at from 9 feet to 10 feet apart, the stems being clean and branchless for fully three-fourths their length. This is the way to get good clean Larch timber, and for which at present there is good demand and at higher figures than can be obtained for any other coniferous wood grown in this country.

Where the ground is suitable for Larch culture no other tree should be planted with it, the old and now generally adopted practice of mixing half-a-dozen distinct kinds of trees throughout a plantation being productive of little good and a great amount of harm. The affinity of certain trees to particular soils is now so well known to those who have studied the matter, that haphazard planting, or planting a number of species under the exploded idea that if one does not succeed another will, is quite out of the question, and untenable in now-a-days forest management.

If variety and effect are wanted in conjunction with profit, a few clumps of Scotch, Austrian, and Corsican Pines (*Pinus sylvestris*, *P. austriaca*, and *P. Laricio*) could be planted around the margin of the Larch plantation, but no using of these generally through the woodland should be permitted. The Corsican Pine is a valuable tree in many ways, and the timber is of fairly good quality, but is not half well known at present. From experiments made with wood of fully thirty years' growth, it would appear that in so far as lasting properties are concerned, it will yet find a place amongst our useful timber. Where shelter is wanted or a decided effect produced, plant the Austrian, as it is of wonderfully strong growth, and peculiarly adapted for withstanding storms. The timber is of fair quality, very resinous and weighty, but, like that of the Corsican tree, very little known at present. Regarding the Scotch Pine, its qualities, both for effect and in an economic way, are already well known, but the timber cannot be readily disposed of even at the low price of 7d. per foot. A. D. W.

## PLANTING FOREST TREES.

THOUGH, as a rule, the principal aim of every planter on a large scale is profit, yet by a judicious selection and distribution of his trees he may at the same time afford the necessary shelter to the homestead, the pasture and stock, as well as to his crops. The ultimate benefits of such planting are nowhere more perceptible than in the woods themselves, where the vigorous growth of the trees in the interior often presents a striking contrast to that of the stunted and weather beaten trees upon the windward margins of the plantations. Many attempts to clothe with trees the summits and sides of hills have failed from the planting having been confined to the most exposed parts. The proprietor has not unfrequently been guided more by his map and his rule and compass than by consideration of the important conditions of soil and situations, and the adaptability of the land to the operation of the spade and mattock. By allowing the planter to obtain a footing upon the more fertile soil below, he would by degrees have been able to push upwards until he had reached the limits of profitable cultivation, and this in situations where the planting of the higher grounds first would have failed, for in most cases where a few inches of soil can be found, a combination of planting and layering will enable him to grow remunerative coppicing, even where standards of large size cannot be reared. Almost every selected site of any considerable extent will present great varieties of soil and surface, and it should be the duty of the planter to distribute his species so that each may occupy the spot best adapted to its habits and requirements. In order, too, that they may present no harsh outlines, the various kinds of trees in the same plantation should so gradually approach and intermix with each other as to make it appear that each species was gaining ground and taking possession of the soil. As a barrier against the prevalent winds, the Mountain Ash, Wych Elm, Sycamore, Beech and Hornbeam may be planted; and to ensure a compact and dense front, a belt of Norway Spruce, which may afterwards be

kept headed down to any required height, should be formed.

In rearing plantations upon very exposed sites, an admixture of scrub or underwood with the standard trees is of the greatest importance. This checks evaporation, and at the same time fixes the fallen leaves, so that they decay where they fall instead of drifting. Upon the higher ground and upon chalk ridges the Larch and Scotch Pine may be mixed with Birch and Beech. The Alder, also, though best adapted to moist and even wet situations, grows freely to a great height. The serrated outlines of spiral-topped trees, such as the Larch, are so harsh when they meet the horizon, that these trees require to be planted in large masses. In mountain districts they harmonise with the peaks. The lower rocky slopes and the sides of dells are generally suitable for the Ash, the Silver and Spruce Firs, and various kinds of Pine; thin and sandy soils suit the Stone Pine, the Scotch Pine, and the Spanish Chestnut. Where rabbits abound, plant the Corsican Pine (*Pinus Laricio*), as they will seldom touch this while other food can be found. The plains and valleys with a moderately dry soil will be found well adapted to the Elm, Lime, Plane, Horse Chestnut, and Durmast Oak (*Quercus sessiliflora*), while most situations suit the common British Oak (*Q. pedunculata*), the Spruce, Willow, Poplar, and Alder. To obtain the maximum of profit from his woods, the planter must exercise great judgment in selecting his trees and in preparing the land. J.

The Birch has been neglected on account of a supposed want of beauty, but when old it is one of the most graceful of trees, changing its stiff, upright growth to just the reverse. It cannot be included amongst the largest park trees as single specimens, but in widely-spaced groups it is quite distinct and beautiful, its beauty being enhanced by its silvery white bole shining through the branches. It is one of those trees which quickly get spoiled if thinning has been neglected. As its branches are slender and impatient of shade, the bottom ones soon die off and leave the tree a bare pole.

**Constricted bark.**—This disease is occasioned either through the action of the roots becoming too feeble for the proper support of the tree, or through very dry cold air playing upon the trunk and branches of a tree which has become exposed. It is occasionally shown by the bark becoming indurated and losing its elastic properties, whereby the sap vessels get confined and their proper functions suspended. In the Plane tree the outer layers of bark peel off; in the Oak they become torn longitudinally; and in the Beech stretched horizontally. When in this hide-bound state the trunks often become covered with Mosses and Lichens, and are preyed upon by insects. The only sure remedy is scoring the trunk, and perhaps the main branches, right through the bark from the top to near the roots. The operation may be safely performed about midsummer, and the relief given to the tree will at once become apparent. I have seen old Apple trees renovated by scraping or stripping off a considerable portion of the rough old bark, and hide-bound young ones instantly revive after scoring. By leaving the inner layers of bark uninjured, considerable liberties may be taken with the rough external coating.—A.

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No. 1054. SATURDAY, November 5, 1892. Vol. XLII.

"This is an Art  
Which does mind Nature: change it rather; but  
THE ART ITSELF IS NATURE."—Shakespeare.

## CHRYSANTHEMUMS.

EXHIBITING CHRYSANTHEMUM  
BLOOMS.

HOWEVER well the blooms of Chrysanthemums, incurred in particular, may be cultivated, if they be placed upon the exhibition stands as grown there will be but little chance of their owners gaining premier positions in the leading contests. The would-be prize-winner, then, should become the possessor of a pair of strong steel forceps with a good grip to pull out ill-formed and superfluous florets, also bone tweezers for placing the latter in an even manner. These, with a supply of cups and tubes, can be purchased from any specialist in this popular autumn flower. A good time to make a start is when the bloom is about a quarter open, for even at this stage a floret may decay or come in form like a quill; others may reflex instead of incurve. Promptly remove all such, and it may be necessary to just look over all of the show flowers every second or third day until fully out. The largest kinds—Queen of England being a good example—require the most work. These sometimes form a far greater number of petals than can possibly develop. Thin them out as the bloom is expanding on the plant. When about three parts open, the centre may be a confused mass of embryo florets. It is well here to quite clear these out (also the yellow disc which forms in some) carefully, but leaving a hollow part half an inch or so in diameter. Room is thus given for the rest to fully extend, and the centre of the bloom is built up with petals large and of fine texture. Finish in this part of a bloom is important, the top or point being the first to arrest the eye. The variety Princess of Wales is a capital type of another class. The defect most noticed here is a tendency to produce petals shorter than the bulk; remove these with the forceps as the flower opens. The Japanese sorts need very little of this pulling-out process, but the opening of many of them is improved by an occasional tap, which is generally enough to loosen the entwined florets and make room for others that may be pushing forward. Tie the blooms in an upright position if inclined to be top-heavy, and do not cut a flower thinking it will open and keep better in water, but, instead, when fully out, remove plant and all to a semi-dark and dry room until a day or two previous to the show. Begin the final operation of arranging the petals in good time, so that it may be done if possible by daylight, and so that it may not be hurried. I am quite satisfied of this (provided, of course, the flowers have been well grown, for a bad specimen cannot be manipulated into a good one), that the more time one spends on the incurred blooms the longer will the judges, as well as the public, linger around them. I am told that a very skilful exhibitor of the incurred Chrysanthemum occasionally gives from three to four hours to a single bloom. If a stand of twenty-four were each to require this amount of time, simple arithmetic will show how many days before a show we are to commence. I think, however, the above is a little wide of the mark. There are well-known cups and tubes, such as Beckett's, Jameson's, Walker's,

and so on. But the fault of these, at least for incurred blooms, is that the hole where the stem goes through is so large that it is very difficult to fasten the blooms in tightly. For this reason I prefer the old wooden cup, similar in shape to an egg cup. It is vexing after a journey to find the blooms loosened, and the work of placing the petals obliged to be done again. Whichever appliance is used, cut the flower with a long stem, so that it may be conveniently handled, and after passing it through the hole of the cup, fix the same, but not too tightly at first. Then holding the bloom as near as possible upside down in one hand, place each petal, starting at the centre, in a position running to this latter point. Steel or bone instruments can be used, but what is most desirable is a light touch, damage to the tender petals being easily accomplished. If the egg-shaped cup be used, other appendages are the tube to hold water and a piece of zinc, called a telescope, to take the cup at one end and the tube at the other, so that the bloom may be raised or lowered at will. The Japanese varieties with long drooping flowers require very little preparation, and in nearly all cases look best shown as grown. Do not use wires, cards, or the like to make the blooms appear larger, thus getting diameter at the expense of depth, this last being an important point in a good flower. Freshness and brightness of the colours are often lost sight of by those who start exhibiting. They too often choose only those blooms which possess extra size, and wonder why smaller ones have gained the prize. Stands well painted of a deep green colour and nicely varnished tend to give a rich appearance to the blooms. The present standard size is 24 inches by 18 inches, 6 inches high at the back and 3 inches in front, to hold a dozen blooms. The same size is used for all classes. This season, however, will see the last of such small boards in the case of the Japanese flowers, it being settled, I think, by all the more important societies that the new size for these giants shall be 28 inches in length, 21 inches wide, 8 inches high at back, and 3 inches in front. The change will give 1 inch more between each bloom, and the extra height at the back of the stand will throw the flowers forward and make it easier to see those in the back lines. Whatever kind of box is employed to convey these stands of blooms to the exhibitions, a detail worth remembering is the necessity of fixing everything, tubes, stands and so on, as firmly as possible; then a little shaking will not do the blooms any harm. Blooms of incurred, Anemone-flowered, or true reflexed all look well, arranged about 2 inches clear of the stands. This position assists the judges, who can thus see every part of a bloom. The blending of colours will be done according to individual taste, but in this, as in other details, not a point should be lost.

H. S.

**Developing Japanese blooms.**—While unfolding their florets this section will stand much more heat than the majority of persons imagine; in fact, they are much improved by a judicious amount of artificial warmth. Some of the varieties appear to need some aid in this direction, especially when the weather is dull and cold. The broad-petalled kinds appear to require assistance more than any other; for instance, Mlle. Marie Hoste, Boule d'Or, and E. Molyneux unfold their florets much more kindly in a warm buoyant atmosphere than in a cold one. When the atmosphere is moist and cold as well the florets are rendered soft and easily injured by the sun's rays. Many of the lower florets decay in such an atmosphere before the centre of the bloom is fully developed; whereas, if a moderate amount of warmth is main-

tained, combined with a judicious admission of air without creating a draught, the florets would develop more quickly and the flowers be much more perfect. When a low temperature is maintained such varieties as mentioned above exhibit many crooked florets; many of them in the centre of the blooms fail to grow and remain stunted until the outer florets have decayed with age. Condor is an instance of the want of rapid development after the florets commence to unfold. The colour, too, is much improved by the florets opening quickly and regularly. Colour is, perhaps, the most important feature of some kinds, especially the pinks, lilacs, and those of deeper hues. The wrong way to apply heat to Chrysanthemums unfolding their florets is to make the hot-water pipes warm and keep the house closed, creating a moist air, which is certain to cause premature decay. When artificial heat is applied a sufficiency of air must be admitted.—E. M.

**Dwarf Chrysanthemums.**—The finest lot of plants grown on the cut-down principle, with the idea of having specimens in pots smaller than those usually seen, were those that I lately saw growing in the nursery grounds of Messrs. Curtis, Sandford & Co., Torquay. There could not have been less than 2000 of them. Hardly a plant was above 2 feet high at the time of my visit (September), while the foliage in many cases almost covered the pots, so dense was it. The plants were carrying from three to five shoots, it being intended to have that number of blooms to each, disbudding them to one on a shoot. The plants were cut down to within 3 inches of the soil in May, and have been well attended to since in the matter of watering, with the result that a fine display of flowers must follow in due course.—S. P.

## CHRYSANTHEMUMS IN THE PARKS.

THE displays of Chrysanthemums in the London parks are of more than usual interest this year, as the flowers appear to be in better character than was the case last season, when a fair proportion damped off, or at least soon lost their freshness. It is worthy of note that the London County Council seem to take an interest in these annual shows, and in Victoria Park the new structure built to show off their varied charms is well suited for the purpose. The majority of the displays opened last week, and in the course of the next few days will be in their fullest beauty.

The display in the Inner Temple Gardens is fully up to the average, and Mr. Newton may be congratulated upon the interesting exhibition, the flowers finely developed, and comprising those of well-tried and new varieties, running through the several sections into which the Chrysanthemum is now split up. Amongst the Japanese kinds were excellent blooms of Edwin Molyneux, conspicuous always for its superb crimson colour against the golden reverse; Bouquet des Dames, a beautiful flower of great purity, not unlike in general character the snow-white Elaine; Vivian Morel, Etoile de Lyon, Alberic Lunden, the flowers crimson-amaranth, shaded with carmine; Annie Clibran, Val d'Andorre, Gloire de Rocher, and such universal favourites as Stanstead White and the deep crimson Cesare Costa. A few of the more recent varieties comprise W. Tricker, an American introduction of the Japanese incurred class, the flowers soft rose and of bold shape; Puritan is also of the same section, the flowers very large, white touched with lilac; Countess of Lytton, a sport from Meg Merrilies, the colour of the pleasing flowers, creamy sulphur, being also of note. Another novelty in the Japanese class is Mrs. J. S. Fogg, which Chrysanthemum enthusiasts will remember was shown so finely by Mr. Shea last year at the exhibition of the National Chrysanthemum Society. The flower is of fine form and rich chrome-yellow in colour. Lilian S. Bird, although a Japanese variety, is of a different complexion. The flower is very double and the florets are quilled, while the colour may be best described as shrimp-pink. It is an interesting flower. We saw excellent blooms of



Elaine, W. H. Lincoln, very rich yellow; Shasta, the tubular florets pure white; Mr. A. H. Neve, and Volunteer, a large-flowered variety, the petals long, drooping, and of a soft rose-peach colour. The incurved section are not so forward as the Japanese, and it will require a few days yet to bring them into full beauty. The golden yellow Mr. Bunn is, of course, in evidence; it is the brightest and most striking of the early incurved kinds. Although one of the oldest, John Lambert, the sport from Lord Alcester, is a good kind, the flower of excellent form, the colour pale buff, in which we may detect a shade of rose. One of the most striking novelties in this section is M. R. Bahuant, which is an acceptable addition to this class. The flowers are large, finely incurved, and carmine-rose in colour shaded with cerise, the petals smooth and of great breadth. Robert Cannell resembles Avalanche in habit, and it is worthy of remark that during the past few years the habit of the Chrysanthemum has been undergoing an alteration. It is not so tall and leggy as of yore, but more compact, the plants well clothed with leafage to the top of the pots. The flowers are bronzy-red in colour, the under-surface of the florets golden-yellow. Louis Boehmer, like Mrs. Alpheus Hardy, improves on acquaintance; of the two we prefer the latter, the colour of the former being somewhat dead, too purplish, and insufficiently defined.

The finest display is unquestionably in Victoria Park, where there is a fine house in which to show them. All the varieties mentioned above are well represented. A very conspicuous variety is the Anemone-flowered Delaware, which is very double, a full bold centre, white with a suspicion of pale yellow. A dense mass of colour is presented by the close arrangement of the plants, such noble kinds as Etoile de Lyon being in evidence, and Sunflower gives a glimmering of refined yellow with its long, charmingly irregular florets. Elaine, Edwin Molyneux, Avalanche, a fluffy mass of white, like a ball of white wool; William Clark, salmon, flushed with rose; Florence Davis, a beautiful Japanese variety, the flowers greenish white on first opening, but passing with age to clear white; and Miss A. Hartshorn, the flowers large, very double, and white, were also good. Comte de Germiny is always a feature here, and some of the flowers were of great size. The incurved Robert Cannell and M. R. Bahuant, and such kinds as Jeanne Marty, Louis Boehmer, the old, but still useful Peter the Great, Mlle. Lacroix, W. Holmes, Lady Selborne, and Stanstead Surprise were finely grown and flowered.

On the breezy hill at Finsbury Park the Chrysanthemum seems to attain greater perfection, and the reason is that the air is purer. The Anemone variety Delaware, previously described, is in flower, and another very notable kind is Comte de Germiny. The finest blooms of Edwin Molyneux we have seen this season are in this collection, and noticeable for their beauty are Avalanche, which is remarkably early, the crimson W. Holmes, Elaine, Stanstead Surprise, Sunflower, M. R. Bahuant, Sabine, and Lord Alcester. It serves no good purpose to record merely the names of varieties that are well known, and it is sufficient to know that the best kinds are represented.

The display in the frame ground at Battersea Park is of more than usual interest, and the collection is large. The plants are well grown and staged in one of the plant houses, a few Palms being used as a background for the flowers. It is a good sign to see that the Chrysanthemum is grown so well in such places. A healthy love for flowers is promoted, and very often many try and do likewise in their own London gardens.

**Chrysanthemum William Seward.**—In this English seedling Japanese variety we have a colour which has long been wanted, viz., purple-crimson. This flower reminds one of Cu lingfordi, with perhaps a deeper tinge of purple in it. The reverse of the florets is gold, although but little of this is seen in fully developed blooms. When the florets are unfolding the gold is visible. This

variety will do much towards brightening up the many stands which at times lack colour, the white, yellow, and lilac tints predominating so very much in some cases. Another point in favour of this new arrival is the entire absence of any semblance to coarseness of its florets, which are narrow and semi-drooping, the flower being quite full in the centre. Well-developed blooms measure from 7 inches to 8 inches in diameter. The habit of growth is said to be of the right sort—from 4 feet to 5 feet high.—E. MOLYNEUX.

**Chrysanthemum Comte F. Lurani.**—The present season so far seems productive of many fine new varieties, especially in the Japanese section to which the above named belongs. I know of no variety that is more pleasing in the manner in which its florets are displayed; they are of medium even width and of a pleasing drooping character. The centre of the flower is very full. The colour is rose, mottled and edged white. Altogether this variety must take a high position as an exhibition flower both in a cut state and upon the plant. Full-sized blossoms can be had from plants but 2 feet high.—M.

**Chrysanthemum Viviani Morel.**—This handsome Japanese variety, which was so highly thought of last year, is giving cause for complaint by the manner in which its blooms are developing. So far I have seen but few that can be termed characteristic flowers. They exhibit such a want of colour and massiveness as to render them uninteresting. In addition to this, many so-called sports are being found upon the plant. This variety is only another instance of what hard propagation will do. Where every scrap of growth is needed to complete orders, and that growth produced under conditions not quite in accordance with hardy plants, small wonder need be expressed at the quality of many blooms now developing. I expect much better results from this sort during 1893.—S. P. H.

#### SHORT NOTES.—CHRYSANTHEMUMS.

**Chrysanthemum Mr. A. G. Hubbuck** is a flower of excellent size, full and massive. The colour is deep carmine, the back of the florets being silvery. The tips of some of the latter incurve, thus exhibiting two shades.

**Chrysanthemum Hetty Dean.**—Does anyone know aught of the origin of this variety, which to me appears like a badly-grown flower of Emma Stevens? The blooms which I saw were of the purest white and measured not more than 4 inches in diameter.—E. M.

**Chrysanthemum Beauty of Exmouth,** an English seedling raised from the variety Avalanche, is a noble form of the Japanese Chrysanthemum. The blooms, of a clear ivory-white, are of extra size and exceedingly massive. The florets are long and droop in a graceful manner.

**Chrysanthemum Felix Cassagneau** is a Japanese of a singularly pretty type. Its petals recurve in an arching form, and the colour is a nice shade of buff faintly streaked with red. The flower is not of extra large size, but large enough. It is early, has rather an ungainly habit, but is very free flowering.

**Chrysanthemum Emma Stevens.**—This reflexed Japanese variety, owing possibly to its not being one of the largest of its kind, is not so often seen as it deserves. It belongs to a not over-popular class, is of the purest white, the florets being intermediate in length between those of Elaine and Bouquet des Dames.—E. M.

**Chrysanthemum M. R. Bahuant.**—After another season's growth this fully bears out the character most people gave it last year, namely, a very fine introduction. The blooms are of large proportions, each being nearly 6 inches across and about 4 inches deep. The petals are wide and of good substance, the habit of the plant strong.

**Chrysanthemum Mlle. Louise Leroy.**—For flowering in October this Japanese variety deserves extended cultivation. The blooms are rather undersized as Chrysanthemums go now-a-days, but it has all the characteristics of a good flower, being full in the centre, the florets narrow, some slightly split or

forked at the points. Where white flowers are in demand this should find a place.

**Chrysanthemum Mrs. Horril.**—Strange though it may appear, this is a reflexed sport from George Glenny, possessing in an increased degree if possible the free-flowering characteristics of its parent. The colour is identical, therefore just suited for decoration in almost any form. When cultivated in a free and natural way, allowing the shoots to grow without topping, spikes of bloom 2 feet long can be had.

#### NOTES OF THE WEEK.

**Chrysanthemum season in Belgium.**—Owing to the lateness of the Chrysanthemum season in Belgium, the Royal Agricultural and Botanical Society of Ghent have decided to postpone their international Chrysanthemum exhibition until Nov. 20.

**Disa in open air in Ireland.**—I send you a blossom of *Disa grandiflora* flowered in the open. It has been out now for eighteen months. Owing to the absence of autumnal heat this season the blossoms did not develop well.—H. C. HART.

\*\* A very interesting thing; the flowers by no means badly developed either, and very pretty.—ED.

**The Mexican Thistle** (*Erythrolæna conspurcua*).—I saw this fine plant mentioned in yours of the 29th ult. I have successfully grown it for some time. All who wish to flower it should sow very early in autumn, protect from frost, and plant out the following May fully exposed to sun. It is a biennial.—J. R. HALL, *For Warren Gardens*.

**The Maltese Potato.**—It may be interesting to the readers of the remarks on the Maltese Potato by "A. D." last week to know that for two years I have had very fine crops from Potatoes sent me from Malta. They have been almost entirely free from disease. On light land here from half a bushel planted, a crop of sixteen bushels of fine healthy Potatoes was gathered this year.—A. M. T. A., *Brandon, Norfolk*.

**African Marigolds.**—It is worthy of notice that while my French Marigolds are completely destroyed, the African varieties are still growing and blooming, untouched by the frost which laid the others low. I think the African type is hardier and more robust in habit. If fine open sunny weather were to continue and frost keep away, I could cut dozens of fine blooms of these Marigolds. I never before have seen them flowering so freely at this late season of the year.—R. D.

**The Palmyra Palm.**—Mr. Lowrie's remarks in the last issue of THE GARDEN about the Palmyra Palm, and the information which he gives as to the conditions under which this Palm thrives in Tionevely are most interesting, especially to those, of whom I am one, who have hitherto failed to induce it even to exist under cultivation in our climate. I cannot, however, agree with Mr. Lowrie's suggestions as to the methods adopted in growing it and other Palms at Kew. The Palmyra Palm is one of many plants which have been imported into this country or which have been raised from seed sent home, and with which cultivators have hitherto been highly unsuccessful. Details as to climate and soil have been furnished by experts, and suggestions as to how the plants should be grown have come with them or with the seeds. These suggestions have received every attention, and in some cases many occupants of the hot-houses in which these cantankerous plants were have suffered greatly from the unnatural atmosphere produced in the endeavour to imitate Nature. The result has hitherto been failure. The authorities at Kew, disregarding all preconceived ideas and warned by repeated failures, have at last hit on a method which has so far proved to be successful. In its very infancy they are warned to desist. In the interest of horticulture I would take the liberty of saying "Go on." There must be something sound in a method which has brought plants, such as the magnificent specimen of *Pholidocarpus Ihur*, the double Cocoa-nut Palm, the Doum Palm, further than they have ever been brought before in the British Isles. I think that these experiments are a move in the right direction, and that all gardeners may learn a lesson from them.—F. W. MOORE, *Glasgow*.



## TREES AND SHRUBS.

## CLIMBERS ON TREES.

SOME people say climbers on trees are injurious and should never be allowed. In the case of young trees this remark holds good, but on those trees that have seen their best days climbers are admissible. At Syon on a recent visit we noticed that many of the old trees are so treated, and they are lovely objects in the spring and summer months when covered with *Aimée* Vibert Roses and other old, yet valued climbers. In the autumn the contrast of colour of the foliage of Ivy and Virginian Creeper is beautiful. *Aristolochia Sipho* makes a charming plant for climbing over trees when a heavy covering is wanted, while the Jasmine is suitable for dwarf

and Persian Yellow do well on trees that have not too much head or top covering. Many of the Hybrid Perpetuals do well and cover a large space quickly. The plants require moisture in dry seasons, and if this cannot be attended to, climbers should not be planted on trees, as unless they grow freely and do well they fail in the object they are planted for, and a bare stump is preferable to a miserable creeper. In dry seasons frequent supplies of liquid manure will be found beneficial. It is also important to give the roots some new material when planting, as often the soil around old trees is much impoverished and will not support the creepers. As little training should be done as possible, only small iron tacks, not wall nails, or a little dark-coloured copper wire placed round the trees to support the growths being used. The

the others, excepting *aurea*. Its branches, too, grow at a wide angle with the stem and attain considerable length. Upon all points it must be reckoned as one of the best.—A. H.

**Laurustinus in bloom.**—The open weather that we have to a great extent experienced during the present autumn has been very favourable to this beautiful flowering shrub, for it is in many cases completely studded with clusters of blossoms that are either expanded or rapidly approaching that stage. Still, the probability is that in some places at least the blooms will soon be checked more or less by frosts, but even then unless exceptionally severe it soon recovers and the floral display continues. With just the protection of a greenhouse good-sized bushes will flower throughout the winter, and are especially valuable for structures in which the temperature at that season is apt to get too low for some of



Old Elder tree covered with Ivy and climbing Roses. From a photograph sent by Mr. John Brier, Jun., Oak Bank, Bollington, near Macclesfield

trees. One of the most effective is the old *Clematis Vitalba*. At Syon it in some cases reaches a height of 40 feet or 50 feet, and during the autumn months the effect is charming. *Clematis montana* is also useful in sheltered places, and when others of a different colour are mixed with it they produce a pretty effect. Many of the hardier Clematises, such as *Viticella*, *flamula* and others, may be used for the work. Honeysuckles will also be found suitable, but they require a heavy soil to grow in. Some of the varieties of *Ceanothus* are valuable, and for dwarf trees or poles they are charming. *Vitis hederacea* and *V. heterophylla variegata* are good for the purpose, while *Passiflora cœrulea* and the Hop have a pretty effect in the autumn months. The most effective plants are Roses, of which there are many that can be used. The Boursault Roses and many of the Noisette section are the best. The copper Austrian Brier

illustration we here give shows an old Elder tree, over and among the branches of which have been allowed to ramble Ivy and climbing Roses.

**Bambusa Quillioi.**—This during the past season has manifested exceeding vigour and proved itself a good companion for other tall-growing kinds, such as *mitis*, *aurea* and *viridis glaucescens*. Several plants originally of moderate dimensions, but healthy and handsome, have exceeded, in fact doubled, their previous stature, and now have well matured canes 15 feet in height. Several seasons, apparently, must elapse before Bamboos show definitely what they can do. At first it appeared as though this kind would send up new canes too late for them to ripen sufficiently to withstand the winter. But this year it was one of the earliest in this respect, and the new canes are fully grown and branched and clothed with leaves. It is a bold kind, having a more erect habit than most of

the more tender greenhouse subjects. A variety (*lucidum*), characterised by rounder leaves of a deeper green and whiter blossoms, is largely grown on the Continent in the shape of standards, pyramids, and bushes for flowering under glass.—T.

**The Cockspur Thorn** (*Cratægus crus galli*).—Between the spring and fall of the leaf this Thorn and its varieties pass through several distinct phases of beauty, for in the first place the foliage is of a bright shining green, then with such a setting the flat corymbs of large white blossoms are seen to great advantage. The foliage retains its brightness throughout the summer, and as autumn advances the leaves change to various shades of scarlet and yellow before they drop. In this stage a specimen growing in a sunny spot is very effective, while the berries supply an additional feature. They are rather large and of a deep red when ripe. The usual habit of the Cockspur Thorn is to form a somewhat spreading tree about 10 feet or 12 feet high, but where quantities



are raised from seed there is a good deal of individual difference to be found among them, besides which there are a few very distinct varieties in cultivation. A couple of forms known as *oralifolia* and *prunifolia* represent the largest and boldest of all, while *salicifolia* has long narrow leaves, an almost horizontal style of growth, and is wanting in the long formidable spines from whence the name of Cockspar Thorn is derived. In addition to the above features this Thorn is also notable from the fact that it is later in flowering than many of the Thorns.—H. P.

**Sophora japonica.**—A large tree of this *Sophora*, with its wide-spreading head of branches, stands forth as very distinct, while the elegant pinnate foliage is of a deep green colour, which is retained later than many trees. In September, when laden with clusters of white blossoms, it is particularly attractive, being rendered more so by the fact that it is the latest to flower of all our larger trees. It has this season in many places flowered with remarkable freedom, and the blossoms appear to be very attractive to bees. While an old tree forms a very picturesque object, a young and thriving specimen, with its wealth of elegant foliage, is sure to be much admired. There are a couple of forms in cultivation, one a very pronounced weeping variety, and the other with variegated leaves, but this latter has at best a sickly appearance.—T.

#### TREE AND SHRUB PLANTING.

AN authority on planting states, "Plant at once anything and everything in the way of hardy trees and shrubs." There is no real occasion to wait until the fall of the leaf where it is possible to get plants quickly from the nurseries, or where they have only to be removed from one part of the garden to another. October is generally fairly dry and fine, when the ground and atmosphere alike are favourable to transplanting; with November often come wet, fog, and severe frost, when days are short and outdoor operations practically come to a standstill. Even if the days are warm and drying in October, yet the degrees of heat or dryness are not so pronounced as to cause danger to the newly-planted subjects; the nights are generally misty, and help the plants to recover from the exhaustion experienced by day. So far, then, I have dealt with plants that are again replanted almost as soon as lifted. But many trees and shrubs have to be lifted, packed and sent for a considerable distance. In such cases it is best on the whole to wait for the fall of the leaf, because having to travel long distances and likely to remain out of the ground for some days, it is well the trees should fall away to their winter's rest or inactivity before being disturbed by removal.

The universal canon observed by planters is to plant as much as possible during moist, cloudy weather, and to refrain in times of drought and frost. But in the case of a dull, moist summer, planting can be done at almost any time. It is sometimes necessary to plant at what might be considered unseasonable times, but it can be done with safety if the work be gone about in the right way. I have known standard and dwarf Roses planted at the end of March to grow and bloom well. American Azaleas lifted as soon as they had done flowering, advantage being taken of a showery time, made an extraordinary growth. On the last day of July, a long row of evergreen shrubs, including various species of *Berberis*, were moved, and some small deciduous trees also, and they did remarkably well. Transplanting, if necessity arises, may be done at almost any time, provided advantage is taken of dull weather and proper precautions are observed to preserve the roots from exhaustion, and to syringe the plants until rain falls. More Evergreens move with good balls of roots and soil, and there is no need to at all injure the roots. But good balls are not always essential, for it is often

better to strip the roots entirely of soil, and in replanting to spread them out carefully and fill in among them a fine helpful soil, such as a sweet, gritty leaf mould. Hollies, Portugal Laurels, common Laurel, and Sweet Bay are considered subjects that suffer severely by removal, even if moved with the greatest care. It is at this season of the year they can be moved with the best chance of success. They should not be kept out of the ground a moment longer than is necessary. There should be adequate drainage, suitable soil, proper planting, and necessary attention, and then success need not be a matter for doubt. R. D.

#### A KENTISH HEDGEROW.

MODERN hedges are shorn of more than half their beauty by the too frequent and indiscriminate use of the pruning-hook. Compare one of our old-fashioned Kentish hedges where the individual plants that compose it have been allowed to grow and flower at will, and where the Clematis and Honeysuckle have unfettered scrambling room, with a stiffly clipped fence, the sides of which are as perfect and straight as if the square and rule had been employed, and the difference, in so far at least as natural beauty is concerned, is marked indeed. I suppose we must admit that fences or hedges, like our woods and plantations, may be either for the purpose of ornament or utility, and that a hardly clipped-back hedge serves the purpose of a fence much better than that left to its own resources and in a natural manner. Then the extent of ground wasted by having these hedges of our forefathers will no doubt be another powerful argument in favour of their demolition, for the farmer tells us that he cannot afford to have a fence occupying 20 feet of ground when one taking up not much more than one-tenth that space would serve the purpose equally well, indeed infinitely better. These arguments are good and true enough, and it is an unfortunate truth that the British farmers, more than any other class of the community, are those that utterly neglect both the culture of flowers and rendering of their homes beautiful by a little judicious thought in the matter of attention to planting and natural beauty of arrangement. Neatly-kept hedges that are for the sole purpose of field divisions and to keep farm stock in check are right enough in their place, but no amount of argument can do away with the fact that the untrammelled and unkempt fence, with its loads of flowers and fruit, and its graceful, easy outline in the landscape, is far preferable, whether for the great amount of shelter it imparts, or for the clothed and natural appearance bestowed on the adjoining country-side. In Southern England, where the natural reproduction of trees and shrubs goes on more quickly than at any other part of the country, perhaps, it is a sight at present to walk along some of these old-fashioned hedges and note the number of distinct trees and shrubs of which they are composed, and the wealth of beauty in the quickly-changing foliage and showy fruit with which many species are unusually well supplied this season.

But Kentish hedges on the chalk formation beat all others, whether for the distinct numbers of plants of which they are composed or the great wealth of floral and fruit beauty and exquisite tints of the now dying-off leaves. The Field Maple, with its neatly-divided miniature foliage and beauty of colour-tint, is found abundantly in most hedges; indeed I have several times noted whole breaks entirely composed of this handsome small-growing tree, and which on the chalk would seem to maintain a stunted growth, though the foliage in size and colouring seems enhanced. Every here and there crop up handsome specimens of the Spindle tree (*Euonymus europæus*), and which just now, with its curiously formed coral berries, is very attractive and conspicuous. But at

any season it is a taking shrub, the curious, smooth, shining green of the bark and pretty deep green leaves being alone points of special study, and that are sure to attract notice. In the common Guelder Rose (*Viburnum Opulus*) we have a very meritorious native shrub of free growth and that produces flowers and fruit in great abundance. The berries of this shrub are particularly attractive, not only from their deep tint of colour, but from their almost superabundance, for the trees this season, at least, are literally loaded and weighed down with the big clusters that hang at almost every branch tip. The Way-faring Tree (*Viburnum Lantana*) helps greatly to add beauty and change to the hedges, and the common Privet is a good neighbour, with its spikes of shining black berries. Clematis Vitalba (the Old Man's Beard) is certainly one of the most conspicuous hedge plants of the chalky downs and reefs, and the pictures of grace and beauty produced by this curious scrambling, twining shrub are almost inconceivable. It mounts up to the highest twig of the wild Slough or Thorn, and then throws down great festoons of the most delicate coloured leaves and masses of its curious and pretty fluffy inflorescence, which latter have gained for the plant the popular name of the Old Man's Beard. When in full leaf, or even later when the fruit renders the plant conspicuous for a long way off, the Bryony (*Bryonia dioica*), although only of annual duration, is one of the most charming and effective of wild plants. Great festoons of the berries hang from every branch and are fresh and plump until destroyed by the first frosts of autumn or early winter. The Bitter-sweet (*Solanum Dulcamara*) is another very attractive plant of our hedgerows. These are a few of the commonly seen shrubs of our southern hedges, but many others might still be added, such as the Dogwood (*Cornus*), the White Beam Tree (*Pyrus aria*), the Belladonna (*Atropa Belladonna*), with its shining black berries and greyish green leaves, the Elder (*Sambucus*), and hosts of others.

When in full flower, the May is worthy of all that has been written in its favour, but as seen here jutting up and out of the hedges and half suffocated by the Bryony and Clematis, its beauty in a wild natural way is greatly enhanced. It is this assembling together of our native trees and shrubs that makes the hedgerows what they are, and being left pretty much to Nature and unchecked by the hand of man in the way of pruning and clipping, they form fine cosy masses of commingled branches, flowers and fruit that one rarely meets elsewhere, and which would tend to mar the fair landscape of such counties as Kent, Surrey and Sussex were they removed or subjected to the operation of "hedging," so commonly practised now-a-days in most parts of the country.

A. D. W.

**Hymenanthera crassifolia.**—This pretty little New Zealand shrub was awarded a first class certificate by the Royal Horticultural Society on October 4, and the specimens there shown by Messrs. Veitch were quite distinct from anything else that we have among hardy shrubs. It forms a dense-growing bush, whose stiff branches are disposed in an almost horizontal manner, the lower ones extending a good deal further than those above. From this is usually formed a specimen of a flattened hemispherical shape that will reach a height of 2 feet to 3 feet. The little leaves are so thick in texture as to well merit the specific name of *crassifolia*. This shrub is in no way remarkable from a flowering point of view, for though the blossoms are freely borne, they are so small as to be scarcely seen, especially as most of them are produced on the undersides of the branches. Towards autumn this *Hymenanthera* enters upon its most conspicuous stage, as the berries which succeed the flowers are by this time ripe, and in this condition they are white, a tint but little represented among hardy shrubs, the principal being the North American Snowberry. From the habit of crowding along the undersides of the branches, the fruits of this *Hymenanthera* are not so conspicuous as they



would be if borne on the upper parts of the shoots. It is a native of New Zealand, but is hardier in this country than most natives of that region, though a few others are so little affected by our winters that they can also be regarded as hardy shrubs. Prominent among them are the now popular *Olearia Haasti*, whose white Daisy-like blossoms are so conspicuous towards the latter part of the summer, *Notospartium Carmichaeliae* (the pink Broom of New Zealand), and some of the *Veronicas*. The *Hymenanthera* is not at all difficult to strike from cuttings, while seeds, when they can be obtained, supply a ready means of increasing it. The shrub in question was introduced into this country in 1875.—T.

**Cornus sibirica Spathi.**—This, which is one of the newest of the variegated Dogwoods, is throughout the growing season very showy, owing to its richly tinted foliage. The greater part of the leaf is of a bright golden-yellow colour, with an irregularly shaped blotch of green in the centre. In this *Cornus* the variegation is very constant, while the golden portion does not burn at all by exposure to the summer's sun as some variegated shrubs do; indeed, the brighter the sunshine, the brighter will be the golden hue. Just now, however, my object was to direct attention to the rich tints assumed by the decaying leaves in the autumn, just before they drop. Then many of the leaves change to bright scarlet, while others are more of a crimson hue, and with some retaining their original golden colour. A bush of this Dogwood is, especially if the weather is fine and bright, wonderfully effective in the autumn.—H. P.

## THE WEEK'S WORK.

### ORCHIDS.

I ALLUDED last week to the Mexican *Lælias*, *Barlerias*, &c., remarking on the elegance and beauty of some of them at this season of the year. *Lælia autumnalis* is very useful for flowering in October and November. *L. majalis* is even a more difficult plant to manage, and produces its large, distinct, and lovely flowers in June. I have been very successful with them by simply growing the plants in a good heat close up to the glass, scarcely shading at all in summer, and keeping quite cool with plenty of light and air in winter. Even with the best treatment we are able to give them, the results come far short of what are to be seen upon plants newly imported; such strong spikes and well-developed pseudo-bulbs are never seen in cultivation in England after the first year or two. It is some aid to us when we know the circumstances and conditions under which the plants are found in their native country. *L. autumnalis* has been long in cultivation, and the fine variety *atrorubens* not so long. Messrs. Veitch in their "Manual of Orchidaceous Plants" state "that it is spread over a considerable part of the Mexican highlands, where it affects a variety of situations, being found on the bare rocks, stunted trees, &c., often in immense masses, but always exposed to the full force of the sun and rain." The statement of the same authority is to the effect that *L. majalis* was found by "Hartweg at San Bartolo in a situation so elevated, that the temperature sometimes falls below the freezing point; and Ghiesbreght in the Morelia district (Guerrero) growing on Oaks, and especially in places where the wind is constantly blowing." Nearly all these Mexican *Lælias* are found in high and bleak situations. *L. furfuracea* has been found by many cultivators, but always at a very high elevation, 7500 feet to 8500 feet. *L. albidula* the same. *L. anceps* also grows on trees and rocks, alternately exposed to drenching rains, burning sun, and "sharp fresh winds coming from the highest peaks of the Cordilleras, many of which are capped with perpetual snow." It is but reasonable that mountain plants like these would fail in the close atmosphere even of a Cattleya house. The fact is they require a house to themselves, and they are well worth it, and all the shading they

need is for an hour or two daily during the very hottest weather in summer, and the lightest tiffany only should be used. When they are in growth give them a fair supply of water, and when growth is completed, scarcely any at all. In fact, they need quite a decided rest, and many of them are now in the resting period; this begins as soon as the pseudo-bulbs are perfectly developed. I grow all of them in flower-pots or shallow pans, and they must not be over-potted. Use for potting material two parts of the best fibrous peat to one of Sphagnum Moss, and the repotting should be seen to as soon as the roots show signs of active growth. The *Dendrobiums* have now all been removed out of the house where they were placed to make their growth; even the very latest of them, *D. Dalhousianum*, has completed its growth. Some of them have been removed to the Cattleya house, where the temperature is from 55° to about 60° in winter according to the weather. Others, such as *D. nobile*, *D. Ainsworthi*, and allied hybrids, *D. crassinode*, *D. Wardianum*, and *D. Falconeri*—the fine variety of this last-named species, *giganteum*, requires similar treatment—all of them have been placed in the late vinery, where enough artificial heat is kept up to give a dry atmosphere for the preservation of the Grapes and to keep out frost. The plants get scarcely any water at the roots, and of course none at all upon the leaves, but it is necessary to see that they do not suffer too much from over-dryness. I do not mind the old back bulbs shrivelling a good bit, but when the bulbs formed during the past season show too evident signs of shrinkage, I water rather than allow this to occur to a serious extent. All the evergreen species of the *D. Farmeri*, *D. thyrsiflorum*, and *D. Paxtoni* type are kept in the Cattleya house, but they are also kept practically without water, and only receive it to prevent the bulbs shrinking too much. The winter season is not so well suited to the multiplication of insect pests as the warmer summer and autumn, but the tiresome thrips can only be kept down by still attending to the plants most attractive to them. The *Miltonias* should be dipped in the soft soapy and tobacco liquor solution I have frequently recommended; while *Cattleyas*, *Lælias*, &c., should be looked over carefully also to destroy thrips and scale upon them. Woodlice, I fancy, must be kept well under by the exertions of the green frogs. They seem to thrive admirably when once they become established in the houses, but when first introduced many of them find their way outside and travel a considerable distance. Slugs may be kept down by constant supervision, especially watching them feeding at night. The *Bolleas*, *Pescatoreas*, and plants of this type, at least such of them as are in growth, will require a moist, warm atmosphere. They do best in a house where the sun does not shine upon them at the warmest part of the day, even in winter, but the plants do best all the same suspended near the glass-roof in baskets rather than planted in flower-pots and standing upon the stage. The atmosphere should, even at this season, be quite moist, and the plants must on no account be allowed to become at all dry at the roots. I have always had much difficulty in keeping the foliage with the green hue of health upon it, and for no other reason except that the house where the plants had to be placed was not quite suitable for them. Red spider will attack the under sides of the leaves, but this can easily be removed by sponging. If the plants are kept quite clean and in a uniform moist atmosphere of about 60°, there is no reason why they should not do well. The healthiest and best collection of them I ever saw was in the town nursery of Messrs. Sander and Co., of St. Albans, where they were growing luxuriantly, not only in baskets suspended from the roof-glass, but on the stage underneath. Many fine species of the newer *Sobralias* were in magnificent health in the same house—a lean-to with a north aspect. The earthen floor was always damp, and the atmosphere, though moist, was never unpleasant. The cool house temperature falls to 45° now on frosty nights, but is about 50°. The Cattleya house ranges from 55° to 60°, and the East India house

65° to 70°. I would repeat again at the beginning of the winter that it is better to allow a range of 5° or so rather than over-heat the houses to keep them up to one figure in cold and very cold weather alike.  
J. DOUGLAS.

### FRUIT HOUSES.

**PEACHES AND NECTARINES.**—To all appearances the trees generally are ripening their wood remarkably well. Those kept properly supplied with water at the roots and given plenty of air have plumped up their buds very satisfactorily, and the leaves are parting from the trees with perfect freedom. Not a little depends upon all having a thorough rest, those that are subjected to moderately severe frosts rarely if ever failing to start strongly and to flower abundantly. If the houses must be utilised for *Chrysanthemums*, clear the latter out as quickly as possible after the best blooms are over, and then admit air freely both by night and day. Kept too long nearly or quite close, a little warmth being provided for the benefit of the other occupants of the house, the buds may become active, only to be checked again later on, premature casting of buds being the very likely result. It is not yet too late to transplant trees from one house to another or from one position to another, and any from outside walls may now be safely brought into the later houses. Where the leaves on well-established trees are fast changing from a green to yellow colour, there is nothing to prevent their being shaken or swept off wholesale. All fallen leaves should be cleared out frequently, and with them a considerable number of insect pests will probably be got rid of.

**PREPARING THE TREES FOR FORCING.**—The earliest house ought now to be got ready for being started towards the end of November or early in December. The first proceeding should be to complete the pruning, unloosening the rest of the tree as the work of pruning goes on in preference to reversing these proceedings. If bud dropping is apt to take place, and it is the earliest forced trees that are frequently the greatest offenders in this respect, be particularly careful of all the small wood or spray, saving as much of this as possible all over the trees. This is advisable for the simple reason that when all the stronger shoots have cast their buds wholesale, enough have remained on the spray to save the credit of the grower. Those small hard shoots are particularly needed on the trees of *Nectarine Lord Napier*, and nearly as much so in the case of *Peaches Waterloo*, *Alexander*, and *Hale's Early*, these all being noted offenders in the matter of bud-shedding. It is to be hoped no gross shoots have been allowed to form on the trees, but if they have, unhesitatingly cut these robbers off closely and neatly, or otherwise they will soon make the tree lop-sided. Thin out the branches in some cases and the shoots in others freely, nothing being gained by leaving them to crowd each other, and foreshorten either if branches are taking too strong a lead or the trees have reached their limit, the aim being to keep the centre and not merely the confines of the trees well furnished with young bearing wood. Well-ripened shoots of about the thickness of a lead pencil should be left fully 2 feet long, the cut being made at a well-placed triple bud. Those somewhat smaller in size and which are furnished with triple buds, the centre of these being a wood bud, should be more freely shortened, but spindly growths, few of which have wood-buds at other than the points, must not be shortened in the least, or otherwise they will be useless. Give the woodwork and glass a thorough cleaning, and dress the walls with hot lime water. Before finally training and re-tying the trees give them a good syringing with petroleum and hot water. Heat the latter to about 120°, and to every gallon of it add 2 ozs. or a wineglassful of petroleum. In order to keep the latter from floating on the surface of the water, either return every second syringeful forcibly back into the can or else keep two syringes at work, one constantly discharging its contents back into the can and the other syringing the trees. Every branch and shoot



ought to be thoroughly moistened, and if some of the mixture runs down into the soil so much the better, there being then a greater likelihood of the eggs of black-fly and other insect pests being destroyed. The nervous cultivator may syringe the trees forcibly with clear water ten minutes after the petroleum was used, but this precaution is scarcely necessary if proper pains are taken in applying the insecticide. It is the simplest and best remedy for scale, mealy bug, thrip, black-fly, and red spider. If the first named are not all destroyed by a single application, repeat the dose at any time before the buds become active. After the roots have been bared, watered if at all dry, and a fairly rich top-dressing given, keep the house perfectly cool till it is finally shut up for starting.

**RESTING TREES IN POTS.**—There is no necessity whatever to house fruit trees in pots long before it is intended to start them; in fact, a few weeks longer in the open is the best place for them. They must not be neglected, however, but the straw litter in which they are plunged should be renewed, so as to well cover the pots, or severe frosts may cause the soil to expand and crack the latter. In some localities birds are apt to interfere with the buds before they are expected to do so, and in all such cases netting over the trees is the surest preventive, soot and lime water being very quickly washed off during moist weather. Pot Vines that are to be started might well be placed under cover at once, as these probably will live to be pruned, and bleed badly if in a cold wet state at the roots. Directly they are moderately dry at the roots, do what little pruning is necessary, this consisting of cutting out the laterals, and at once dress the wounds with styptic or painter's knotting.

**PLUNGING POT STRAWBERRIES.**—When stored under glass, Strawberries are frequently allowed to become too dry at the roots, and green-fly also takes possession of them. It is important that a thorough rest be enforced, but this is scarcely possible when the plants are protected by glazed frames. Strawberry plants are quite hardy, but if the frost does not injure these, it may easily lead to the loss of many pots from cracking. All, therefore, should be plunged to their full depth either in leaves or ashes enclosed by rough or temporary frames, where they can be drawn from as required. The older plan of building them up in cone-shaped heaps or in stacks against walls is not much practised now-a-days, and has nothing to recommend it.

PRACTICAL.

### THE KITCHEN GARDEN.

**LAYING BROCCOLI.**—Whether any check need be given Broccoli will depend entirely upon the condition of the plants. Plants that have been grown in exposed positions rarely need any check, as these generally best stand the rigours of the winter. Those growing in low-lying positions and in close proximity to garden walls, the soil also being perhaps too heavily manured, will need a check. Unless the plants have long stems and are rank, a check by thrusting a spade under each plant and gently raising it, afterwards fixing the soil firmly about the roots, will result in a hardier plant being produced, and as a rule will be quite as beneficial as the more laborious plan of laying. Plants with long stems should be laid, as it is these exposed parts which collapse. Before commencing laying, a trench should be taken out at the north end and the plants heeled over, so that the heads point to the north, the other rows following on in the same direction until the whole is finished.

**AUTUMN DIGGING.**—That all soils are not benefited by being turned up in the autumn I have ample proof; therefore the rule so often laid down to dig in the autumn all soil that is vacant is not good advice. Some soils, however, are benefited by being dug over at this season. The soils which are not benefited are those which merely have an inch or so of pulverised soil on the surface, whilst underneath is tough and

sticky. Such soils are best left with a firm surface until February, as in this way the winter rains drain away without being held in suspension. Very light soils are also the better for being left undug. In digging at this season the soil should be thrown up roughly, no attempt being made to level the surface. Digging forks should also be used in preference to spades, these latter only being necessary where the soil is so fine that it will not hold together on the forks. The benefits of using forks only on heavy land cannot be over-estimated.

**TRENCHING.**—This work can also be carried out at the least busy season of the year, that is if the character of the ground will permit. To bury the top surface soil and to place the crude, inert soil on the top cannot be too strongly condemned. Soils with just the surface loose and the subsoil a hard pan are those likely to collapse under the strain of drought. Other soils which are fertile to a good depth are benefited by the extra loosening of the under soil and by the bringing of a little of this latter to the surface. Old garden soils, over-rich with humus through years of manuring, are amongst those so improved. Where trenching is thought to be beneficial, what is termed bastard-trenching will be the most likely to prove beneficial.

**APPLYING MANURE.**—Early manuring is not advisable, as the good qualities of the manure would surely be washed away by the winter's rains. Before digging commences, such must be borne in mind, and if the soil should be of such a description as to "eat" away the manure, the digging had better be deferred, or if dug, forking in the manure just previous to cropping.

**GRUB-INFESTED SOILS.**—On these soils where the Onion and Carrot grubs are troublesome and also what is termed club, the work of clearance should now commence. These soils are generally those of a light description. In these cases the soil should be either deeply dug or bastard-trenched, as the case may be, and as a preliminary antidote, the surface should be dressed over with gas-lime, sufficient being applied to colour the surface, afterwards pointing it in. This will assist in clearing the soil of the pupæ, the stage in which the grubs hibernate. Soot, wood ashes, burnt refuse and such like are also valuable, but these are best applied in the spring previous to cropping.

A. YOUNG.

### PLANT HOUSES.

**CONSERVATORIES.**—In these structures the Chrysanthemums will now be the leading feature; the chief aim, therefore, should be to prolong the flowering period as much as possible. This can be facilitated in several ways without any extra amount of trouble. In alluding to this I would first draw attention to the pernicious system of overcrowding, done with a view to effect, making a blaze of bloom just for a time. This overcrowding causes the foliage to die off much too soon, oftentimes before the flowers are thoroughly developed, giving undue trouble in the way of picking, whilst it creates damp which cannot be thoroughly expelled. The watering, too, is attended with some difficulty when the plants are in thick masses. This all tends towards causing the flowers to fade before their time, for when once damp starts in a flower it will want looking after all the more closely. For my own part, I prefer to see the plants much less crowded; a less number, but of well-grown plants would be much the better method to pursue. The aim should be to extend the season as much as possible rather than to have a mass of bloom and then have a break in the supply. The watering should be done early in the day, and a little fire-heat applied when it is damp or foggy weather. Some night air will be advisable in mild weather provided it can be left on without risk of letting in the rain should any fall. As regards the watering, it is now inadvisable to employ any manure water at all; anything to leave a disagreeable smell should be avoided. When the plants are in bloom, clear

water is all that is needed. Backward plants, if with the rest, had better receive some inodorous artificial manure if any is needed at all. Where an interest is taken in the names, they should be attached in a convenient and accessible manner. Small labels made of green cardboard, tied below the flowers, would not make a conspicuous display. Where the Chrysanthemums are grouped collectively and not with other plants, see that the front is well finished off, for pots, bare stems, and sticks are all most unsightly objects.

The climbers in the conservatory should now in every available instance be reduced, as it pertains to their top-growth in some measure, bearing in mind, of course, the flowering proclivities of each individual kind. Passion Flowers, for instance, can very well be thinned out, whilst in other cases some slight pruning will be beneficial. Every opportunity should be taken to do any necessary cleansing of insect pests. If this be persisted in now until the spring, it will place the plants on a better footing for another year. In some cases the climbers may be what are termed warm greenhouse or temperate house plants. These should be kept drier at the roots than the rest; this will tend to preserve them from injury. When this is done, even if the night temperature does fall a little below 40° for a few times, no harm will come to them. The glass and woodwork should all be kept as clean as possible both outside and in. If the shading during the summer was by means of whitening or any other compound, it should all be thoroughly cleaned off. This can be done better in damp weather than in dry.

**SUCCESSIONS OF FLOWER FOR THE CONSERVATORY.**—The latest of the Chrysanthemums will, if kept as cool as possible, carry on the supply until nearly Christmas by ordinary means of culture. In the meanwhile, however, due attention should be given to such as Chinese Primroses, Roman Hyacinths, and the early kinds of Narcissus. Late Bouvardias, Cyclamens, and Poinsettias will all prove useful from the middle of December onwards, so also will the winter-flowering Heaths and Epacris. The Chrysanthemums make such a display, that if there be not some good show to follow, the deficiency is all the more discernible. It is not advisable yet to start forcing Azaleas or other material for the conservatory; the first of these should only be used for cutting, otherwise the plants when in a much cooler atmosphere will receive a considerable check. Plants of *Solanum capsicastrum* would also add to the effect; these should now be ripening their berries. Those grown in pots throughout will in this respect be forwarder than others planted out in the summer; these latter will still have a tendency to grow too much if not stopped. Do not keep these lifted plants close and damp, otherwise there may be a fungoid development upon the leaves.

**COLD FRAMES AND PITS.**—As far as possible these should now be arranged for the winter, so adjusting things as they may require protection against frost. *Campanula pyramidalis* will be safe enough here all the winter, but it is better to plunge the pots in coal ashes up to the rims; this will prevent the roots from being frozen to such a degree in very severe weather and also save watering. Watch should be kept against injury from damping off in the foliage; this can be done in mild weather, when the ventilation should be liberal. Stocks in pots require to be kept quite dry at the roots now; no water will be needed before next March; for better safety these also may be plunged, giving ventilation freely when the weather is at all favourable. The early potted bulbs of such as Roman Hyacinths and Narcissi where in frames should be kept as much as possible together, as these will require rather more protection than the foregoing. Bedding *Calceolarias* will be quite safe in a frame with ordinary protection, but it is needful to watch for mice. I have found these work considerable injury whilst the glass was covered up during frost. Failing room in the cold greenhouse, *Francoa racemosa* may be kept in frames, but the plants must not be on the wet side. What is essential



in the main for frames and cold pits is close attention to ventilation and less watering, at the same time avoiding the overcrowding of the plants.  
JAMES HUDSON.

## STOVE AND GREENHOUSE.

### GARLAND FLOWERS.

(HEDYCHUMS.)

**HEDYCHUMS**, with perhaps the exception of the species here figured, are not so popular as the beauty and fragrance of their flowers and freedom of growth render them worthy of being; and, therefore, I would here call attention to some of the most beautiful of the species now in cultivation. The value of *Hedychium* for tropical, temperate, and even out of door aquaria and other moist situations is well illustrated by the magnificence that some of them attain when grown in such places. Planted in pots half submerged in, or in mounds raised above the surface of the water, the vigorous

the lip being almost 2 inches in width. This species, a native of China, &c., was cultivated in this country before 1791.

**H. CHRYSOLEUCUM** grows to a height of 5 feet. Its freely produced flowers are of the purest white with a bright orange-coloured blotch on the lip, and are deliciously fragrant. The long filament which encloses the style is of the deepest orange colour. A native of the East Indies.

**H. FLAVUM** is a very strong-growing species with leaves from 12 inches to 14 inches long. The flowers are large, fragrant, and in colour the brightest of orange. A native of the Himalayas about Sylhet. Z. B.

**Maranta arundinacea variegata**, perhaps better known as *Phrynium variegatum*, is a useful plant for decoration. Like many more of the irregularly marked variegated plants, it is inclined to run out. This may be avoided to a certain extent by frequently dividing the plants and discarding the suckers or shoots produced from the base which have most green in them. This plant should be grown in a light peaty compost and potted loosely, using plenty of drainage. It is



*Hedychium Gardnerianum.*

growth such plants make is astonishing, and, therefore, this mode of culture cannot be too strongly recommended. *Hedychium*s may be grown well if planted in a bed in a cool conservatory, and in summer some of them may be planted in pots or pans and stood in tanks or other moist places out of doors. The following are the varieties generally found in cultivation:—

**H. GARDNERIANUM** is a native of the temperate regions of the Himalayan Mountains, especially about Nepal. It was grown in this country as early as the year 1820. It produces a thick sturdy rhizome from which annually spring the thick herbaceous leafy stems which grow to a height of 4 feet, and bear spikes of bright yellow flowers. The structure of these flowers is singular, and bears some resemblance to that of Orchids. The corolla is divided into six segments, three of which are narrow and pendent and of a deep green colour, while the other three are broad, the lower one being much the broadest, and standing out like the lip of an Orchid.

**H. CORONARIUM** is similar in habit to the above, but has snow-white, sweet-scented flowers. These flowers are in arrangement similar to those of the above, but the three larger segments are broader,

also better to confine the plants to rather small pots. This plant likes plenty of moisture at the root and may be syringed occasionally, but if too much water is used overhead, the white parts of the leaves die off prematurely. It will grow freely in a moderate stove temperature. Red spider and thrips are apt to be troublesome, but if the plants are grown on freely, they will not have a chance of doing much harm. Although ordinarily it will lose most of its foliage during the winter, by frequently dividing or taking off the young suckers plants may be had in good condition throughout the year.—F. H.

**Hybrid Streptocarpus.**—The exhibit of hybrid *Streptocarpus* by Messrs. Veitch at the Drill Hall on October 4 was evidently the outcome of a desire to prove that these plants may be got into flower within a few months of sowing the seed, for a label was attached giving the date of sowing. I doubt whether anybody was much impressed with the results, for the plants were small and ineffective, and gave but a meagre idea of their value from a decorative point of view or of their worth as a class. I feel sure that the majority of growers will do well to sow later in the spring, keeping the plants gently moving along during the first winter, and being content to get their first crop of flowers in the spring, summer and autumn of the

following year. This was the plan I adopted more from necessity than choice, for after raising the plants in an earlyinery I grew them on in a greenhouse, and though this treatment suited the plants admirably, I got no flowers last year. This year, however, the plants have bloomed splendidly, starting early in the spring and continuing all summer, so that I have even now many flowers open and the plants in good health. Many of the scapes have carried from eight to ten, and in one case twelve flowers. This latter was a white ground variety, with faint blue rays and a lemon-coloured throat. Several plants, this amongst them, carried their flowers on good long stems, which made them very useful for cutting. For the latter purpose they should be gummed, and then the flowers last well. Out of over six dozen plants I had only to throw away about 7 per cent., and even these would have passed muster fairly well. All the others were good, and the white grounds—the most useful—predominated. Curiously, I had not one plant with a tinge of red in it, but all the other colours shown on the coloured plate issued with the catalogue of the above firm last year were reproduced, and many of the flowers were much superior to those shown, so that I was well satisfied with the result. The seed was sown on February 27; the seedlings remained in a small state for a very long time, not being big enough for pricking off till June. After that, however, they grew more rapidly, and were allowed to get fairly big before being potted off early in September. In March some of the plants were put into 5-inch pots and others left in a size smaller, and in these they have flowered well and been much admired.—CORNBIBIAN.

### CLERODENDRON BALFOURIANUM.

I PURCHASED a specimen plant of *Clerodendron Balfourianum*, which flowered and was exhibited this year. I find it has not made any leading shoots this year, and I am at a loss how to manage to get it to bloom next autumn. All the flowering growths of this season are from 8 inches to 10 inches long. If I ripen the plant off, I suppose it would show a small quantity of small flowers very early next summer. If I were to cut it hard into some of the old leaders after ripening it off, say in the latter part of February next, I daresay I might get some more growth on the plant suitable for large trusses of bloom; but even then I would require to finish its growth and ripen the wood by the month of June so as to make it throw out flowers.—J. G. H. C.

\*\* Your better way will be to start your plant into growth in the spring tolerably early, say the middle of February, and aim at securing a good wood growth. If any flowers show I would advise you to pick them off, and so accelerate the development of the young shoots in good time. This growth should be steadily ripened off by the end of May by gradually withdrawing the water supply. In doing this do not, however, put the plant into a cold house, otherwise the roots would suffer more than the top by the sudden change. By keeping the plant, when drying off, in ainery where the Grapes are ripening, or in a pit, or any place in which the atmosphere is fairly dry, the wood should soon become hardened. The leaves may not possibly fall to such an extent as in the autumn, but that would not altogether matter. When the plant is re-started into growth, say towards the end of June, place it into a moist atmosphere with a brisk heat. The sudden change, with a frequent use of the syringe, will soon result in a fresh break. No shading should at any time be used until the plant is nearly in flower; then a light shading is necessary. If the plant requires to be repotted this should be done in February. The best way is to pot firmly, depending chiefly upon good peat and loam rather than too much of any manurial stimulant. When starting do what pruning is necessary, aiming at securing a fair number of strong growths rather than a larger number of weaker ones. This will be best effected by cutting in the spurs pretty closely. The young shoots as they increase in



length should be trained upwards to the glass by means of strings. This is infinitely better than tying them down upon the trellis, which will only result in back breaks over and over again, time being thus lost. By leading the shoots erect each one has a far better chance of ripening its wood, whilst it will also be shorter jointed. If disposed to make growth when sufficient has been made, the extreme points of the shoots should be pulled out; this will help to swell up the back buds. I have not kept this *Clerodendron* from spring growth (when aiming at flowering) later than the end of June in good condition. It might be kept a few weeks longer, no doubt, with the best of convenience. One thing is of the utmost importance from now onwards in the treatment of this *Clerodendron*; it is that of keeping the plant in a stove or pit where the temperature never falls below 55°; even a few degrees higher is better, say 60° for safety. By withholding water to a considerable extent, but not altogether, there will not be any fear of early growth commencing. A low winter temperature means loss of roots and top as well. Plants that are kept cool will often die off at the collar, looking still green and fresh at the top. This latter advice is given to avert any possible disaster. GROWER.

**Amasonia punicea.**—This beautiful winter-flowering stove plant is now one of the most attractive objects in Messrs. Veitch and Sons' Chelsea nursery. Arranged in a group with an undergrowth of Maiden-hair Fern, the long racemes of bloom with the rich crimson bracts are shown off to great advantage, and it would be difficult to find anything more effective. We are indebted to the above-named firm for the re-introduction of this beautiful plant, which was first introduced in 1825, but appears to have been lost. It belongs to the order Verbenaceae, and is closely allied to the *Clerodendrons*.—F. H.

**Begonia Frœbeli.**—It is just twenty years ago since this species was introduced from Ecuador by the Messrs. Frœbel, nurserymen, of Zurich, after whom it was named, and five years later a coloured plate of it was given in *THE GARDEN*, viz., on October 20, 1877. It is a very beautiful *Begonia*, and of additional service from the fact that, as a rule, it continues to flower later in the season than the numerous class of tuberous *Begonias* now so popular. B. Frœbeli does not form so decided a tuber as the members of this last-mentioned group, for in some individuals it is little more than a mass of fibres, while in others a tuber is formed, but always with a good many fibrous roots attached to it, which cause the tuber at a first glance to appear much larger than it really is. The leaves of this *Begonia* are densely hairy, while both leaves and flowers spring direct from the tuber, and are not borne on a stout fleshy stem, as in the garden varieties. This *Begonia* does not hybridise with the other forms, but will seed freely if fertilised with its own pollen. The progeny varies a good deal in the colour of the blossoms, the deepest tinted being of a bright crimson colour, while many are a good deal paler, some which are more of a scarlet hue being very striking. If seed is sown early in the year, the plants will flower well during the forthcoming autumn.—T.

**Rochea falcata.**—A great many succulent plants are remarkable for their showy blossoms, and among them must be included this *Rochea*, which flowers, too, at a time when its blooms are especially valuable. By the latest authorities it is included in the genus *Crassula*, but it is widely removed from the old *Crassula* or *Kalosanthes* coccinea, which is the only member of the genus usually met with, and besides this the plant in question is so generally known under the name of *Rochea*, that such it will remain to most people. R. falcata is a stout growing plant, that when old will run up to a height of 6 feet or 8 feet, but it is seen to the best advantage in the shape of neat little plants in pots 6 inches in diameter, clothed to the base with foliage and producing large ter-

minal heads of blossoms. Even out of bloom it is noticeable, as the leaves are large and fleshy, of a peculiar greyish tint and curiously twisted. The bright scarlet-crimson coloured flowers are individually small, but borne hundreds together in closely packed heads, and under favourable conditions will retain their beauty for a considerable time. This *Rochea* flowers during the latter half of the summer and early in the autumn. In common with many succulents, its cultural requirements are not particularly exacting; a soil composed of yellow loam, sand, and broken brickbats will suit it well. A very necessary feature in the cultivation of the *Rochea* is to give it all the light and sunshine possible, and for this reason a sunny shelf in the greenhouse is a good place for it. The flowers, however, last longer if, after expansion, they are shaded from the brightest sunshine.—H. P.

**New zonal Pelargoniums.**—Among those who are striving to improve the zonal *Pelargonium*, Messrs. Reid and Bornemann, Sydenham, may be mentioned. About two years ago they began by obtaining all the best kinds in commerce, and Mr. Reid set about crossing the Continental varieties, many of which (*Souvenir de Mirande*, for instance) have new shades of colour, but lack the fine form, size and substance of those most esteemed in England. A week or two since we saw the first batch of seedlings in flower, which made a bright and beautiful display. In crimsons and scarlets there is little room for improvement, although in these shades there are here some good things; but we noted two deep rose-coloured flowers of great excellence. In the class of flower which has two well-defined shades, there are also some capital sorts. The varieties named below are all of good size, the pips of circular form, trusses large, and the plants of first-rate habit of growth, sturdy and free: The Emperor, crimson, white eye; Auguste Eberius, bluish-pink; Miss Madge Clarke, soft salmon; Ludwig Moeller, very deep rose; Miss Louisa Reed, clear rose; Mrs. H. Shoesmith, rich dark salmon; Sydenham White, very fine; Gertrude Bornemann, white, with central ring of red; Peasant Girl, colour of Apple blossom.

#### TREE CARNATIONS.

OUR plants are in better health and we have lost fewer this season than usual; this is entirely owing to the more favourable weather experienced during the early part of the summer. For several seasons past we have had very heavy rains soon after the plants were stood out in the open and before they were well established in their flowering pots. The plants make better growth when fully exposed during the summer, yet it is desirable to provide means to protect them from heavy rains. Where there is only a limited number of plants it is not so difficult to make some arrangement. Of course, all plants for winter flowering are now under glass. I find that it is desirable to take them in quite early, say in August, especially those that are in bud, for if rough weather comes upon us the blooms get damaged while quite backward in bud, and this is not seen until the flowers begin to open. After the plants are first taken indoors the syringe may be used, otherwise they will miss the dewy nights, but later on, particularly those coming into bloom, should not be syringed. Although at no period should water be used too liberally, yet care must be taken that the plants do not get dry at the roots, for this is one cause of the flowers not filling out well. Winter-flowering Carnations frequently produce imperfectly developed blooms, and the cause may be traced to the roots being in bad condition; perhaps they have been too dry, and then over-watered while the roots are crippled, and consequently cannot take up the water, the result being that the soil becomes soured. It not unfrequently happens that plants in an unhealthy condition are found to be too wet, and this is put down as the cause of the mischief, while the real harm has been done through drought. These remarks apply not only to Carnations, but to many other plants with delicate roots. In the treatment of Carna-

tions, it should be remembered that they cannot be forced into bloom. Fire-heat may be applied when the weather is bright and plenty of air can be given, but in dull, damp weather only sufficient heat should be given to keep a dry atmosphere in the house. One bright sunny day will do more towards advancing the blooms than a week of dull weather with a lot of artificial heat, besides which the plants are weakened by being kept too hot, and the succession blooms will be very poor. Another important point in the culture of Carnations is to keep them free from insects. Even if the plants were quite clean when housed, it is advisable to fumigate at regular intervals, for it is easier to keep plants clean than it is to cleanse them after they get over-run with green-fly or other insects. Green-fly is the most annoying pest, but sometimes red spider will give trouble, especially when the plants are grown on a dry stage. Where the plants have been grown in the open during the summer and been kept well syringed with clear soot water until the buds are well advanced, there will not be much chance of spider doing any great harm. Soot water is also one of the best remedies for the maggot which has given Carnations growers so much trouble during the past few years. Soot water, which should be made some time before it is required, so that it may become quite clear before being used for syringing, cannot be too strongly recommended as a stimulant for Carnations. F. H.

**Hybrid Streptocarpus.**—Almost everywhere in gardens this season a batch of these has been raised from seed. Out of such enormous quantities it will be possible presently to make a special selection of superior varieties. When at Coombe Wood recently Mr. Woodgate showed me a few which he had selected, amongst them being one of the richest hued and finest blues I have seen; also a good white and a very nice pale red. The blue was decidedly the best. Perhaps in scores of gardens as good may have come, but if so, growers should save and seed only from these improved forms. Mr. Woodgate had put his selected plants away from the common stock, and he hopes to seed them this autumn. As to the usefulness of the flowers for vase or ordinary decoration, those of the *Streptocarpus* were spoken very highly of. *Streptocarpus* are such inveterate bloomers, that the more the flowers are pulled the better do they seem to like it.—A. D.

**Lonicera sempervirens.**—Though hardy in some districts, this is well worth the protection of a greenhouse, and as a climber in a light and airy structure it is very attractive; while what is also greatly in its favour is the continual succession of bloom that is often kept up from spring till late in the autumn. It is a very old garden plant, having been introduced into this country about a couple of centuries ago, but yet it is by no means common, the reason probably being that it is rather particular in its requirements and not very hardy, while its merits as a roof or rafter plant for the cool greenhouse are not sufficiently recognised. The flowers of *Lonicera sempervirens* are very brightly coloured, being of a glowing scarlet outside and yellow within, and when borne profusely, as they generally are, the plant presents a very attractive appearance.—H. P.

**Torenia.**—The *Torenia* form a pretty class of procumbent-habited free-flowering plants of a soft-wooded character, and during the summer months they will do well in the greenhouse and flower profusely, but at this period of the year they succeed best in a stove temperature. The most commonly cultivated forms are T. Fournieri and T. Bailloni, also known under the specific name of flava, while T. asiatica, a stronger grower than the others, is also occasionally met with. These plants may be grown in various ways; for instance, T. asiatica is seen to the best advantage when treated as a basket plant, for the long shoots will hang down for some considerable distance, and when studded with its violet-blue blossoms it forms a very pretty object. This may be readily



propagated by means of cuttings, but the most satisfactory way of increasing the two others, *T. Fournieri* and *T. Bailloni*, is by seeds, which ripen readily enough, and soon germinate after being sown. If seed is sown early in the spring the plants will flower before midsummer, while two or three sowings will give a succession of blossoms throughout a lengthened period. In the case of seed sown about the end of June, the plants will be now nicely in flower, and very bright and cheerful they look. Little plants in pots 4 inches in diameter are very useful for an edging to the stage or in some similar position, their pretty flowers, which well repay close inspection, being thus brought near the eye. It must be borne in mind that *T. Fournieri* and *T. Bailloni* are both more compact in habit than *T. asiatica*. They are in no way particular as to soil, for they succeed well in any fairly open compost, and as the pots get full of roots, a little additional stimulant will be of service.—H. P.

#### SOFT-WOODED WINTER-FLOWERING PLANTS.

I do not suppose there are more useful houses from the present time until, say, early in February than those structures devoted to soft-wooded winter-flowering plants. Such houses must be light and airy, with staging that will allow the plants to be well up to the glass and sufficient piping to keep them up to between 50° and 55°, the aim being to preserve this temperature with a dry atmosphere. The favourite type of house for the purpose is a span with a pathway down the centre, and staging some 3 feet 6 inches in width on either side, the height from the pathway to the top of the span being about 7 feet. Provision should be made for ventilation both at the apex and sides, and given these essentials a very good display of bloom can be maintained through the dull months, and the houses serve as grand feeders for the side staging of show house or conservatory. The majority of the plants for such houses are struck early in the season, grown on through the summer in cold pits, and transferred to the houses early in September. It is not advisable to overpot, most of them doing well in 5-inch pots. They want looking after well in the matter of water through the hottest of the weather and after the beginning of September, by which time the pots will be full of roots and plenty of flower allowed to come freely; a small pinch of artificial manure once a fortnight will prove beneficial. This is particularly applicable to all hungry feeders, as *Salvias*, *Sparmannias*, and others that may be in rather small pots. For nearly all it is best to err a little on the hard side in potting, short stocky growth being very desirable. A collection of *Salvias* will prove useful if space permits, but if houses are small and only one variety is grown, there is nothing much better than splendens *Bruanti*. This plant is very subject to red spider, and will generally require syringing with some weak insecticide two or three times during the summer. Of winter-flowering *Begonias*, too, the cultivator must select varieties most adapted to his requirements. *Fuchsioideis*, *Carrieri* and *metallica* are three good sorts. The last named has a shade of colour not often met with, and nice trusses associated with some feathery foliage work up beautifully in tall vases. Writing of a particular shade of colour reminds me to say a good word for *Lasiandra macrantha*. Plants in 5-inch pots are now showing several of their beautiful flowers, the deep blue being something different from anything else we have at this season. *Eupatorium ageratoides* is a useful winter flowering plant, the individual flowers certainly not much to look at, but it is a hardy, very free plant, handy for what is known as rough cutting. Other plants adapted for houses under consideration to be used in large or small quantities as space permits are *Cypripedium insigne*, *Bouvardias*, *Epiphyllums*, *Sparmannia africana*, *Cyclamens*, *Lilbonias*, and others. A nice batch of *Marguerite* *Carnation* will also give an abundance of flowers and associate well with other things. Of the winter

flowering zonal *Pelargoniums*, both single and double, it is difficult to make a small selection out of the many really good things. To combine free flowering properties with the greatest and most enduring service in a cut state, one must, however, stick to the doubles, and in selecting three in different shades of colour one would not be far wrong in deciding on *Raspail*, *Turtle's Surprise*, and *Swanley Double White*. If there are pillars or iron uprights of any description running through the house, they can be clothed with such foliage as *Asparagus plumosus* and the trailing *Smilax*, while an occasional plant of *Tropæolum Ball of Fire* will always give abundance of flower. If a little foliage is required through the house to mix with the flowering plants, it can be supplied by a few greenhouse Palms, by a plant or two of *Grevillea*, or the best of the *Acacias*. E. BURRELL.

*Claremont.*

**Dichorisandra thyrsiflora.**—Of stove plants that flower at this season there is nothing likely to be confounded with this *Dichorisandra*, as it is not only very distinct, but also one of the most beautiful plants now in bloom. In some members of the genus the foliage is very handsomely marked, but in this the leaves are of a uniform deep green tint. The *Dichorisandra* in question forms a mass of thick fleshy roots, from whence stout stems are pushed up that reach a height of a yard or thereabouts. Each stem is terminated by a dense-flowered thyrs of rich violet-purple coloured blossoms. The plant is an object of beauty for a considerable time, as a succession of blossoms even on the same cluster is maintained for a lengthened period, and a few well-grown plants will serve to enliven our stoves throughout the entire autumn months. This *Dichorisandra* is of very easy culture, requiring moderately rich soil of a loamy nature—say two parts of loam to one of leaf mould, or leaf mould and manure, with a liberal dash of coarse sand. Propagation is effected by cuttings of the weaker shoots, or in spring, when repotting, a plant can often be found that admits of ready division into several pieces. It is a native of Brazil, and was introduced into this country about seventy years ago.—H. P.

**Kyllingia monocephala.**—At the present day, when plants of a Grass-like character are so popular for various purposes, this may be considered worthy of attention, for it is at least quite distinct from anything else so employed. It is a native of India, and consequently requires the temperature of a stove, or at all events of an intermediate house in this country. The *Kyllingia*, which is nearly allied to the *Sedges*, forms a tuft of bright green, Grass-like leaves a few inches high, which is just overtopped by the inflorescence. The flower-stems rise to a height of 8 inches to 10 inches, and are terminated by three leaves of unequal length, the heads of blossoms being situated just at the spot whence these three leaves radiate. The blossoms are closely packed together and resemble little white balls about the size of large Peas, and when in quantity they cause the plant to have a very distinct appearance. In conjunction with other plants of a like character, it may be employed as an edging to stages or for similar purposes. Pots 4 inches or 5 inches in diameter are sufficiently large for effective little specimens, while of allied plants that may be noted as suitable for associating with it may be especially mentioned the popular *Isolepis gracilis*, which, though widely known under the above name, is by our botanical authorities regarded as a *Scirpus* under the specific title of *rivularis*. Another is that pretty little variegated-leaved *Carex* for which Messrs. Veitch were awarded a certificate by the Royal Horticultural Society two or three years since.

**Bouvardias.**—The American variety *President Cleveland*, which attracted such a large share of attention four or five years ago, becomes more popular every season, and it is certainly by far the best bright-coloured *Bouvardia* we have, and in all probability it will continue a general favourite for many years. The salmon-pink sport from it—Mrs.

Robert Green, which together with *President Cleveland* was illustrated by a coloured plate in *THE GARDEN*, March 30, 1889—is also one of the best in its class. These two *Bouvardias* are characterised by such freedom of growth and flower as to be in this respect surpassed by none of the others. Among whites, *Vreelandi* is largely grown, and it is a very useful variety of good constitution, but where fully exposed the flowers acquire a pinkish tinge. The blooms are of good substance and stand well in a cut state. Of pure white flowers especial mention must be made of *Humboldtii corymbiflora*, a vigorous growing plant more upright in habit than the others. The leaves of this, too, are quite smooth and bright green, while the long-tubed *Jasmine*-like blossoms are deliciously fragrant. Of double-flowered varieties the only one grown to any extent is the white *Alfred Neuner*, for of the others the pink colour in *President Garfield* is not sufficiently decided to make it popular, while the brighter-tinted kinds are not free-blooming. *Bouvardias* are by some cultivators planted out during the summer, and by others confined altogether in pots, each mode of treatment having its supporters. These plants are far more difficult to maintain in a flourishing condition in the immediate neighbourhood of London than was the case a few years ago, as the fogs experienced during the winter greatly injure them, the foliage shrivelling up as if it had been exposed to a fire. The smoother-leaved forms, such as *Humboldtii corymbiflora*, are not so easily injured in this way as those with rough hairy foliage.—H. P.

#### GRIFFINIA HYACINTHINA.

THIS autumn-flowering bulbous plant, of which three examples were shown in bloom at a recent meeting of the R.H.S. by Messrs. B. S. Williams and Son, deserves more than a passing notice. It is a really beautiful plant belonging to the order *Amaryllidæ*, having much the appearance of a *Pancratium* in its habit of growth and foliage, but the foot-stalks of the leaves are of a purplish shade, as in *Vallota purpurea*, instead of being green as in the case of most of the *Pancratiums*. Its flowers are borne upon large trusses, five and six and even more upon strong bulbs being in perfection at one time with several more to open. The upper segments of the flowers, which are blue, are more distinctive than the others, which are white with a slight trace of colour. In the best form of this plant, which is designated *maxima*, the flowers are much larger; some I now have are fully 5 inches across. For this season of the year this *Griffinia* is a valuable plant in the stove. I have not yet tried it with the *Pancratiums*, but I think it will succeed well with them, having so much in common with them as to its character of growth. It may probably not be quite so much of an Evergreen, although ours have the leaves still fresh in some instances, with spikes also in full bloom. In any case, however, where the leaves did die off I would not keep the bulbs absolutely dry. I consider it to be a mistake, as in such instances the flower-spike will quickly succeed the last of the leaves. I very well remember a large plant of this *Griffinia* being sold at the sale of plants when Mr. Baines relinquished exhibiting, now some nineteen or twenty years back. I do not, however, recollect that he ever showed it. Since that time it does not appear to have made much headway, although within the last few years there has been one, if not more importations. I do not see why it should not be used for purposes of cross-fertilisation with either the *Pancratium*, the *Hymenocallis*, the *Eucharis*, or the *Urceolina*. At any rate there cannot be any harm in making the attempt. Upon reference to one well-known plant catalogue I find that *G. hyacinthina* and *G. Blumenavia* are the only two species therein quoted, but there are at least two or three others known to be in cultivation. I think the species now under notice is well worthy of the attention of lovers of bulbous plants, more especially from its flowering at this season of the year, soon to be followed by *Urceolina pendula*.



*G. hyacinthina* was the subject of a coloured plate in *THE GARDEN* of October 26, 1889. In a cut state it is a beautiful companion to either the *Eucharis* or *Pancratium*, each individual bloom being just as easily detached from the spike. Besides the suggestion as to hybridisation aforementioned, the autumn-flowering *Amaryllis* might be also included, Mrs. W. Lee for instance, which is now in bloom. I am now trying to hybridise it with both the *Eucharis* and *Pancratium*, being hopeful of the results. H. G.

#### NOTES ON THE PAST SEASON.

THE past summer for wet has certainly "beaten the record," for even in this humid spot wet days and nights have been in the proportion of about six to one to dry ones, and although tolerably moist seasons suit our hot dry soil, still the absence of summer heat—of which we had but little, being cold throughout—has proved prejudicial to many things. In the first place, winter prolonged to the middle of June destroyed our hopes of a plentiful fruit crop, for never had we a fairer promise. As a consequence, Apples, Pears, Cherries and Plums have been scant. Raspberries were crippled by the severity of the previous winter. Gooseberries but half a crop; but Currants, Red, White and Black, abundant. Early blooming Strawberries were blackened in the setting, but, fortunately, the later ones escaped, and afforded us a fair supply.

Such is the dreary record of our outdoor fruits, and this everlasting rain bodes ill for the next season, as it is not conducive to the proper ripening of the wood or plumping up of buds and crowns. Happily, indoors it has been better. Grapes finished up well considering the heavy cropping, no scalding or shanking and free of insect pests. Peaches and Nectarines have carried full crops of fine fruit, excellent in quality. Melons also have done well, free of canker and rust, and, taken as a whole, well flavoured. No fault could be found with Cucumbers and Tomatoes, the latter freer from disease than usual. No Figs are grown indoors, and those on walls in the open are a failure. *Passiflora edulis*, of which we grow large quantities, as the demand for this luscious fruit is immense, has again carried splendid crops of well-ripened fruit. It has proved of great service for the dessert through this season of scarcity of other fruits. We commenced gathering in June, and an uninterrupted daily supply has been continued up to the present time, and will yet be prolonged for some time. I believe this fruit certainly deserves far more extended cultivation.

Of vegetables generally I can write a more favourable account. Still, there are important exceptions, for of Vegetable Marrows we had little but leaves. Runner Beans have not been as luxuriant as usual, the pods being smaller and more crinkled than I like to see them. For dwarf Beans we utilise sunken pits used for Violets in winter. These being occasionally protected with glazed lights have done well, while those in the open were the reverse. Broad Beans, on the other hand, have cropped splendidly. Peas, although they did not fill fast, gave us a large and unbroken supply throughout the season, which, in fact, is still continued. Cauliflowers and all the Brassica tribe have revelled in the excessive moisture. Carrots we cannot grow owing to the ravages of grub and wireworm. Turnips have been of excellent quality throughout. Beet is also good, the only fault being that some varieties have grown rather too large. Parsnips are poor. Salsafy, Scorzonera, &c., are very good. Spring-sown Onions badly grub-eaten, but Tripolis clean and of large size. Globe Artichokes, though terribly cut by the easterly winds of winter and spring, have turned out far better than expected. Celery fair in size, but too hollow in the stalk to please me, and the quality hitherto is not first-class. Potatoes are a grand crop, Sharpe's Victor, Myatt's Prolific, and other earlies, notably so as to evenness and general high quality, with no trace of disease, but late varieties are heavily smitten, a large percentage being useless. All salading has been good. Lettuce New York

is a grand acquisition for summer use—fine hearts of superb quality. I would impress on those who have not hitherto given it a trial to do so the coming season.

Herbaceous and flowering plants generally have made luxuriant growth and flowered freely; still, our borders throughout the summer presented a bedraggled appearance, excepting on the rare occasions of a bright sunshiny day. Tuberous Begonias, which usually do so well here, are this year a failure; they made puny growth, and, as a natural consequence, the blooms were poor. Hitherto I believed ample moisture essential to their well-doing, but evidently such must be accompanied with summer heat to produce satisfactory results. Of shrubs we have to deplore the loss of some choice plants, for the two previous winters and the intervening sunless summer proved too much for their delicate constitutions. The last pair of *Eucalyptus globulus*—over 60 feet high—have succumbed. So have our finest specimen of *Benthamia fragifera*, and several *Arbutuses*, *Cordylina australis*, and various other plants which we were led to consider hardy have again been cut down to the ground, while two or three varieties of Palms, Bamboos, *Aralia Sieboldi*, &c., are still in rude health and vigour. The latter, together with the autumn-flowering *Laburnum*, *Dimorphanthus mandshuricus*, *Lycasteria formosa*, *Laurustinus*, *Ceanothus azureus*, *Hydrangeas* in variety, *Jasminum nudiflorum*, &c., endeavour to brighten our shrubberies, and make the dreary month of October gay with their profuse bloom. Our walls, excepting for Roses, Clematises, and the indispensable *Tropæolum speciosum*, have been dull and almost devoid of flowers; *Wistarias* cut off in the bud, and not a single bloom of *Magnolia grandiflora* this season—a dismal contrast to the masses of purity and fragrance annually seen on them. Roses on the whole have done tolerably well, though some of the unopened blooms of *Teas* rotted on the plants. The growths generally are strong and clean. *Rhododendrons*, *Azaleas* and all American plants did their part nobly in the early summer, and promise fair for another. The same applies to most other flowering shrubs, deciduous and evergreen, but a month of dry weather even now would be of vast advantage to all, and would probably prove to be the salvation of some of the tenderest amongst them. The Larch in the district had a sickly, half-dead appearance through the greater part of the summer, owing, no doubt, to the June frosts crippling the tender growths. I fear it will take a considerable time for many of the trees to recover.

Such is the retrospect of the past season here—dismal enough, but happily not general throughout the United Kingdom. J. R.

*The Gardens, Tan-y-bwlch, N. Wales.*

#### NOTES FROM KEW.

ON a recent visit (September 28) to the Royal Gardens, Kew, the plants outdoors were showing decided signs of approaching winter. The mixed borders and beds of Dahlias were, however, still making a brave show, but the glory of both the flower garden and the herbaceous ground had departed. Almost the only plants in the latter interesting portion of the gardens at all attractive were those in two round beds filled with *Aster Amellus* of dwarf habit, with a profusion of blooms of a very pleasing shade. One could not help thinking of what wonderful things will yet be done with *Asters* of this habit and of various shades of colouring in the way of autumnal flower gardening. A plant of taller growth, about 2½ feet, growing on a border under a wall is another beautiful object at the present time. I found on the label, "*Aster* var. *J. Wood*." The flowers are produced in rare profusion, of a pure white colour, and about the size of a shilling. The different species of *Colchicum* or autumn *Crocus* were making a fine show, some on Grass and some in beds and borders; but, being entirely destitute of leaves, the flowers decidedly show to greater advantage nestling amongst the Grass than on

beds and borders of bare earth. The *Belladonna Lily* (*Amaryllis Belladonna* var. *blanda*) was also making a brave show on a narrow border outside one of the greenhouses, but being, like the *Colchicum*, destitute of leaves, it would doubtless figure better if mixed with plants with foliage or on certain positions on Grass. *Lilium auratum* was still making a fine display in various parts of the grounds. I noticed two splendid spikes of twenty-three flowers each, and all fully expanded. A round bed of Pampas Grass, not far from the Palm house, was also a beautiful object, with an abundance of flower-spikes, large, clean, and white, with the exception of one plant, which bore spikes of a charming shade of pink. A bed of dark-leaved Beet on the parterre in front of the Palm house is a truly wonderful patch of colouring, leaves almost black with quite a metallic lustre, but perhaps too pronounced in its present position among the flower beds.

In the intermediate house, amid the wealth of fronds from Tree and dwarf Ferns of various and beautiful forms, I noticed two fine plants of the beautiful Tree Fern, *Alsophila crinita*, with its pale green leaves and curious hirsute appendages. These plants reminded me of a very curious instance of the position of some Ferns. I can remember one small nullah or ravine not far from Ootacamund, on the Neilgherry Hills, where about half a dozen plants, little and big, were to be found growing, and not a single plant more of the same species within a radius of twenty miles. It would be interesting to know how these plants came to be placed there originally. J. LOWRIE.

#### GARDEN FLORA.

##### PLATE 882.

##### DISAS.

(WITH A COLOURED PLATE OF DISA VEITCHII.\*)

THIS genus of terrestrial Orchids is peculiar to Africa and the African Islands. A large number of species is known, but very few have yet been introduced in a living state, although we hope to see some others come from such a collection as Mr. Smee has in his garden at Wallington. The finest species of the genus which the younger Linnæus named *D. grandiflora* first flowered in this country in 1825, and it is called at the Cape the Pride of Table Mountain, where it grows in great abundance. Many attempts have been made to grow this plant. The most successful instance that has come under my observation in this country has been in the Duke of Devonshire's garden at Chatsworth, where perhaps, too, the greatest number of flowers upon a raceme have been produced by a cultivated plant, viz., twelve flowers, each measuring upwards of 3½ inches across. These flowers last so well, that all are in perfection at the same time, the colour being of a rich vermilion-scarlet. The finest display of this plant which I have ever seen was a year or two ago when I visited the garden of the Comte de Germiny at Gouville, in Normandy. Here were upwards of 400 expanded blooms, besides many others in bud, all upon clean, healthy, well-developed specimens. I have been informed that since that time the display has been considerably increased; there were various shades of colour from scarlet to vermilion-scarlet, and crimson and orange-scarlet. Such varieties, however, might be well expected, as all seedlings have a slight variation in colour from the parent. Mr. Vincent, the gardener at Gouville, said *Disas* were easily managed, and the way he treated them was as follows: The plants after

\* Drawn for *THE GARDEN* at Messrs. Veitch's by Gertrude Hamilton, June 14, 1892. Lithographed and printed by Guillaume Severegns.











flowering are removed to a cool pit or house, and kept drier than usual, but not dust-dry. They are wintered in this pit or house with Geraniums and other greenhouse plants. They are potted soon after the new year, peat, leaf mould and a little loam being used, to which is added a little chopped Sphagnum Moss and some sharp silver sand. Here they are set growing, and later in the season they are taken out of this house and plunged into some leaf-mould in another pit, where they remain until they flower. The leaf-mould being kept damp not only keeps the roots and tubers in a nice healthy condition, but it also drives away the red spider and black thrips which I have seen work much havoc amongst Disas. This plant has been known to us since 1704, but it was not till 1825 that the plant first flowered.

Some smaller-flowered species have appeared in our collections. These, although not so large and showy, are still very beautiful. There is the fine azure-blue

**D. GRAMINIFOLIA**, which flowered with Mr. Cowley when he had charge of the collection of Orchids belonging to Mr. F. G. Tautz before he removed from Shepherd's Bush. This plant flowers after the leaves have fallen away, so that the long raceme of bloom is left without any background, a fault which may be easily remedied by pricking in some seedling Ferns to take their place. The leaves even if they were persistent would be insufficient to form a contrast, they being so small and thread-like. It was discovered by Masson at the Cape in the early part of the century.

**D. RACEMOSA**.—This beautiful little plant, which was known for many years, has been brought home from the Cape in a living state within the last decade by Mr. Watson, of the Royal Gardens, Kew. I have seen it flowering in many collections. It is a small-growing variety, throwing up racemes of flowers a foot or 18 inches high, bearing from three to seven blooms of a rosy purple hue.

**D. INCARNATA**.—This very pretty species was shown before the Orchid committee of the Royal Horticultural Society in March last, when it received a botanical certificate, by Messrs. Lewis, of Southgate, they having imported it from Madagascar. It is a distinct and showy plant with orange and yellow flowers.

**D. VEITCHI**, when shown before the Orchid committee of the Royal Horticultural Society on June 9, 1891, by the Messrs. Veitch, received a first-class certificate. It is the result of a cross between *D. racemosa* and *D. grandiflora*. The plant was shown in flower just twenty-one months from the time of sowing the seed. It is a very desirable and showy hybrid with large rosy pink flowers, which our figure well represents.

W. HUGH GOWER.

**Trees in London**.—From an inquiry recently made in seventeen London districts it has been found that three only are now absolutely treeless, while in the other fourteen the number of trees in the public highways is 14,700. Of these 5158 have been planted by the boards and vestries, and 5323 returned as planted by builders and others. Hampstead returns 2712, included in the first total, and adds, "Very small number planted at cost of vestry, and cannot state number planted by builders or property holders." Besides the expense of purchasing and planting, the average cost of maintenance is about 1s. 3d. each tree per annum. In some instances, in the case of new streets, the trees have to be protected in the first instance with guards at the cost of the owners. In one district they are properly guarded and staked, and the cost included in the apportionments. In eight districts wooden guards are used, and in one expansion metal guards. In Hammersmith trees are

not allowed to be planted in streets of less width than 45 feet, and Streatham is restricted in this regard to not less than 40 feet street width.

## ORCHARD AND FRUIT GARDEN.

### AIDS TO COLOURING FRUIT.

THE article by Mr. W. Iggulden on "Aids to Colouring Fruit" is a further addition to those which appeared in THE GARDEN during the early months of the present year. The view founded on close observation I then took as to the primary cause of colour in Apples was that it was principally due to soil influence, coupled, of course, with the advantages derived from the direct action of the sun and other cultural details. This same view I still hold. Wind coupled with sunshine may have its share in the changes which take place, but without soil influence colouring cannot take place. Of sunshine we get our normal share, and wind in abundance—in fact, more than our share of this latter element than in the majority of gardens; but yet it does not affect the colouring of the fruit to such an extent as one would be led to expect if Mr. W. Iggulden's theory was the correct one. In low-lying positions, but favoured with a better soil, I have seen the fruit more highly coloured. The position of another garden I could mention where colour is abnormally good is also particularly low-lying, and according to my opinion soil in this place is the primary cause of colour. It is of that fat and greasy nature, very similar indeed to what is seen in Herefordshire, where colour in Apples is invariably very good. The influence also of the *débris* of the neighbouring limestone hills must also have had its share in the work of colouring. The vigorous Elm trees—being in this respect veritable monarchs—also show this, for, as Mr. Bunyard has truly said, where these giants thrive there also will Apples grow to perfection. With such evidence as this, Mr. Iggulden's theory of wind and sunshine being the normal cause of colour will not, I think, stand good. Any evidence which may be brought forward that will assist us in getting the true solution will be only too welcome.

But Pears are the fruits now under notice, and to which I will now refer. The first question is, does abnormally high colour denote superior quality? Emphatically, no. This does not add one iota, however much it does in appearance. If a high colour could be brought to the cheeks of our best quality Pears, no one would hail it with pleasure more than myself. Another question is, do these highly-coloured Pears realise better returns than the better quality ones? I should say, no. Mr. Iggulden alludes particularly to Doyenné Boussoch, as grown by Mr. W. Bannister at Cote House, Westbury-on-Trym. It used to colour very similarly at Holme Lacy. As regards it holding its own against all comers in the market, I am not so certain. It is a very handsome Pear, very free fruiting, and if caught to the day, a fine quality Pear. But in this latter respect, how disappointing! The late Earl of Chesterfield used to say that one wanted to sit up all night, and directly it was ripe, eat it, as it would surely be "off" by the morning. The stock it is grafted on is worthy of notice, however. Knight's Monarch is a Pear the leaves of which fall rather quickly, and this being worked on the Crab, and the Doyenné Boussoch and Pitmas-

ton Duchess on the Monarch, may bring about the high colour. The foliage of Pitmaston Duchess with me is now (October 20) comparatively green, and that of Doyenné Boussoch a bronzy red. I have also noticed that comparatively stunted trees give high colour in some instances. Sometimes a branch will receive some injury, when the foliage and fruit above it will be of a much higher colour and earlier in coming to maturity. These instances must be put down to accident. Y. A. H.

**Protecting the stems of Vines**.—Many people whose Vines are growing in outside borders and taken into the vinery under the sill or wall plate have cause to remember the fact of finding some of the sail Vines flagging the first sunny day following a sharp frost through the exposed stems having been frozen at the point where they are taken into the house. The stems of all such Vines should, therefore, be bound round with small hay-bands, stuffing the ends well into the space cut out of the wall or sill, and surrounding the stems of the Vine, thereby making secure from injury by frost.—H. W.

**The Apple crop**.—A more careful inspection of pyramids, bushes, and standards, especially the last, gave promise of a better return than I at first bargained for; there is hardly an average crop, but still enough to carry us through the season both of dessert and kitchen fruit. Early dessert varieties are quite a failure, not a dozen fruit having been gathered from either Quarrenden, Mr. Gladstone, or Irish Peach. In one sense this is no great loss; early dessert Apples are not in great request, nor do I think it advisable to multiply varieties having a season of say August and September. Few people care much for Apples, save to make occasionally an additional dish, when there is plenty of stone fruit and a fair supply of Grapes and Melons. Indeed, it is a question if planters do not, as a rule, multiply varieties for all seasons to their disadvantage. A dozen or at most a score of thoroughly reliable sorts are nearly all that would be needed for home consumption in the majority of places. King of Pippins comes early enough for most requirements. If earlier fruit is demanded, Irish Peach, Lady Sudeley, and Quarrenden can be planted. Our best to follow King of the Pippins in the order of ripening are Cox's Orange, Adam's Pearmain (a hardy and prolific variety of excellent flavour), Claygate Pearmain (better than usual this year), Egremont Russet (an excellent late Apple, a regular and heavy cropper), and Cockle Pippin. I saw the other day a very fine sample of Gravenstein which was used for dessert, and if there is a continuous demand for this kind of fruit, probably the variety above-named would always prove useful through the greater part of September. Kitchen Apples are so numerous, that it is almost impossible to make a selection. A superabundance of varieties with a season from the present time to say the early part of November renders the picking out of any two or three as absolutely superior to others a difficult matter. Personally, I should be content to rely on Manks Codlin, Stirling Castle, Frogmore Prolific, Blenheim, Hambledon Deux Ans, with Easter Pippin as the latest.—E. BURRELL, *Clarendon*.

**The Wise Apple**.—Court Pendu Plat has this season certainly merited the proud distinction of being termed the "Wise Apple." This variety is supposed to flower after all danger from severe frosts is past; but, as it sometimes happens, the latest to flower have suffered from frost when those opening earlier have escaped. This year Court Pendu Plat gave no signs of being alive when most other varieties were in full flower, and consequently it did escape the frosts that proved so fatal in many cases. As a consequence the trees are heavily laden with fruit, and being rather more highly coloured than usual a very beautiful sight is presented. This variety I consider a very model of what a good dessert Apple should be as far as appearance goes, the fruit being of medium size,



somewhat flattened, perfectly round and smooth, and usually very prettily coloured. It keeps well, being in season from December to May, but unfortunately the quality is not first-rate. The fruit, if gathered when the bulk of other sorts is, becomes very tough and dry, and the least that can be done is to leave it on the trees as long as possible consistent with safety—severe frosts being liable to damage it. The tree is of stiff, erect growth, and admirably adapted for garden culture grown bush fashion.—W. I.

#### THE EARL'S COURT APPLE SHOW.

It was unfortunate that it seemed to be no one's business to publish how or on what form of trees or soils the splendid fruits shown so largely at this show were produced. We may take it for granted that it was the finest display of Apples ever seen in this country, the great show of the Guildhall not being, of course, excelled in numbers, but certainly in the size, colour, and finish of the fruits. It is very doubtful whether we shall ever see Apples in finer form. To the general public an Apple is an Apple and nothing more. That is hardly the case, however, with fruit growers, who, being desirous of learning all that can be taught respecting Apple culture, naturally wish to learn how samples that are so grand are produced. Very much of instruction in this direction would be furnished could we have, beyond classes for house-grown samples, also classes for wall, espalier, or cordon trees; also for bush trees on the Paradise stock, and, finally, for orchard trees on the Crab stock. Could it be made certain the fruits produced on these diverse trees were shown only in the classes to which they belonged, we should make a good start in furnishing the information which is so much needed. As it is, no one other than the exhibitor can tell or know anything about it. Of course, we all know pretty well how the fruits shown by the trade are grown; on what sorts of trees they are produced. These collections, though valuable as showing varieties in good form and exceedingly useful for naming or comparison, all the same have none of the interest attached to them which attends upon fruit produced on trees permanently planted, and which, whatever may be their form of training, yet have been so planted from five to perhaps twenty years. With only one prominent exhibitor's fruit trees was I familiar—those of Mr. Turton, of Maiden Erleigh, who certainly showed splendid fruit, and these are nearly all of bush form on the Paradise stock, and have been growing on the strong clay soil there for periods ranging from five to fifteen years at least. Some few of the fruits came from standard trees of ten or twelve years' growth, but not very many. One result of the information afforded, could it be obtained, would be to show first what forms of training seemed to give the finest fruits, also what kinds of soil, although it would not be a matter for surprise to find that almost any description of soil where the atmospheric surroundings are good gave fine, clean and well-coloured fruits. Growers like Messrs. Woodward, Mackenzie, Killick, Chambers and Goldsmith, however, could, if they would, tell us all about their trees and soils in these pages, and thus let some light in upon their remarkable success at the show. It is also worthy of note that out of the nine collections which took prizes in the three Apple classes for fifty, twenty-four and twelve dishes, six lots were from Kent, one from Horsham, Sussex, and two from Reading—all from south of the Thames, whilst Kent got by far the lion's share. Hence, perhaps, it will be said that situation has all to do with it, but Mr. Turton's soil and situation at Reading are far from being good, and his trees are, as before said, nearly all free-grown bushes on the Paradise stock. We should like to know as much about the trees, soil and situation of the other successful competitors. One thing resulting from the show is certain: we have made the standard of Apples higher, if possible, than it was before, and if it should lead to the keeping at home of inferior samples in the future, so much the

better. Shows of this kind fail very much if they do not educate gardeners as well as the general public in what constitutes exhibition quality in Apples. Perhaps the most noticeable feature of the show was the worship of size in preference to actual quality, which seemed to be very manifest. That is due to the exhibitors to some extent and to the judging also. In the collections, the proportion of large or kitchen varieties to the dessert sorts was most marked; in fact there were relatively from three to four dishes of the big fruits to one of dessert kinds. This fact shows how essential it is that not only in classes should the numbers of kitchen and dessert varieties to be shown be definitely stated, but also that in all proper Apple competitions dessert varieties should have classes to themselves, independent of the kitchen sorts, so far as is possible. One great danger from favouring size in preference to high flavour and table quality is that growers, especially new ones, are likely to plant only the large soft-fleshed and early cropping varieties, while the superior flavoured and long-keeping sorts are in danger of being ignored. In one of the collections of twenty-four varieties, the dessert sorts, such as American Mother, Cox's Orange Pippin, Ribston Pippin, Rosemary Russet, Blenheim Pippin, King of the Pippins, and some others, were really perfect in every respect, and a half-dozen dishes could have been selected from them that in any class for dessert varieties would have been hard to beat. Still, these were in but comparatively small proportion, because the exhibitor knows that, unless he sets up large fruits, his collection will, let the sorts be ever so meritorious otherwise, look dwarfed and not receive the attention it deserves. In all large classes it should be required that at least one-third of the sorts should be *bona-fide* dessert, and in smaller classes dessert varieties should be placed on entirely the same footing as are the large, soft-fleshed kitchen sorts.

A. D.

#### JUDGING GRAPES.

I FEAR the proposal largely to increase Grape classes at shows will neither be practicable nor help to get rid of the anomalous judging of Grapes sometimes seen. In most cases it is not possible to afford more than two or perhaps four Grape classes, and it is in these that the judging complained of generally crops up. Is it not possible to establish some sort of standard of judging in relation to diverse sorts of Grapes by which so many marks shall be given for flavour, for a berry or two from a bunch can always be tasted, and when there are disputed points should be? Then some marks should be given to finish of berry, including size; also size and form of bunch, although it is not to be supposed that bigness in a bunch at all outweighs absence of finish or good form. Each Grape has in the form of the bunch certain typical characteristics. These should always have special attention and marks. Surely it is not beyond the power of the contributors to THE GARDEN to devise some kind of standard. Thus, if we take such Grapes as Muscat of Alexandria and Madresfield Court, without exception two of the very best flavoured and finest Grapes in general cultivation, we cannot well do less than give to each the maximum of three marks for flavour. If the berries be fine, richly coloured, or fully ripened, and not too hard thinned, three marks should be given, and only two marks or less if size, colour and ripeness be deficient, such as may be not infrequently found in the case of greenish Muscats and of reddish Madresfields. Then three marks should be given for contour or character of bunch when that feature is of the best and truest, and that method of marking should be applied to each bunch if there be two or more exhibited in a class. Then when Hamburgs, Alicantes, Mrs. Pince, Gros Colman, Gros Maroc, or Alnwick Seedling of blacks, or Mrs. Pearson, Foster's Seedling, Buckland Sweetwater, or other whites, were shown in the same class, each one should be fully appraised on the same basis, viz., flavour, size, and finish of berry,

contour of bunch, and in all cases those which received the highest number of marks must win. Of course, it is absolutely impossible, when judging is remitted to men of very diverse and fallible conceptions, to have every award equally satisfactory, but at least the laying down of certain standards by which Grapes should be judged, especially if show committees adopted those standards and required their judges to act upon them, would lead to very much more of equality in awards than now exists. I am not sure whether it would not be a good thing if we could create a sort of manual of judging of everything at horticultural shows. There are many points of difference between judges in relation to commoner things than Grapes, and the astounding awards sometimes so exceedingly inconsistent have often greatly surprised me. These are to be excused only on the ground that even flower show judges are so very mortal. However, it would be a good thing to start with Grapes, our premier fruit, and then stone fruits—Peaches, Nectarines, Apricots, Plums, &c.—might follow. After that Apples and Pears, and so in time we may secure some standard of judging for every thing. I commend this suggestion to "W. I.," "A. Y. H.," and others who know all about Grapes.

A. D.

#### GRAPE GROS GUILLAUME.

I HAVE been successful with this Grape for a number of years until the present; this year the bunches are not colouring as I should like to see them, which is attributable to rather an over-crop. The one cane I have is on its own roots; the eyes were taken from a Vine that produced the first prize bunches of black Grapes for six consecutive years I think it was, at the Liverpool autumn show—by no means an easy task. If I remember aright, that Vine was growing on its own roots also. I have had bunches weighing up to 12 lbs., but I cannot say they were of good quality; the berries were not large, nor was the colour quite like that of smaller bunches. At no time has this Vine produced ugly-shaped bunches; the largest were symmetrical, smaller ones especially so. Bunches weighing from 3 lbs. to 5 lbs. I found the best in every respect. Huge bunches take too much time and trouble in thinning, but, for a novelty, one or two are very well in their way. For some years I was able to get large bunches and plenty of them by close spur-pruning, but latterly have had to adopt longer spurs, say four or six buds from the Vine. After the bunches are removed, these shoots are cut close back to the main rod; the growth resulting gives other bunches in due course, and so on. If this method of pruning is followed, no difficulty need be experienced in obtaining a full crop of fruit every year. When Gros Guillaume is represented in perfect condition, no variety that I know has the same dense black which its berries assume; other sorts may carry more bloom, but this is very striking. As to its flavour, it is certainly not more than second-rate. I have tasted it at various times from September to April, and found it was the same. I have seen small bunches of this Grape exhibited under the name of Black Hamburg, and as such carry off prizes, which was anything but creditable to those responsible, when Hamburgs were stipulated for. It was in the late vinery among other late sorts, such as Alicante, Mrs. Pince, and Lady Downe's, that I had the best results from this Vine, but our vinery was always started on March 1, which is tolerably early for a late house. I found this Grape required more water after the berries commenced to colour than did any other sort in the same house and also to swell the berries to their fullest extent. They commence to colour when smaller than any other variety; the extra moisture assists them very much in obtaining a full growth. The foliage in autumn is remarkable for its rich colouring, tinted so prettily with red, that the leaves are much in request for the decoration of dessert dishes, &c. In another garden of my acquaintance the best Grapes in point of bunch, berry, and colour were of this variety, and were produced in a house



which is employed also as a stokehole and potting shed combined, which appears remarkable. The house in question had, of course, a glass roof, and was part of a connection between two ranges.

E. M.

### NOTES ON STRAWBERRIES.

In reply to the following questions concerning Strawberries—

- 1, *Best kinds for flavour and bearing in your district;*
- 2, *Best early and late kinds for open air culture;*
- 3, *New or little-known sorts you have found worthy of cultivation;*
- 4, *Mode of treatment to secure the best and most regular crops;*

we have to thank correspondents in all parts of the kingdom for replies.

— With regard to Strawberries, in point of flavour Duc de Malakoff and President are the two best, considering their cropping qualities. The Countess also does well, and Waterloo is a very useful late kind and promises to succeed in this district. The best early and late kinds for open air culture here are Duc de Malakoff and Waterloo. Noble I have given up, it not being appreciated here. In the way of new or little-known sorts, I find Lucas a fair cropper, of excellent flavour. Commander, a handsome Strawberry in the way of President, also very good. Jubilee, of fine flavour and very late, but not showy enough, does not set very well. Stirling Castle good and late. Our mode of culture here is to plant in the early autumn in well-manured and deeply-trenched ground, incorporating plenty of clay marl, the soil being of a light description on the red sandstone, otherwise we get more foliage than fruit. We plant in rows 2 feet 6 inches apart and the plants about 2 feet asunder in the rows, destroying them after the third season of bearing.—J. J. CRAVEN, *Allerton Priory Gardens, near Liverpool*.

— Strawberries have been moderately good, the best being Vicomtesse Héricart de Thury, President, and Auguste Nicaise, the last producing some very fine fruit. The varieties mentioned above, with the addition of La Grosse Sucrée, are the best for flavour and bearing in this district, the earliest being Vicomtesse Héricart de Thury and Laxton's Noble; but for late use the best are British Queen and Oxonian. To secure the most regular crop I plant the runners on ground that has been well manured the previous winter, and from which a crop of Potatoes or early Cauliflowers has been gathered. I plant them in rows 3 feet apart and 18 inches from plant to plant, but instead of planting the runners singly, I plant them in clumps of threes.—W. CHESTER, *Chatsworth*.

— The kinds that do best here are Auguste Nicaise, Bicton Pine, Helena Gloede, James Veitch, John Ruskin, La Grosse Sucrée, Oxonian, President, Sir J. Paxton, and Vicomtesse Héricart de Thury. For my late crop I depend on Helena Gloede and Oxonian, and for early crop on John Ruskin and La Grosse Sucrée. My treatment for outside is as follows: I use my forced plants, planting them 2 feet in the row and 2½ feet between the rows, and give them a heavy mulching of manure in autumn, but do not fork between the rows. As a rule I take three crops and then dig up. This treatment I find best on our light land.—C. SLADE, *Cumber Gardens, Worsop*.

— President was the best kind we had this season, and next to this came Sir Charles Napier. Helene Gloede produced a good crop, but the fruit was worthless. Most of the newer kinds did but poorly, although we usually grow Strawberries well and have fine heavy fruit. The plan we adopt is to secure some of the earliest runners; these are layered into 4-inch pots, and as soon as rooted are planted on well-prepared ground in rows 2 feet 6 inches apart, allowing 2 feet between the plants. Treated liberally, they usually make

strong plants by autumn, and as the crowns are plump, they throw up good spikes of flowers the following season. To grow first-class fruit they should be planted early in August, or the plants have not time to make their growth. If treated as liberally as those intended for forcing, there is no reason why a full crop of fine fruit should not be produced the first season.—H. C. PRINSEP, *Buxted Park, Uckfield*.

— We depend on President, Sir J. Paxton, and Vicomtesse Héricart de Thury, the last being useful for preserving. Amongst the newer varieties Noble is an acquisition on account of its earliness, being of good constitution, a first-rate cropper, and of medium flavour. Auguste Nicaise is of good constitution, a fairly good cropper, and good flavour. Amongst the newer varieties Waterloo does well here, but the flavour is not first-rate. British Queen, Dr. Hogg, Mr. Radcliffe, and La Grosse Sucrée will not do here at all, and I find with all the varieties planted from pots after forcing, we get the most satisfactory returns the first season, never leaving them more than two seasons.—R. C. SANDERS, *Halton Gardens, Tring*.

— With regard to Strawberries, I have reduced my stock to the following varieties, which do best on our soil: First Early, Keens' Seedling and Laxton's Noble. The latter variety has been good; the hot dry weather we had just as it was ripening gave it some flavour, which in a wet season would have been wanting. President next, good crop and a most useful one here for preserving; but the best of all the Strawberries we grow is The Countess, which is much admired for its fine flavour and size. Dr. Hogg and Loxford Hall are my latest. We plant three beds every year and always break up those which have carried their third crop. Our plants are all layered into 3-inch pots, taken from the youngest beds, and they are planted 2½ feet from row to row and 18 inches in the rows.—P. M. MOBSBY, *Yate House, Gloucester*.

— We grow seven sorts here which we find to suit our soil and situation, viz., President, Sir Joseph Paxton, Sir Charles Napier, Countess, Dr. Hogg, La Grosse Sucrée, and Laxton's Noble. We find President the most useful all-round sort for either forcing or general culture. La Grosse Sucrée and Countess the most reliable for early forcing and also good outdoor varieties. Laxton's Noble is a large, free-bearing and also a good forcing sort, deficient in flavour. New sorts I must fairly prove before I report upon them.—P. DAVIDSON, *Inverne Minster, Blandford, Dorset*.

— In this district the favourite Strawberries of the market gardener seem to be Alice Maud for early and Sir Joseph Paxton for main crop. I grow these two sorts and find they answer remarkably well, their flavour and colour being excellent. These are the only two I force. The best early kinds are Laxton's Noble and Alice Maud; they ripen about the same time, and answer better than other kinds in our soil. Of late varieties I find Latest of All far the best. Besides those mentioned the following sorts do very well: President, Sir C. Napier, Commander, and A. F. Barron. The best mode of treatment is to deeply dig and heavily manure the ground and plant as early as possible, say August. I plant in rows 2 feet apart and 2 feet in the row. I mulch them well, say, early in December, and find that a good protection from frost. The beds are worthless after the third season, so it is necessary to plant and destroy a piece every year.—S. J. RICHARDS, *Mount Edgecumbe*.

— The best early sorts we grow are King of the Earlies (small, but of good flavour and colour), Vicomtesse, Héricart de Thury, Laxton's Noble (not first-class in flavour, heavy cropper), Sir Joseph Paxton (if I was confined to one kind, this would be the one; it is a first-class bearer and of good hardy constitution). Best late kinds are Frogmore Late Pine, good cropper and first-class for preserving; Elton Pine, also good for preserving and good bearer. I forgot to mention Pauline; this is a very early sort, but not of first-class flavour, rather mealy. The Countess is a midseason variety and one that I can thoroughly recommend, and little known in this neighbourhood. It has a brisk, but pleasant flavour, and if a little attention can be

given by way of turning the points of the fruits to the sun, it colours splendidly and makes one of the finest dishes of the season. With regard to the best mode of culture, each individual has his particular way. Speaking for myself, I find after the third year of bearing, new beds should be made, or rather, I should have said, new beds should be in waiting to succeed these; but such varieties as Sir J. Paxton if liberally treated will bear well the fourth season, while the British Queen (which I omitted to mention above) will only bear one good crop in this garden, simply dying the following winter. We plant a small bed of this every spring. I plant the rows 30 inches from row to row, 24 inches from plant to plant, the ground having been previously well manured and trenched deeply. I prefer spring for planting, as if deferred till late autumn (which is often the case), the frost lifts many of the plants out of the soil. I make the soil very firm round the plants after they have been turned out of the pots in which they have been wintered. After the fruit has been gathered the beds are thoroughly cleaned, all runners are cut away, as well as dead and dying leaves, after which the beds receive a heavy dressing of rotten farm manure. I find the sooner it is completed after the fruit is gathered the better. The dressing keeps the drought out from the surface roots. Vicomtesse Héricart de Thury is the best and most reliable early Strawberry we have coming into use ten days before Sir J. Paxton. I have tried most of the newer kinds, but have found them wanting in many respects.—THOS. ARNOLD, *Cirencester House, Cirencester*.

— Strawberries that do best with me are Vicomtesse, Noble, Sir J. Paxton and President. The following sorts I have tried and given up growing: Dr. Hogg, James Veitch, Latest of All, La Grosse Sucrée, and Auguste Nicaise I have grown for the last time outside. My plan for outdoor Strawberries is to plant out plants that have been forced on well-manured and deeply-trenched soil, leaving them for two years only, having proved to leave them the third year is a mistake. The crop has not been more than half as heavy as in the two previous years.—J. BOWERMAN, *Hackwood Park, Hants*.

— I found Noble gave the best crop, but it is not of good flavour here, but very hardy. I find nothing better for early work outside or in pots than Keens' Seedling. President, Sir J. Paxton, and James Veitch I find the best for forcing, coming in in the order named. Sir C. Napier, Dr. Hogg, and Vicomtesse H. de Thury do well. Eleanor is very late, but does not do well. Jubilee was not satisfactory. My mode of culture is to renew the plantations every three years. I plant out those I force as soon as I can get ground ready for them about July; they give a good crop the following year. But those I do not force and plant out from runners do not give a crop worth anything till the second year, so that they are on the ground four years. My forced plants give the best results when planted out. The soil is very stiff on the blue lias.—WM. KEEN, *Bowden Hall, near Gloucester*.

— The sort most generally grown for main crop is Vicomtesse Héricart de Thury. Laxton's Noble is being fast rooted out, though noble in appearance. The flavour is not at all good. The sorts I am going to grow next year are Black Prince, Vicomtesse, James Veitch, President, Sir Joseph Paxton, and Dr. Hogg. I find on my soil the plants are at their best the second season after planting. Some gardeners do best with them the first year. The piece of land I intend for Strawberries I bastard-trench early in autumn, affording plenty of farmyard manure; then take a crop of Peas. When these are cleared, I lightly fork over the ground and plant out the young plants.—A. J. SANDERS, *Culham, Surrey*.

— Sir Joseph Paxton and President are the sorts chiefly grown by the cottagers. In these gardens Noble, although the earliest and fine in appearance, has no flavour. The best main-crop varieties are Sir Joseph Paxton, President and Dr. Hogg, with Elton Pine for late work. I find we get the best fruit both in quality and quantity on plants



from one to three years old, so we discard them after the third year. Cherries are an average crop. Raspberries have also borne well. Bush fruits very good, especially Black Currants, which were exceptionally fine in quality. Gooseberry bushes have been badly attacked with the Gooseberry sawfly in this neighbourhood; in fact, in some of the cottagers' and farmers' gardens the bushes were quite naked, not a green leaf to be seen, although loaded with fruit. Walnuts are a good crop with us this season, and Nuts are an average crop.—ISAAC MILSOM, *Claydon Park Gardens, Winslow.*

— Laxton's Noble was a failure this season outside; the best we had inside. It is large, good-looking, no complaint about flavour, and packs well. We sent Noble to a London house three times a week all through April. La Grosse Sucrée we use only for early forcing; the best I have tried for use through February and March. John Ruskin is a good early, ten days earlier than Noble. Vicomtesse H. de Thury is good for all purposes. Sir J. Paxton forces well, but not early. President good always. Dr. Hogg does well, but does not colour in bad weather. We had a small patch on north border which lasted a fortnight later than the main crop. Helena Gloede does well; very large fruit of good flavour, heavy cropper, hardy kind. Loxford Hall we grow only on north border, which extends our season a week or two longer. It is the best late variety we have tried here. The Captain and King of the Earlies we have done with. One is too small, the other is not worth eating. Many of the newer kinds we have planted for the first time for trial.—F. J. THORNE, *Sunningdale Park, Berks.*

— I find Laxton's Noble the best early fruiting both inside and out; it is a larger and heavier cropper than the old Keens' Seedling, and the flavour fairly good. Vicomtesse Héricart de Thury, heavy cropper and good flavour. James Veitch, a very large kind. Sir Joseph Paxton, one of the best old kinds. Waterloo I find a good late variety.—W. HEAD, *Hughenden Manor, Bucks.*

— The Strawberry crop good and fruit fine, and most kinds extra good flavoured where they have been watered and mulched with clean litter.—W. SMYTHE, *Alton, Herts.*

— Strawberries good. I grow about twelve sorts of Strawberries here. I seldom keep them more than two years in the ground, but plant as early as I can to secure a crop the first year. The soil is very light, but by trenching and plenty of manure I get fair results. The following are the sorts I have grown this year, the earliest being mentioned first, the others in succession: Black Prince, early, crop and flavour good. Noble, early, very large, crop and flavour fair. Vicomtesse Héricart de Thury is the most reliable sort we grow. Crops heavily, flavour good. President, fruit large, crop good, but with me subject to mildew. Sir C. Napier, heavy cropper, but flavour rather sharp. Bicton White Pine, free bearer, large fruit, flavour not generally liked, but a useful Strawberry here. Waterloo, late, large fruit, flavour not good with me, as it was grown in a shady place to prolong the season. Jubilee, a very late sort. I have only a few plants put in late, but one of my neighbours gathered some nice fruit on August 15, which is very late here, so I consider it a useful sort. Dr. Hogg has not fruited freely here this year. A. F. Barron I have tried for the first time this year. I think it will do very well another year.—E. BERRY, *Roehampton.*

— Laxton's Noble was the first to ripen on June 9 in a very open and exposed situation, followed by A. F. Barron, James Veitch and Laxton's Commander. This variety throws the flower-trusses well above the foliage. Finished gathering the first week in August with Oxonian and Latest of All (Laxton's). This is a very good variety of the British Queen type and flavour. I have no outside experience of John Ruskin, but it is a good forcer. The plan I generally adopt in cultivating the Strawberry is to prepare a piece of ground by either trenching or deep digging first, adding good farm-

yard manure. I make it a rule to plant my forced Strawberries early in the autumn; by this plan I get good crops of fine fruit every year. By planting a breadth annually I can destroy old beds every year, not allowing them to remain more than two seasons. I grow a variety named Amateur (Bradley's); this seems to be but very little grown, but I consider it a very good mid-season Strawberry with a Queen flavour.—G. R. ALLIS, *Old Warden Park, Biggleswade.*

— Our early kinds are Noble, Vicomtesse Héricart de Thury, Keens' Seedling, La Grosse Sucrée and James Veitch, which are all good. Sir Joseph Paxton is a good one with us, flavour good and travels well. British Queen does remarkably well. Sir Charles Napier always crops heavily with us. Lucas is a nice bright fruit and crops well. Jubilee did not crop so well with us this year, and it was a little inclined to mildew; in other years it has done well. I make fresh beds every third year on deeply-dug and heavily-manured ground about 2 feet 6 inches, and keep to single crowns.—T. OSMAN, *Ottershaw Park, Chertsey.*

— The kinds of Strawberries generally grown in this district are President, Keens' Seedling, Sir

of the very best flavour; this, however, is counterbalanced by its many other good qualities. It did equally well with me outside, and was quite a week in advance of Black Prince. The best variety for flavour I have yet found is unquestionably British Queen, but if allowed to remain on the same ground more than two years it does not bear very freely with me, and the same remark is applicable to Keens' Seedling. All others I allow to stand for a third year with fairly satisfactory results. I annually renew about a third of our quarters, and by this method manage to secure the best results, planting the young runners as early in the season as I can secure them.—B. ASHTON, *Glossop Hall, Manchester.*

— The best kinds for flavour are Keens' Seedling, British Queen, President, Frogmore Late Pine, Sir Charles Napier. Best kinds for bearing: Frogmore Late Pine, Vicomtesse H. de Thury, Sir Charles Napier, President, British Queen; Keens' Seedling also bears well. Best early kinds for open air culture are Vicomtesse H. de Thury, Keens' Seedling and President. Best late kinds for open air culture are Frogmore Late Pine and Sir Charles Napier. My mode of treatment to



Savoy Long Dwarf Elm.

Joseph Paxton, Héricart de Thury, British Queen, and Elton Pine. The best early kinds are Keens' Seedling and Héricart de Thury, and the best late kinds British Queen and Elton Pine. We have tried several of the new sorts which have from time to time been sent out with a high character, but have failed to find any to surpass the above-named in any respect, and after giving them a fair trial all have been discarded. Our method of growing the Strawberry is, with the exception of Elton Pine, which we always devote a special border to, and which we leave for three or four seasons, is not to leave any of the sorts longer than the second season. The ground for them is always trenched and well manured the previous winter. It is then planted with early Potatoes, which are all cleared off in time to plant the Strawberries, which are always layered in pots by the end of July or early in August, the ground only requiring to be made firm and level for them.—T. TURTON, *Maiden Erleigh, Reading.*

— Our best Strawberries have been Sir Joseph Paxton and James Veitch. I have formed a very good opinion of Strawberry John Ruskin; especially is this variety valuable for early forcing, being much earlier than any variety I have hitherto grown, a free cropper, of good colour, though not

secure the best and most regular crops is to make fresh beds every year from the earliest runners, which are always very strong, from the previous year's beds. Referring to dates, I find one bed last year was planted July 29 with well-rooted plants from 3-inch pots, layered same time as the ones for forcing. Gardeners that have visited here could scarcely believe that they were last year's runners. I have never seen so fine a crop from plants of any age as from these one-year-old beds. In previous years I have cut away the bloom from young beds, not having made extra provision for putting down the forcing pots, as it is no use unless the beds are netted from birds, which makes it difficult. The first dish of Frogmore Late Pine was gathered July 8, splendid fruit many weighing quite an ounce each; so much for size. For flavour it stands second only to Keens' Seedling, British Queen and President. These four, with Vicomtesse, are sufficient for all the requirements needed here. Frogmore Late Pine also stands our wet climate well, a great consideration; foliage also very robust, protecting the fruit against heavy thunderstorms. Were I tied to one kind of Strawberry, I should without hesitation select Frogmore Late Pine. I have gathered every day from July 8 till present date,



August 18, which is proof sufficient of productive-ness. President too and Sir Charles Napier have been most abundant and good. To have the best of Strawberries, make fresh beds every year in well-worked ground that has lain fallow the whole summer, plant with the strongest runners not later than the middle of August, and success is certain. —J. RAINBOW, *Broughton Hall, Skipton.*

## KITCHEN GARDEN.

### VEGETABLES ON HEAVY LAND.

DURING wet sunless summers, those who plant or sow several kinds of vegetables on heavy or clayey ground get altogether the worst of it, the progress in numerous instances being very



Savoy Tom Thumb.

unsatisfactory indeed compared with what is obtained where the soil is of a lighter, warmer nature. Last year the progress made by various winter green vegetables throughout the growing season was, in my case, most disappointing, Brussels Sprouts being the principal exception to the rule. The subsoil is largely solid clay, and the ground wants plenty of sunshine or a comparatively hot and dry summer to bring out its best qualities. To a certain extent these conditions were realised during the past summer, and the progress made by the autumn and winter crops has been more rapid and stronger than desirable. For instance, not a seed of any variety of Savoy was sown till May 9, and yet numbers of large, close hearts have already been spoilt. Most of the rows of Tom Thumb, Early Ulm and Dwarf Green Curled planted on a north-east border have hearted earlier than required, and even the Drumhead is unusually forward. No remedy for this state of affairs has occurred to me, and another serviceable winter crop is also in a fair way to be spoilt. I refer to the Chou de Burghley or Cabbage Broccoli. The plants were purposely raised late, or at the same time as the Savoys, and they were put out rather thickly on firm ground with a view to keeping them from growing too rankly. In spite of this precaution, not a few of the hearts are a foot in length and quite hard; but, luckily, they promise to keep better than the Savoys, and later on I shall take the precaution of bedding a number of plants closely where they can be covered with mats. It is very acceptable in the servants' hall, but Chou de Burghley does not often find its way to the dining-room, the preference being given to small Coleworts and May-sown Cab-

bage. The latter promise to be better than usual, and the old Cabbage plants left on the ground all the summer are producing a superabundance of good hearts.

Brussels Sprouts are strong, but, being allowed abundance of room, the plants being 30 inches asunder in rows 42 inches apart, they are beautifully furnished with close, neat sprouts. Those who have planted more thickly complain of the quality of the crops, there being far too many great loose sprouts. An early removal of some of the lower leaves would have done good in such cases, a freer circulation of air hardening the stems and improving the quality of the crops accordingly. The tops or crowning heart of Brussels Sprouts are by many preferred to the sprouts, being very tender and mildly flavoured when cooked.

An early removal of these is apt to shorten the duration of the crops, but in very many cases there is every likelihood of severe frosts spoiling these topmost hearts, and if the latter are particularly wanted, there is no good reason why the action of frost should not be anticipated and a few tempting dishes sent to the table. Instead, however, of cutting off the tops recklessly, the better course to pursue would be to cut out the hearts neatly, or much as they are after being trimmed by cooks. The older leaves being left, would serve to foster and protect the later or topmost sprouts.

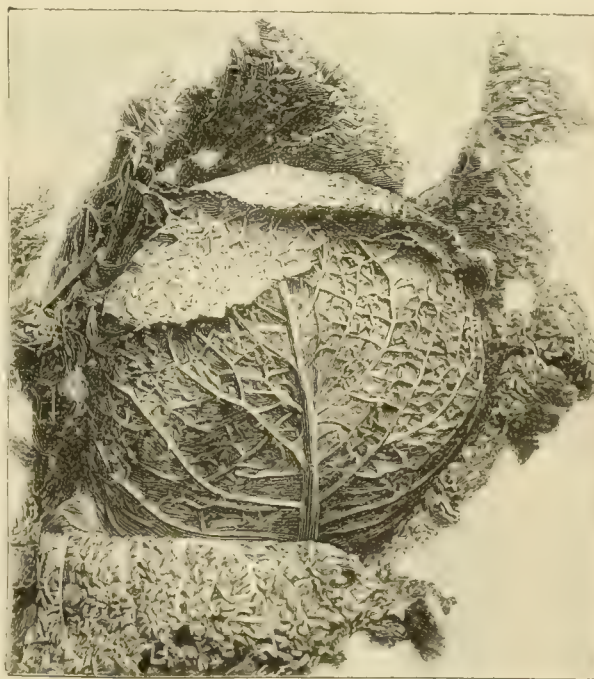
After losing the bulk of Broccoli growing in the middle and lower part of the garden by frosts during severe winters, it has been my practice of late years to plant the bulk of this crop on the highest ground available. Well exposed it grows more sturdily, and is far less liable to be injured

by frosts than is the case with that on lower ground. This season the plants are coarser than I care to see them, but the stems are fairly short and were also well moulded up before the leaves covered the ground, and the bulk, or all that should heart in after January and February, will be left to take their chance. I may yet regret not having either checked their growth or laid the stems (the most vital part) so as to quite cover them with soil, but shall risk it. All the later plants of Veitch's Autumn Protecting will shortly be lifted and replanted closely in deep pits, some also being placed in a cold vinery. This tender variety is far too valuable to be left in the open, and the roots being firmly surrounded with rich moist soil, good serviceable hearts will be obtained when most wanted, viz., during part of November and December.

On heavy land, late-sown Spinach—and by late-sown I mean any got in towards the end of August—is little better than a failure. Luckily, I had a rather large breadth of ground specially prepared for winter Spinach, the seed being sown during the first week in August. At one time this promised to be too early, but a change

to cooler, moister weather prevented bolting, and a very serviceable lot of Spinach, it being wanted now as much as, if not more so, than during any other time of the year, is the result. Victoria has not made such good progress as the common round-seeded form, but in all probability it will be the most productive of fine leaves next spring. That Spinach must have some warmth as well as fertility in the soil to grow it well is plainly demonstrated once more, but it is seldom that cultivators of heavy soils see such a great difference in the value of two crops, that sown a fortnight later than the other being a comparative failure. I have met with several such instances this season, and those who failed to sow the bulk of their winter crops well before cold rainy weather set in have good cause to regret the delay. As further showing what an important part sunshine and warmth play in the production of vegetables on heavy soils, I might also add my experience with Borecole this season. During the summer of 1891, all that was planted in the cooler parts of the garden made very poor progress indeed—did not nearly cover the ground, in fact. This season the seed was sown about the same time as usual, that is, during the first week in May, and the plants put out before they became crowded in the seed bed. By way of experiment, several long rows were planted exactly where the comparative failures were last year, and that, too, without any more manure being added or digging done. These rows are now some of the best in the garden, the Scotch or Green Curled forms being particularly sturdy and strong. Whether or not Borecoles generally will pass uninjured through the winter remains to be seen, but I should have more faith in them if the stems were harder. W. I.

**Parsley in winter.**—Growing Parsley in frames for winter use has been often advocated, and a good plan it is, for under such conditions good



Savoy Green Curled.

leaves can always be easily got without being grubbed after in the snow and picking whatever first comes to hand. The advantages are cleanliness, saving of labour, and comfort to the gatherer



My practice is somewhat different to that of most people, as instead of making a special late sowing for the purpose, I leave a portion of the spring sown rather thickly in the rows, and when the earliest frame Cucumbers are over they are cleared out, the frame levelled, and the Parsley carefully lifted, not necessarily with balls of soil attached, but with the main roots intact, and planted at once and watered in heavily as planting proceeds. About the middle or end of September nearly all the leaves are picked off, with the result that a fresh crop of good substantial leaves soon grows, and we get a bigger bulk of finer produce than young plants would carry.—J. C. TALLACK.

**Two good late Peas.**—Recently, when calling at Cricket St. Thomas, the value of good late kinds of Peas was brought to my notice. At the time of my visit (early in October) some plants of Ne Plus Ultra and Walker's Perpetual were full of pods, and the plants were blooming freely, looking as fresh as in July. Judging from their appearance then, Mr. Lyon will be able to gather Peas well into November should the weather not come too severe to injure them. No doubt the liberal treatment Peas receive at the hands of Mr. Lyon helps them in a large degree. He prepares the ground for them several months beforehand by digging in a good quantity of manure, and it gets well decayed by sowing time.—DORSET.

#### NOTES ON TOMATOES.

To judge by what one reads, the season now nearly over has been an excellent one for Tomatoes both under glass and out of doors. My own personal observation leads to a somewhat different conclusion, and from facts that have come under my own immediate notice, I should say that there has been a rather larger proportion of failures than usual. In this district (Sussex) this is undoubtedly the case, and I have received so many complaints and inquiries as to various diseases and failures from almost all parts of the country, that I believe this state of things is, or was, tolerably general. I have never seen so many cases of disease (*Cladysporium*) as during the past summer and autumn, and know for a fact that an immense amount of damage and loss has been sustained from this cause alone, while examples of fruit affected by the black spot (*Sporocye lycopersicum*) have reached me from nearly all parts of the country, and complaints of the flowers failing to set, during the first half of the season in particular, have certainly been more numerous than usual. This was doubtless attributable throughout the north to the unusual absence of sunshine experienced up to about midsummer in that district; but here in the south we had nothing to complain of on that score, and indeed up to August, at any rate, were favoured with an exceptional amount of bright sun from quite early in the year and a corresponding scarcity of rain.

How else can the almost remarkably high prices that have ruled during the greater part of the season for well-grown English produce be accounted for? Tomatoes are now more extensively grown than ever, and yet up to about July quite high figures were readily obtained for any decent samples. In August, as usual, the wholesale price dropped for a short time to about 3d. per lb., but it soon recovered, and now good house-grown fruit is again worth 8d. to 10d. per lb., if not more. For the open-air crop, the season has certainly been the most favourable experienced since that of 1887. Even on our heavy and cold clay land there was no trace of disease on plants in the open until the early part of September, and even then only a trace here and there; while, where the soil is lighter and drier,

they in many places escaped altogether, and with very few exceptions all plants outside seem to have thriven and set unusually well. The sharp frosts of the 15th and 16th of June, however, played sad havoc in exposed or naturally cold districts, and a pretty severe touch on the 5th of September checked the plants in this neighbourhood for the season. Still, I have seen some few excellent crops in the open and have heard of several quite remarkable ones. I put out far fewer plants than usual, and I fancy that many others did the same. Strong, forward plants that were put out in good time and escaped injury from the late frosts did wonderfully well. More than one grower of my acquaintance began gathering ripe fruits from the open about the middle of July, and the yield was very heavy. In order that the plants may do any good, it is, however, imperative that the soil be of a comparatively light and dry or well-drained description; on heavy land the damp hangs about them so, in spite of all precaution, and then not only do they fall an easy prey to the disease (*Peronospora*), but the setting also is very defective.

Referring again to Tomatoes under glass, for my own part, though as usual I have had not the least trace of *Cladysporium* on any of my plants, I always hold it to be the grower's own fault if any real trouble is experienced from this cause. I have lost a good deal of fruit from black spot, though this is doubtless due to a great extent to a somewhat damp house and heavy cold soil. But what has caused me far more trouble and loss than anything else is a peculiar disease for which, as far as I know, there is no name. The plants, apparently healthy in every respect, begin to flag slightly, especially when one or more days of bright sun succeed a dull or wet period, and this increases until they die. I had a few cases of it last season, but nothing like this year, when dozens or scores have failed in this way. Only one here and there is, as a rule, affected at any one time, but week by week it continued, some failing when quite young, and others not until they had grown to some size and were carrying several pounds' weight of fruit apiece. I had several inquiries concerning an exactly similar affection from various parts of the country last season, and several of the large growers in and near Worthing told me they suffered great loss from this cause last year also. How they have fared this summer I know not, though I hope to have a look round that district shortly; but when there in the spring I saw a number of large and healthy plants already showing signs of giving way under the influence of a few days' bright sunshine. No description of treatment seems to be of any avail. In some few cases I have managed to pull them through by heaping up some light sandy soil round the stem, into which, if done in time, they sometimes push fresh roots and in time pull round, but the majority fail sooner or later.

The cause is decidedly obscure, and any light thrown on the subject would be valuable. In several cases it has occurred when the plants were grown in soil that had recently been cropped with Potatoes, but though decidedly probable, this will not account for it altogether. On the whole, I am inclined to attribute it to heavy soil and want of drainage. The soil around Worthing is for the most part decidedly stiff. At any rate I intend to take out all my beds next year, drain them thoroughly, and set out the plants in not more than 9 inches in depth of specially prepared soil of a light and sandy character. I should have stated that the formation of incipient air-roots above the surface of the soil invariably

accompanies, or rather precedes, this peculiar disease.

Tomatoes succeed remarkably well when grown in low pits or frames with or without a little artificial heat. A few years ago I used to grow them in this way with excellent results, and this year I have met with and heard of several cases that have been remarkably successful. The growth of the plants is unusually sturdy, free ventilation being given, of course; the blooms set well, and the fruit is abundant and fine. The plants should be set out in a ridge of soil placed along the front of the pit or frame, and the stems be trained to rods or wires fixed from the front to the back parallel with the glass and about 9 inches from it. Keep all laterals removed, and pinch out the points of each bearing shoot just before it reaches the back of the frame. For frames, small or low houses, as well as for open-air culture, I find Conference one of the very best varieties, and it is wonderfully productive. The growth is remarkably compact and short-jointed, the plants are excellent and indeed sure setters, and the perfectly smooth round fruit, which is of a bright crimson colour and excellent quality, is produced in numerous clusters of seven or nine to fifteen on each truss. I have seen some very inferior strains of this fine variety, but of the one I have each fruit averages about 3 ozs. in weight, and many of them reach 5 ozs. or 6 ozs., quite large enough for any purpose. I have been crossing this with some of the larger-fruited varieties, and already one of the seedlings is the best "doer" and heaviest cropper I have yet seen, while the fruit is exceptionally solid and well flavoured.

It is a great mistake to starve Tomatoes. The soil should not be made very rich in the first place, but once get two or three pounds of fruit set on a plant, and, with good drainage and plenty of air, the amount of moisture and nourishment, liquid and solid, it will take and turn to good account is quite astonishing.

B. C. R.

#### THREE BOLD SWEET-SMELLING WILD PLANTS.

FOR the wild or woodland garden, where the interesting and otherwise pleasurable forms of vegetation are preferred to those that present a gay effect by reason of their large or high-coloured flowers, I know nothing better than the following trio: *Salvia glutinosa*, *Angelica Archangelica* and *Agrimonia odorata*, known as the fragrant Agrimony. The *Salvia* is not a British plant, but I class it as a wilding merely on the principle that with other strong plants, as for instance the wild vegetation of woods, it is capable of holding its own. It grows a yard high and sends up a thicket of stems, though it is not a wandering plant. The flowers are not showy, being a green-yellow, but they are of good size for a *Salvia* and numerous, forming long spikes, which last for many weeks. The flowers and calyces are sticky to almost the birdlime degree, hence the specific name. The calyces are large and persistent, and with the foliage in the autumn exhale a pleasant odour. This, indeed, I take to be its chief recommendation. The *Angelica* is otherwise known as the garden *Angelica*, also as the one whose succulent leaf-stalks are made into a rich confection. At all times when visible it gives off a pleasant perfume; moreover, though much cannot be said for the beauty of its umbelliferous florescence, it is a noble plant, with bold leaves a yard and a half long and nearly as wide and of a pale apple-green colour. A bold group of this plant could not but win appreciation by these two features alone, *i.e.*, sweet smell and lively green colour. Its roots are large and thick, and when pulled and sliced and taken indoors are most fragrant.



The Azraim I but recently spoke of. It is a wild plant with plenty of character about it, but its chief and best quality for our present purpose is that of its most refreshing spicy odour. The flowers especially are deliciously perfumed, and as they are freely produced all the summer, afford capital material for picking where fragrance is esteemed without gayness in the flowers. I know that the peculiar aromatic scent of this flower is pleasant to many, inasmuch as they would possess it, notwithstanding the otherwise coarse character of the plant.

As already stated, these three plants are capable of taking care of themselves, but they grow with extra vigour in soil fairly good and positions fairly open to both direct and at least one good side light. It must not be taken that these plants are advised for the more dressy parts of a garden; they are simply recommended for the semi-wild garden or woodlands. J. WOOD.

*Woodville, Kirkstall.*

## FLOWER GARDEN.

### PURPLE IN FLOWERS.

MR. ENGLEHEART'S letter of October 22 does not, I think, touch what I said about the colour of *Solanum Torreyi* in the least. I hope to prove that in the following remarks. But first of all let me say I do not agree with his instructors at all. It is better to teach children about things as they are rather than to give impressions which are to be revised afterwards. The sentence to which I allude is the following: "By the way, I was taught in my childhood, and rightly, to avoid criticism of the form or colour of flowers, as being all perfect in their way, and direct from the Creator's hand. It is well to teach children such reverence," &c., and this it should be explained because of some after discovery that might be made. I beg leave to say that I doubt that very much indeed, for while I believe what Professor Balfour says in his book on botany and religion (p. 203), "How exquisitely are the colours of flowers diversified, and by what a masterly skill are their varied hues arrayed! Whether blended or separated, they are evidently under the control of a taste which never falls short of the perfection of elegance. The Creator has added to them the charms of an endless novelty to please the eye and contribute to the enjoyment of man.

Not a flower

But shows some touch in freckle, streak or stain  
Of his unrivalled pencil.

I think it is very much better to lead a child on by unceasing comparison from the very first, and not to leave him open to a great shock when Mr. Engleheart's after-discoveries are made. Nor do I think that there ever can be a discovery which would impeach Mr. Balfour's words.

And now about the colour of *Solanum Torreyi*. I was manifestly speaking of the terms which are in common use at the present time, and I made no reference to anything else, and I reassert what I said before, that it is much better to call its colour violet than to say it is purple. That was all which my observations on this head amounted to, but I did not like to seem rude towards "J. M." by anything which could bear the appearance of a point-blank contradiction of what he wrote, and so I purposely added a word which was intended to say that according to an old-fashioned use of the word purple, he could still be quite right—only I pleaded for violet now-a-days, so that no one might suppose I had given him the wrong thing,

and there is nothing which I wish to alter in all that. I am sure it is true that the word "purple" was used some years ago in a much wider sense than at present obtains, and I am also sure that for ninety-nine persons out of a hundred, violet would now give a better description of this particular plant than anything else would do it. Of course, it is the case that purple now, as ever, denotes a mixture of blue with red, or red with blue. No one has doubted it, and in a sense we all know that "though purple need not be violet, yet violet was and always will be purple"; but I submit that I am more than justified in my contention by this sentence alone: "Purple need not be violet." For why, if it is so, should the word "purple" be used for a distinctly violet flower? They are manifestly not convertible terms, and if you take the larger and fuller expression, you may give an idea which is entirely outside of that which you were anxious to convey, and while technically a mixture of red and blue applies to both colours, the red is so much hidden in violet and the blue so immensely preponderates, that this should always be made clear, and it is treating a violet flower very badly indeed to speak of it as though it were merely purple, which is not nearly so pretty. I almost wonder that Mr. Engleheart does not fall back on the three primary colours themselves—red, yellow and blue. It would be quite as true and quite as wise to say that *Solanum Torreyi* is of a colour which is partly blue and partly red as to insist that it must be called purple, only he should be careful to add to it a foot-note to explain that the blue is largely in the ascendant, and I, for my part, should prefer to cut the whole matter short by speaking of it as violet. For if purple will stand for violet in the common acceptance of the word, as he seems to suggest, why would Mrs. Engleheart be sure to get the wrong ribbons for her bonnet if she were to order purple ones in a shop, while she meant violet all the time? Or, if I were to be told that a new family had come into this place and that the members of it had appeared at a certain garden party and were arrayed in purple more than anything else, I should put down their taste at zero in my own mind, and if I may speak what I really think, I should have a suspicion of vulgarity about them at once which would not have been raised by violet, or lavender or mauve. Purple and violet are really quite different things in effect, and it is nonsense to try to get rid of this fact by asserting that all violet is purple.

But I may put it even more strongly than this. If purple may do duty for violet in the way which Mr. Engleheart suggests (and I see no point in his letter if this be not the case), why does Mr. Nicholson in his dictionary, which is now considered a final authority on matters of this sort, give both colours, and thereby draw a distinction between them? If my friend is correct in his view, then Mr. Nicholson should have spared himself the pains; and so also it is the case with Mr. Thompson, of Ipswich, in his seed catalogue, which is so accurately drawn up. He thinks it worth his while to distinguish between purple and violet, and everybody holds him to be right.

The truth is, that in one sense it is a far greater honour for a flower to be violet than it is to be purple. In the most interesting book I have ever read on the colour of flowers—I refer to that by Mr. Grant Allen (see p. 21)—the writer makes it evident that violet is a more specialised, a more advanced colour than purple, in the sense, of course, of being evolved from it; and whereas yellow is the commonest colour of all, and then white and then red or purple, the various

shades of lilac, mauve, violet and blue are the most uncommon, and on the most highly developed lines of descent. But if this be the case, it follows that a violet flower is much less seldom to be met with than a purple one, and is the more precious acquisition of the two, and therefore it should be described aright. I do not know what Mr. Engleheart is driving at when he asks, "Does Mr. Ewbank seriously mean that it is incorrect and out of date to speak of purple Violets and purple Plums?" My answer is that it all depends on what Plums and what Violets are alluded to. The American poet Bryant has sung of the yellow Violet in these words:—

When beechen buds begin to swell,  
And woods the bluebird's warble know,  
The yellow Violet's modest bell  
Peeps from the last year's leaves below.

But I have no idea that Mr. Engleheart is referring to this, whatever the flower may be. If he means the sweet-scented Violet, the *Viola odorata* of our native woods, I should say it may be either blue, white or purple, and generally it is purple, the word being used in its present narrow and restricted sense, which exactly comports with what I have said all along. But I do not for a moment suppose that Violets are loved and admired for their purple colour, but rather for their fragrance and their early appearance in the year. Has Mr. Engleheart ever come across these lines:—

You Violets that first appear  
By your purple mantles known,  
Like the proud virgins of the year,  
As if the spring were all your own,  
Where are you when the Rose appears?

Manifestly the writer of these words did not like the Violets because they are purple. I notice the sentence, "Mr. Ewbank would draw a distinction not only of degree, but of kind between purple and violet." I should be very much obliged if Mr. Engleheart would point out where he finds this in my letter, for it is entirely precluded by the words "in this sense" which were intentionally put in to bar such an article as he has written from the first word to the last. Such an expression as "in this sense" has no meaning at all, unless there may be a wider range within which *Solanum Torreyi* can of course be called purple, but which was manifestly outside of the observations I made. If I am wrong in calling it violet, then every other description I have met with of the plant, excepting that of "J. M.," is wrong also.

I am surprised that Mr. Engleheart can think it right to say that the colour of *Calandrinia umbellata* is of a peculiarly livid and gruesome character. The shades of his preceptors must feel considerably hurt by it, I should say, and by his inattention to their requests, for they would have called such criticism wicked, nor do I ever remember to have seen a single gruesome flower in my life. The nearest approach to it was *Atropa Belladonna* in seed, and which once I have met with. It was gruesome not because of its appearance, but because of the deadly properties of which I knew it was possessed.

For myself, I cannot lay claim to any such cultivated taste as really to dislike purple flowers. I have never done it. Even the despised *Calandrinia umbellata* finds a place in my garden and grows freely enough. *Exogonium purga* is in my humble opinion very pretty indeed. It flourishes on a southern exposure and grows up to the top of my drawing-room window; but that has nothing to do with the question in hand. I only think



that when a flower is violet it should be called violet, and when it is purple in its present restricted sense, and only then, it should be called purple, and I asserted in your columns that the colour of *Solanum Torreyi* is violet rather than purple because I did not wish it to be supposed that I had given to "J. M." quite the wrong thing.

If my benefactor—Mr. Falconer, of Harvard University, U.S.A.—who very kindly gave me the plant some twelve or fifteen years ago, had seen "J. M.'s" description of it as being purple and tomentose also, he might well have said to himself, "That is not what I sent over for *Solanum Torreyi* at all. Mr. Ewbank has terribly muddled it, and he puts up with something very inferior in its stead. He might just as well take a negress for a fairy! I gave him a beautiful plant, at once large and handsome; its corolla is beyond all suspicion violet; the leaves are large, from 4 inches to 6 inches in length; their lobes are undulated, and it has just a few prickles here and there which are sometimes wanting. But I know nothing about a purple *Solanum*, and nothing about its being tomentose at all." But if he did by chance see this description, and if he did think that his plant had come to grief, I wish to assure him that it is not so at all. Summer after summer it has gladdened me for nearly fifteen years, I should think, and though I should not dislike it if it were purple, I can most confidently state that it is of a far more beautiful colour than that. And while violet flowers are among the rarest of the rare, this is quite one of the best of them all.—HENRY EWANK, *St. John's, Ryde*.

—The remarks of Mr. Engleheart in THE GARDEN, October 22 (p. 355), will be read with more than passing interest. The importation by the hybridist of purple and magenta into new flowers is becoming more pronounced each year, and is in a fair way to destroy the brilliant and refined shades that distinguish many races, as the herbaceous Phlox, which is mentioned by Mr. Engleheart, and the Persian Cyclamen, besides many more that could be named. The Rose itself is not free from this blemish, not a few of the most recent acquisitions possessing this undesirable trait, and the so-called blue Rose is a horrible colour, magenta and ashy hue intermixed, a fearful combination, that is praised merely for the reason that it is novel. Perhaps the herbaceous Phlox, as much as any flower, has suffered from the present-day desire to make everything as purple as possible, not a royal purple, as the sweet Violet, properly described thus by Mr. Engleheart, but a nondescript tone which is perhaps best described as mauve-magenta, a dead, weak, ineffective colour, offensive to the eye of the true artist. We live, it is true, in an age of severe competition in everything that concerns flowers, but that is no reason why novelties should be acquired that are no true gain to our gardens; rather the reverse. A more rigid selection would ensure the rejection of undesirable colours which if permitted to remain seem to permeate the whole race, destroying the clearness of the self types. In the large collection of herbaceous Phloxes in the Chiswick garden of the Royal Horticultural Society it is safe to say that a fair proportion of the varieties was worthless for the reason the colours were dead purple, a kind of slaty shade, imparting neither beauty nor distinctness to bed or border. All who care for flowers, and are actuated by the desire to make English gardens bright and pleasant to look upon, will agree with Miss Jekyll in her denunciation of, as Mr. Engleheart expresses it, "purple as it is used and hideously abused by so many of our nurserymen and florists." The beauty of the Munstead Primroses is now well known, and no slaty, mauvy, or purple colours will be discovered in that charming race. The crimsons are clear and distinct, and in no allied tone is there a trace of mauve or magenta. All strains, how-

ever, do not possess this great merit, and one collection of varieties exhibited early in the year in the Drill Hall, Westminster, was absolutely spoilt by a mauve-purple and magenta shading running through almost the whole strain, deadening the crimson colours and rendering the flowers practically useless for the adornment of the garden. It is strange that much valuable time is devoted to the acquisition of such novelties, praised for their departure from the ordinary rut, but worthless to all who love beautiful garden flowers. The craze for mauve and purple, not forgetting the hideous florists' magenta, shows no signs of abatement, although a remark not uncommonly heard at shows is that magenta is ruining more than one race of garden plants. There is no want of illustration when considering this important matter. The Cyclamen suffers in the same way, and many of the newer varieties are positively hideous—a bluish purple or magenta, which, whether bright or deep, is equally objectionable. It is rare to see a good crimson Cyclamen, as the majority of the new additions present this fusion of mauve and purple. A fresh flower of this colour is sufficiently odious, but when it commences to fade a little, even the dead uninteresting shade fades to almost an ashy hue, very unlike a clear rich crimson. One sees the same feature in the Tulip, a slaty type of colour being too often present in some of the much-lauded florists' varieties. It is far from my wish to condemn the florist or the raiser of new flowers, as he accomplishes much useful work, but it is time to protest when he, through injudicious crossing and selection, promotes a series of colours utterly unlovely and likely to wreck in a series of years beautiful classes of garden plants. The Carnation exhibits this same undesirable trait, and it is painful to find awards given to flowers that are neither mauve nor purple, but of a dead ashy grey colour, relieved perhaps by a few crimson stripes.—A. G.

**Primroses in pots.**—Although it is undesirable to lift Primrose plants from beds or borders, or indeed from any place that is specially planted to give spring effects, it is all the same well to have some at disposal for lifting into pots now and up to the end of the year. For this purpose it is a good plan in raising a quantity from seed to select all the strongest, because these will probably begin to bloom the earliest in the winter, and to dibble them out into some out-of-the-way piece of ground where they can be lifted into pots as desired towards the end of the year without interfering with those plants put out to bloom in more public parts of the garden. To bloom during the winter it is of no special moment that flowers of such fine quality should be found in the earliest and premature bloomers as in the latest which will flower at the proper season, that is, during March and April. It commonly happens that the latest blooms give the finest quality, probably because quality in flowers is seldom allied to coarseness of habit. Many of the finest flowers amongst garden Primroses ultimately develop into what have been called hybrids, that is, forms which begin as Primroses and end as Polyantheses. These are specially useful because so very quick to flower, but their irregular appearance later renders them less attractive than are Primroses or Polyantheses that are true. Plants in pots flowering early need a little warmth when in greenhouses or frames, or otherwise the flowers will damp off.—A. D.

**Carnations at Coombe Wood.**—Very ample evidence of the high favour in which Carnations are held at this place is evidenced by the numbers grown. Lady Wolverton puts border Carnations before any tender plants; indeed almost before everything else. To meet these requirements, Mr. Woodgate, the gardener, raises a quantity of plants from seed every year, and when seasons are favourable saves from the best of his own. Then the best of these seedlings are layered, and thus every year considerable additions are being made to the stock. Not much of concern is shown for florists' varieties; rather pleasing colours, free blooming qualities, and as much of perfume as can be ob-

tained are the chief points sought for. The outdoor plants are somewhat thickly planted in a reserve garden in beds some 2 feet in width and of varying lengths. Nearly all are from the present season's layers. These are put down early and root freely in the Coombe Wood soil. Of the plants in pots, there are many in 8-inch ones that have been lifted from the open ground. Standing on an ash floor in a cool span frame, they seem none the worse for the shifting, and are fast making roots.—A. D.

#### FLOWER GARDEN NOTES.

WITH respect to the recent remarks as to the hardness of *Gaultonia* and the Sweet Tobacco, it is well to note that unless in well sheltered positions it is advisable to give them a little protection through the winter; a slight mound, or rather a thick layer of rough leaf soil about 3 inches in depth will generally be found sufficient. The Cape Hyacinth has been a pleasing feature this autumn in a bed of hardy Azaleas; late spikes have formed a striking contrast to their changing foliage. Another large bed in which it has also done good service was formed with fine clumps of *Hydrangea paniculata*, the groundwork being filled in with pink and crimson China Roses and a fair sprinkling of *Gaultonias* planted among the Roses. Another good autumn bed has the above-named *Hydrangea* as one of the tenants, the centre being filled with *Aster formosissimus*. A very fine autumn display can be obtained from *Stairworts* if colours are judiciously contrasted and the different varieties are planted with due regard to their respective heights. A very effective clump in a large border is composed of blocks of *A. ruber Juno* and *Astrea*, with a good batch of *vimineus* in the foreground. Here we have at any rate three very distinct colours that blend well together. *Astrea* is not so decided in colour, but it is a capital variety, something in the way of spectabilis, but a very much finer flower. One notices with pleasure that *Stairworts* together with other autumn flowers, especially *Pyrethrum uliginosum*, and the Japanese *Anemones* are now often to be found in cottage gardens. I saw a very fine lot of the above-named *Pyrethrum* the other day in such a situation, and it was evidently decidedly at home; the flowers must have been quite 7 feet from the ground. Michaelmas Daisies can be increased readily and to almost any extent when they are once acquired, so we shall doubtless soon see a very good collection in many cottage gardens.

October has, on the whole, been very favourable for flower garden operations, and the work of removal, cleaning, and replanting where this is required proceeded without let or hindrance. The last of the summer bedding stuff to be lifted and boxed is *Begonias*, both the large flowering section and *Worthiana*, small *Fuchsias* and *Echeverias*, and with them we have also lifted for potting an extra batch of *Marguerite Carnations*. Flowers of this came in so handy last autumn, that we shall certainly not be wrong in adding to the stock. If the present bright open weather continues, it will be advisable to push on flower garden work if time permits, and in addition to the planting that may be necessary for a spring display, any filling in required for another season may be done with safety. Not only will the accomplishment of such work be welcomed in spring when one is extra busy, but plants get well established and an earlier flowering season is secured. Take, for instance, any gaps that may exist along the front of mixed borders. If these are broken up, they can be filled with several hardy things calculated to furnish a splendid display in spring and summer. Clumps of *Violas* in variety, also border Carnations, one or two of the dwarfed *Campanulas*, *Spiræas*, *Veronica Spicant*, *V. incana* and *Ajuga reptans* are a few things adapted for such situations. These can be grouped in a mass or planted thinly, that other subjects may be dotted in as occasion permits. All vases, either large or small, that may have been cleared of flowering plants should be filled with small shrubs or conifers. They are often left empty for six months of the year, but there is no



necessity for this when there are so many things which can be utilised for slightly relieving the otherwise bare and stiff appearance always associated with empty vases. *Aucubas* in shrubs, and small *Retinosporas* in coniferae, are about the best and most reliable things. Outer edges may be planted with the small or variegated *Periwinkle* as the contrast is required, with a coating of *Stonecrop* to hide any bare spots of soil. Once acquired by propagation or purchase, all winter vase plants can be retained for several years if strong roots and straggling shoots are kept within bounds by the judicious use of the knife. I like to dot early-flowering *Daffodils*, such as *obvallaris*, in some of the vases. They come up well through the *Periwinkle*, and the flowers are a pleasing relief to the *Retinospora* foliage. Exception may be taken, perhaps, to the stiffness of *Aucubas* as vase plants, but, as I said above, they are about the most reliable, and that is naturally a special feature. Very few *Evergreens* suitable for such work can be thoroughly depended on to pass comparatively unscathed through a severe winter.

Claremont.

E. BURRELL.

## ORCHIDS.

### CYPRIPEDIUM STONEI.

This plant was sent home from Borneo to the Messrs. Low, of Clapton, in the year 1860, and in the following year it flowered in the collection of the late Mr. John Day. J. McIntosh sends me a spike of this plant, the flowers on which he says have been open since the last week in August, and they are still very little the worse. I have no doubt the plant will be greatly relieved by having the spike cut off. I am told this plant has two other spikes, each bearing three blooms, and I would strongly urge the sender to cut the others off, so that the plant may get a thorough rest. The flowers sent appear to be those of the form, having dark lines running through both the upper and lower sepals. In the first plant that flowered and was figured the face or upper side of both sepals was pure white (see the *Botanical Magazine*, t. 5349). One or two varietal names are recorded, but the only one worthy of notice is the variety *platytanum*, imported some three years later from Borneo by the Messrs. Low. It was imported unwittingly, and by chance came into the hands of Mr. Day. After it had been grown for four years it flowered and revealed its great charms, which consist mostly in the great width of the petals, which are nearly an inch across, creamy-white in the ground colour, profusely spotted and dotted with crimson, the spots and dots fusing together towards the ends. This plant I once saw blooming beautifully in Sir Trevor Lawrence's collection at Burford Lodge, Dorking, once. My friend "J. M." says he has just received a few plants which have been recently imported and sold for the true *Stonei*. Perhaps the plants just sold will be the true type without any markings on the sepals, and which a friend of mine recently called *Stonei album*. I told him it was the typical *Stonei*. *C. Stonei* would appear to be a very difficult plant to establish after being imported; the length of time taken in transporting it from its native home seems to exhaust it. I have not seen what effect the passage through the Suez Canal has upon it, but I should think this would help to bring the plants to hand in a less exhausted condition. I should take it that the present month is not the most favourable time of the year to invest in newly-imported plants, and I should advise "J. M." to set his plants into well-drained pots, and to keep up the temperature of the house in which

they are placed to about 70° in the daytime, and thus induce the plants to push out roots. As these appear, the pot may be carefully filled up with rough peat and chopped *Sphagnum*, and by this means he may succeed in establishing the plants. In a general way, when the plants are established, they do not require much change; indeed they dislike it. Care should, however, be taken that the plant does not become sour at the root, and that it never becomes dry. I think, too, that it is one of those *Cypripediums* which likes a brisk heat all the year round, but, of course, less in our winter season when it is resting.

WM. HUGH GOWER.

### SHORT NOTES.—ORCHIDS.

**Calanthe Veitchi.**—"H. M." sends some flowers of a very fine variety of this plant, saying it has a spike over 2 feet long. The bulb has no neck. The forms with the straight bulbs have usually the darkest and finest flowers.—G.

**Miltonia Moreliana** (T. M.).—Your flower is no doubt a very fine variety of this plant. It measures about 3 inches across, the sepals and petals being rich purple, the flat lip deep rose, veined and streaked with rosy red. This section of the genus, I find, likes a high temperature when growing and to be well exposed to the sun.—W. H. G.

**Lycaste Skinneri purpurata** (J. Mason).—You have this species flowering early. The sepals are large and full, white, the smaller petals, which form a hood over the column, being flushed with flesh, and the lip rich deep purple. This plant will succeed well in the sitting-room, and if carefully tended will continue to produce fresh flowers through the winter.—W.

**Lælia elegans Broomeana.**—"C. W." sends a flower under this name. It certainly is a very fine dark-flowered form, but I cannot say it is the same as the one named after Mr. Broome, of Llandudno. It seems to agree better with the kind named after Mr. Morren. It is a beautiful and dark-flowered kind, and "C. W." may congratulate himself upon having such a fine form appear from a chance importation.—W. H. G.

## SOCIETIES AND EXHIBITIONS.

### ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 1.

THE meeting in the Drill Hall, James Street, Westminster, on Tuesday last was very interesting, and the exhibits comprised several Orchids of rare beauty, as will be seen from the subjoined list. Orchids were the chief feature, but stove and greenhouse plants were also exhibited, notably *Nepenthes*, of which a splendid collection, comprising thirty-one species and hybrids, came from Messrs. J. Veitch and Sons. Shrubs remarkable for the brilliant colouring of their foliage in autumn and miscellaneous displays of fruit and vegetables made up the leading items in an interesting meeting.

#### Orchid Committee.

First-class certificates were awarded to the following:—

**CYMBIDIUM HYBRIDUM WINNIANUM.**—A beautiful hybrid *Cymbidium*, and one of the most noteworthy Orchids of the present year. It is the result of a cross between *C. eburneum* and *C. giganteum*, and raised by Mr. C. Winn, The Uplands, Selby Hill, Birmingham. The specimen exhibited bore six spikes, with flowers of great delicacy of colouring and refined form. There were from ten to fifteen on each spike. The sepals and petals have not a spreading character, as in *C. giganteum*, but there is an absence of formality in the flower, whilst the colour is creamy yellow, a soft, delicate, and delightful shade, relieved by spots of crimson or reddish brown on the bold lip, reminding one in this particular of *C. giganteum*. The general ex-

pression of the flower is more like that of *C. eburneum*. This is not the first hybrid *Cymbidium*, but unquestionably one of the most beautiful of hybrid Orchids, strong in growth, taking after *C. giganteum* in this respect. From Messrs. Sander and Co., St. Albans.

**CATLEYA LEUCOGLOSSA.**—This is another hybrid Orchid of much interest and beauty. It is a cross between *C. fausta* and *C. Loddigesii*, the former parent itself being a hybrid between *C. exoniensis* and *C. Loddigesii*. In the hybrid before us we get a combination of both parents; the sepals and petals are finely shaped, spreading, the colour being clearer than in *C. Loddigesii*, whilst the lip is of a delicate rosy shade set off by a suffusion of yellow in the throat. It is a handsome acquisition and an interesting cross. Shown by Messrs. Veitch and Sons.

**SPATHOGLOTTIS VIELLARDI RUBRA.**—Here we have a delightful variety. It is deeper in colour than the type, but otherwise of similar character. The flowers appear in succession, and thus the plants remain in beauty for several months. The specimen exhibited had fifteen expanded blooms with a number of buds, each with a long peduncle that imparts to it a delightfully graceful aspect by reason of its drooping character. The spike rises about 1½ feet in height, and a plant in full bloom is distinctly effective. The sepals and broader petals are of a beautiful purple shade, deeper in the latter than the former, whilst the three-lobed lip is intense purple, the crest yellow. Its brightness of colour and long continuance in beauty should ensure its popularity. The individual flowers should be valuable for cutting. Exhibited by Mr. White, gardener to Sir Trevor Lawrence, Bart., Burford Lodge, Dorking.

Awards of merit were given to the following:—

**CATLEYA LABIATA SANDERÆ.**—A very beautiful variety, the flowers of bold, handsome form and refined colouring. It is one of the most interesting Orchids from the St. Albans collection, but must not be confounded with *C. Sanderiana*, which is also of the labiata group and a superb form. One variety that we saw some time ago in the collection of Mr. Dorman at Sydenham bore flowers about 9 inches across, of fine shape and rose-mauve in colour, except the lip, which was distinguished by a strikingly frilled margin, the other portion rich crimson-purple, whilst on either side of the throat appeared two bold eye-like blotches of rich yellow. Both *C. labiata Sanderæ* and *C. l. Sanderiana* rank amongst the finest Orchids in cultivation. Exhibited by Messrs. Sander and Co.

**LÆLIA PERRINI NIVEA.**—In this there is no trace of the light purple colouring seen in the type. The flower is of the purest white, exquisite in shape and one of the most charming Orchids in cultivation. It was finely shown on the present occasion, and thoroughly deserved the award given. From Messrs. B. S. Williams and Son, Upper Holloway.

**LÆLIA ELEGANS EXCELLENS.**—This is well named. It is a lovely form of the well-known *L. elegans*, the flowers of massive character, broad, robust and splendidly coloured. The sepals and petals are of a purplish tone, in which there seems a trace of rose, whilst the lip is crimson-purple. Exhibited by Mr. T. Statter, Stand Hall, Manchester.

**CYPRIPEDIUM ARTHURIANUM PULCHELLUM.**—A charming variety, the flowers more deeply spotted and betraying closer affinity to *C. Fairrieanum* than those of the parent. *C. Arthurianum*, it will be remembered, is a hybrid between *C. insignis* and *C. Fairrieanum*, dwarf in habit and with leafage like that of the former species. The flower, as in the variety *pulchellum*, bears strong traces of the influence of the dainty *C. Fairrieanum*, the dorsal sepal veined and spotted with purple on an apple-green ground, the petals deflexed, yellowish-green, with veins of purple-brown, the lip of similar colouring. The hybrids of *C. Fairrieanum* form a charming group. Exhibited by Messrs. J. Veitch and Sons.

A very interesting group of Orchids came from Messrs. Sander and Co., St. Albans, in which



were many rare species and varieties. Several *Cypripediums* were shown, including *C. Adonis* and the beautiful *C. Leeanum giganteum*; whilst also exhibited were *Cattleya granulosa*, *Oncidium St. Legerianum*, *Brassia Sanderiana*, and *Angraecum caudatum*. The last-mentioned is by no means new, but it is an interesting Orchid, and the form shown was exceedingly fine. Messrs. B. S. Williams and Son also sent Orchids, among which were *Cypripedium Iris*, a very distinct and attractive flower; *C. Pitcherianum* (Williams' variety), *C. Wallaertianum*, *Cattleya Warocqueana delicata*, the flowers of beautiful and delicate colour, whilst they are of bold handsome form; the pretty *Dendrobium album*, and the lovely *Lælia Perrini alba*, described above (silver medal). Messrs. H. Low and Co., Upper Clapton, exhibited a very charming *Lælia* named *L. claptoniensis*. It is a hybrid, and has *L. elegans* for one of its parents, the other being the Brazilian *L. Dormaniana*. The flowers show a resemblance to both parents, the sepals and petals of a paler colour than in *L. elegans*. A specimen of the rare *Miltonia Blunthi* Lubbersiana was shown by Messrs. Charlesworth, Shuttleworth and Co., Clapham. The plant was in vigorous health and bore two strong spikes, each carrying three expanded flowers besides buds, the sepals and petals pointed and of a delicate mauve, upon which appear deeper-coloured blotches, whilst the base of the lip is of even a more intense shade. It is a charming form both for the bold shape and distinctive colouring of the flowers.

#### Floral Committee.

A first-class certificate was given to

**HOYA IMPERIALIS.**—This is by no means a new plant, but a splendid form of it was shown by Mr. Moore, of the Glasnevin Botanic Gardens, Dublin. There are several plants of this fine species in gardens, but none, so far as we are aware, with the same bold, handsome character as in the present instance. The specimen exhibited had an umbel of fifteen flowers, each of fine proportions, pendulous, waxy, and rich purple in colour, whilst they are polished as if varnished. The deep colouring is intensified by the prominent raised carpels of a whitish colour.

Awards of merit were given to the following:—

**CROTON BEATRICE HORSFALL.**—A very attractive variety of the *C. interruptum* type, from which, we believe, it is a sport. It is of dwarf habit, the leaves narrow, slightly drooping. The leaves are rich yellow in the basal portion, the upper half yellow and crimson—a fine association of colour. It is a showy form, and will doubtless become very popular. Exhibited by Mrs. Horsfall, Rugeley, Staffs.

**CHRYSANTHEMUM VESUVIUS.**—This belongs to the Japanese section, and is, we believe, an English raised seedling. The flowers are large, full, and of a charming orange colour. From Mr. R. Owen, Castle Hill, Maidenhead.

**CHRYSANTHEMUM GOLDEN BALL.**—This is a reflexed variety, and delightful for decoration. The flowers are of beautiful shape, distinct, and bright yellow. An attractive and telling plant. From Messrs. H. Cannell and Sons, Swanley.

**CHRYSANTHEMUM W. H. ATKINSON.**—Another splendid addition to the Japanese class. The flowers are large, spreading, and of distinct colour, the florets being of a coral-red shade, in which there is a trace of cerise, the reverse yellow—a fine contrast. From Mr. H. J. Jones, Ryecroft Nursery, Lewisham.

**CHRYSANTHEMUM EMILY DOONE.**—A lovely Japanese variety, the florets pink, the centre of the flower yellow, whilst outside this there is white, which melts into the pink shade. Certainly one of the most promising of this season's novelties. Exhibited by Messrs. J. R. Pearson & Sons, Chilwell Nurseries, Notts.

The chief feature of interest before this committee was the splendid collection of thirty-one kinds of *Nepenthes* from Messrs. J. Veitch and Sons. The plants were splendidly grown and carried a profusion of pitchers. It included many

hybrids besides species, and one of the most interesting was a hybrid named *N. Northisi*, a cross between *N. Northiana* and *N. Curtisi*; it has five pitchers, the colouring not quite so heavy as in *N. Curtisi*, but distinctly attractive. *N. Rafflesiana* was exhibited, also *N. Hookeriana*, *N. Morgania*, a beautiful hybrid of bold distinct character; *N. intermedi*, the hybrid *N. Chelsoni*, one of the most interesting in the collection, and *N. Mastersiana*, represented by both light and dark varieties. This is perhaps the most useful of the family. Worthy also of note were *N. Burkei*, *N. Curtisi superba*, a very fine form; *N. Domini*, *N. cincta*, *N. Dicksoniana*, a splendid hybrid; *N. sanguinea*, *N. stenophylla*, *N. ampullaria vittata* major, a curious form; *N. distillatoria*, *N. Burkei excellens*, a fine type for pitcher and colouring; *N. Veitchi striata*, *N. Hookeri*, *N. Wrigleyi*, a noteworthy hybrid; *N. albo-marginata*, and *N. Sedeni* (gold medal). The same firm also had fine plants of the beautiful *Pandanus Baptisti*, the habit graceful and the leaves coloured with green and yellow. It is a fine subject for decoration. Another very good feature was the group of *Bouvardias* from Mr. J. McLeod, gardener to Mr. J. Morgan, Dover House, Roehampton. The plants were excellent examples of skilful culture and in fine flower, the varieties comprising all the best in cultivation. A silver medal was deservedly given. Mr. Anthony Waterer, Knaphill, Woking, brought several things to show the beauty of their autumn foliage. Very conspicuous was *Quercus coccinea splendens*, the leaves of a glorious crimson colour. Then of interest were *Acer palmatum*, *Vaccinium pennsylvanicum*, *V. corymbosum*, *Andromeda Mariana* and *A. arborea*, one of the most noteworthy shrubs for its autumn colouring, the leaves of a brilliant self crimson colour. *Chrysanthemums* were not shown largely, but the varieties were of interest. Messrs. J. R. Pearson & Sons, Chilwell Nurseries, had several novelties, amongst them the *Anemone*-flowered *Delaware*, the flowers yellow in the centre, the other portion white; whilst from Messrs. H. Cannell and Sons came splendid blooms of *Viviani* Morel, the flowers fully 8 inches across, and of a rich cerise colour—one of the finest exhibits of this variety we have seen. The same firm also had the variety *Colonel W. B. Smith*, which belongs to the incurved Japanese class, the flowers yellow, shaded with bronze, besides such novelties as *Miss Watson* and others. Not the least interesting feature was a collection of *Begonias* from the R.H.S.'s Gardens, Chiswick, the varieties comprising *Duchess of Connaught*, white with a pink edge; *Crimson Gem*, crimson; *Reading Snowflake*, white, and the tufted *Princess Beatrice*. The plants had made a gay show planted out in beds in the summer, and were on the approach of winter lifted and put into pots. New growths were made which commenced flowering freely, so that this type is of value for both summer bedding and winter blooming. Other exhibits comprised splendid heads of the rich crimson *Ixora Duffi* from Mr. M. R. McKellar, Abney Hall Gardens, Cheadle, and a new perpetual flowering *Carnation* named *Baron Rothschild*, from the Tring Park Gardens, the flowers of a pale yellow colour, barred with lake.

#### Prizes for Chrysanthemums.

Excellent flowers were to be seen in the following classes. In one class dressing was prohibited, and the first prize was awarded to Mr. T. Osman, gardener to Mr. L. J. Baker, Ottershaw Park, Chertsey, who showed *Lord Wolsley*, *Avalanche*, *Jardin des Plantes*, *White Beverley*, *Golden Beverley*, *Criterion*, *Peter the Great*, *Curiosity*, and *Jeanne d'Arc*, the second award being made in favour of Mr. Wythes, gardener to the Duke of Northumberland, Syon House, the flowers excellent, those of *Curiosity*, *Source d'Or*, and *Edouard Audguier* in particular. The first prize for twelve new *Chrysanthemums* was taken by Mr. J. Douglas, the Gardens, Great Gearies, Ilford, who had the varieties *Edwin Beckett*, *W. Tricker*, *D. B. Crane*, *Viviani* Morel, *Alberic Lunden*, *Florence Davis*, *Mlle. M. Hoste*, *W. H. Lincoln*, *Gloire du Rocher*, *Violet Rose*, *Bouquet des Dames*, and *Louis Boehmer*.

#### Fruit Committee.

There were not many exhibits before the committee on this occasion.

A first-class certificate was awarded to

**PLUM RIVERS' ORANGE**, a round medium-sized fruit of great merit, an excellent late variety; it is of a rich orange colour with fine flavour. From Messrs. Rivers, Sawbridgeworth.

Mr. T. H. Crasp, The Gardens, Canford Manor Dorset, staged a small collection of Apples (fourteen dishes), the most meritorious being *Mère de Ménage*, *Hollandbury*, *Warner's King*, *Ribston*, and *Fearn's Pippin* (bronze Banksian medal). Mr. W. Icton, Putney Park Lane, Roehampton, sent two fine baskets of *Grapes Gros Colman*, nicely finished, the berries of good size. Mr. J. Watkins, Pomona Farm, Hereford, sent three dishes of Apples, the varieties being *Tom Putt*, *Red Devonshire*, and *Pickering's Seedling*. From the Society's gardens were sent five varieties of *Grapes*, viz., *Royal Ascot*, *Allan's Seedling*, *Cannon Hall*, *Mrs. Pearson*, and *Black Monukka*. Several of these varieties possess much merit on account of their high flavour. From the R.H.S. gardens came an interesting collection of Turnips, well grown and solid bulbs, including the newer kinds. The large *White Globe* and *White Flat Dutch* of M. Vilmorin were good. Messrs. Dobbie's *Golden Ball*, a yellow variety, is a valuable winter kind, an excellent keeper, and harder than the white variety. *Model* is also a beautiful white Turnip, perfect in shape. Messrs. Harrison's *Exhibition* and *New Marble* were excellent, and valuable additions to the list of good keeping varieties. Mr. Barron also sent an interesting collection of Savoy, the varieties being *Golden Globe*, *Winter Drumhead*, *Early Beckfield*, *Dwarf Green Curled*, *Groot's Favourite*, and *Victoria*, the last a very nice kind, much curled and solid. Mr. A. Milner, Penrice Castle Gardens, Swansea, sent two dishes of *Ailsa Craig Onions*; the bulbs were large and well ripened.

The Rev. Mr. Wilkes, in the course of his lecture on "Fruit Trees in Pots," stated that many people were at a great disadvantage in growing wall fruit, not always having the convenience to grow such as *Peaches*, *Nectarines*, *Pears* and *Plums*. With trees grown in pots to a great extent this could often be remedied; indeed, many could grow fruit trees in pots who otherwise could not give them the protection necessary to get the best results. He stated that at one time he laboured under great disadvantage as far as fruit culture was concerned; he, like many others, had no suitable place to grow choice fruits, so at last he made up his mind to build an orchard house. The dimensions of his house were 48 feet by 12 feet and 12 feet high in centre, running east and west, he thinking that position the most suitable for the trees when in bloom. He also had a 4 inch flow and return pipe fixed round the house to protect the trees from the severe March winds which usually prevail at that date. Such protection was also most useful for *Chrysanthemums* in winter. He thought the best time to pot the fruit trees was in September, the best compost being five parts loam, with some bones, bone-meal, or other fertiliser. He thought it best to repot orchard-house trees yearly, to carefully shake out the old soil, and to cut back strong roots. Great care should be taken when repotting to ram the soil firmly, and not allow any cavity at the side of the pots. The size of pot depended upon the strength of the trees; he used all sizes from 8 inches to 16 inches. After potting, he plunged his trees in the open in coal ashes to protect the roots from frost, and to encourage the formation of new roots. He also advocated overhauling and thoroughly cleansing the inside of the house at that season when the trees are outside. The trees should be syringed twice daily when started, giving a little warmth from the pipes in cold, dull weather. Watering was one of the chief points in the culture of orchard-house trees and required much care at the start. He watered with spring water, thinking it beneficial in assisting the stoning of



Peaches and Nectarines. He had used rain water with soot mixed with good results, but the soot must settle before applying it to the trees. He advocated smoking the house before the flowers opened, and also when necessary afterwards with a free use of the syringe twice daily. If this be done, the trees will be clean all through the season. When the trees were in bloom, he went over them and freely shook them. Such varieties as did not set freely, he fertilised with pollen from the small-flowering varieties. Plums he found always set freely, but not Pears. In thinning the fruits he usually went over them five or six times. Plums did not need nearly so much attention as Pears. Disbudding the trees was, he considered, an important point and should have special care, doing the work at frequent intervals. Pinching and stopping needed equal attention to get evenly-grown trees and to properly distribute the sap. Feeding fruit trees in pots when in full bearing was equally necessary. He usually top-dressed with a compost of loam, manure, and bones or bone-meal, making the surface on top of the pot like a saucer, so as to prevent the water from running away. By this system of cultivation he had been enabled to secure a good supply of choice fruit from June to September. His orchard house contained about twenty Peaches and Nectarines, the same number of Pears, and a dozen Plums. When potting up Pears and Plums, he usually potted a double quantity. One half he kept outside until those inside had finished fruiting, and they were then brought inside, taking the place of the others to give a later supply of fruit. The only Plums he grew were the Gages. He had been given to understand that fruit could not be grown for any length of time under glass in the way he had described, but his had not failed him for four or five years.

In the course of the discussion, Mr. Rivers said he could not agree with the lecturer's method of exposing his trees after repotting; he thought they would be best inside. He quite agreed with Mr. Wilks as to repotting yearly shaking out the old soil and root-pruning. He also advocated the encouragement of roots at the bottom or through the pot, which was a great saving in watering in hot weather and a support to trees full of fruit. He built his orchard house in 1852, and from that time he had never failed to have a crop. Mr. Bunyard thought Mr. Wilks had omitted one important point, viz., the beauty of the orchard house trees when in bloom. He thoroughly agreed with him as to the usefulness of such a house and its value when well managed.

## PUBLIC GARDENS.

**Recreation ground for Long Sutton.**—The local board of this Lincolnshire town have just become possessed of a recreation ground, which is to be used for the children. It is three acres in extent and has been presented to the town by the Winfrey family, who have long resided here.

**Park for St. Helens.**—Mr. Samuel Taylor, Lord of the Manor of Eccleston, has intimated that he will hand over as a gift to the town, for a public park, an estate of forty-seven acres, known as Eccleston Park Estate, containing a large boating and fishing lake, splendid Rhododendrons and drives. It is well laid out and of an estimated value of £7000.

**A new park for Northampton.**—Lord and Lady Wantage, of Overstone Park, have offered to the Northampton Town Council, as a free gift, Abington Abbey and twenty acres of land, for use as a people's park. The abbey is a very ancient building, and the adjoining grounds, bounded on one side by a large lake, will make a magnificent park. The grounds are picturesque and well planted with fine trees.

**Opening of School Board playgrounds.**—At the last meeting of the Metropolitan Public Gardens Association letters were read stating that the Local Government Board had reversed, on appeal, the decision of the auditor, who had disallowed the expenditure incurred by the London School Board in the opening to children on Saturdays of some of its playgrounds. A resolution was

forwarded to the Board recognising with great satisfaction the important service which has been rendered to the physical education and health of the young of the metropolis by the opening on Saturdays of the playgrounds attached to the 166 Board schools by the action of the late School Board, and expressing a hope that the present Board will complete the work of its predecessor by opening on Saturdays the playgrounds attached to the remainder of its schools, some 250 in number.

**West Wickham Common.**—The purchase of this common by the City of London and a body of subscribers has now been effected, and the Lord Mayor elect, Alderman Knill, has consented to visit the common and declare it open to the public on the 12th inst. The lord of the manor, Sir J. F. Lennard, required £2000 for his rights. A body of subscribers raised £1500, to which the city added £500, and also undertook the cost of maintaining and protecting the common in the future. Mr. Altman, chairman of the Finance Committee, and Mr. Pellett, of the Common Council, took great interest in the negotiations, while it is due to the Bromley Footpaths and Commons Protection Society and to its hon. secretary, Mr. R. Ritherdon, that the agitation has at length been brought to a successful issue. The common is a wooded hillside in Kent, near Hayes, marked by some earthworks of archaeological interest, and with some very ancient Oak trees.

**Hilly Fields, Brockley.**—There is now a prospect of completing the purchase of this for the purpose of a public park and recreation ground. As far back as February last the London County Council promised a contribution of £22,000 towards the cost, estimated at £40,350. In addition, the Greenwich District Board of Works have promised £7000, the City Parochial Charity Trustees £1000, the Lewisham Charity Trustees £1000, the City Companies and private persons £8707. The Lewisham Board of Works refused to contribute anything, although the land is in their parish. It is now proposed to purchase immediately the interests of Mr. Lee's trustees and of the Land Development Company, at an expenditure of £36,350, leaving a balance of £3357 for the further liability of purchasing from the Ecclesiastical Commissioners their 4 acres of land for £4000. It is feared that if the two claims mentioned are not settled quickly the land may be sold for building, and the whole scheme fall through. The Parks and Open Spaces Committee of the County Council approve of immediate action.

## PRUNING THE PINE TRIBE.

MR. WATSON, of Kew, writes as below in *Garden and Forest*:

**PRUNING CONIFERÆ.**—In many gardens coniferous trees become thin and scraggy owing to the excessive and uneven growth of the lateral branches. This, we find, can be rectified by pruning, the long, thin branches being shortened, in early spring preferably. It is surprising how soon the trees right themselves under this treatment, the "back" growth produced by the cut branches and the better development of the shorter ones filling up and furnishing the tree in a season or two. All conifers are improved in this way.

This question may interest our readers, some of whom may be able to tell us how the best existing plantations of Pines have been treated, say the Larches at Dunkeld, the Cedars at Goodwood, and any of the Scotch or English plantations of conifers where they are grown in quantity enough to judge, and not merely stuck out in the pleasure-grounds, shaped like extinguishers, whether the tree likes it or not. We know that the forests of Pines in America and Europe get on without pruning or pinching, and that nothing so far seen is nobler or more stately in the way of trees.

**Brunsvigia Josephinæ.**—I shall be glad if anyone who has flowered this plant will kindly give his experience. A few years ago I purchased a bulb of this so-called variety. I successfully flowered it in

an 8-inch pot. The number of flowers was over 30 inches across. Instead of the flowers being a very bright crimson or red, they were of a poor washed-out pink colour.—J. R. HALL, Fox Warren Gardens, Cobham.

## BOOKS.

"**The Horticulturist**" is a new, and, so far as we are aware, the only gardening paper published in Australia. It is a monthly periodical, and is the official journal of the Horticultural Society of New South Wales. From a few numbers just to hand from a friendly correspondent in Sydney it appears to have been started in January of the present year, and besides containing the proceedings of the society, it has directions for the month in the kitchen garden, the orchard, the flower garden, and plant houses. Original papers on various subjects of interest connected with horticulture are given; reviews of new books, general notes and instructions in agriculture and poultry rearing also find a place.—CHRYSAETH.

**The Story of my House.\***—A small volume of charming essays, covering a wide range of subject. Whether discoursing of books or bronzes, plant life or bird-notes, signs of weather or oriental fabrics, the author is equally at home, and handles his varied subjects in a way that betokens a keen observation of Nature, combined with advanced artistic cultivation, while the writing is at once scholarly and poetical without affectation. The book is well printed on a remarkably light, though strong paper.

\* "**The Story of my House.**" By George H. Ellwanger. London: G. Bell & Sons, York Street, Covent Garden.

**Names of plants.**—W. C. Bowra.—1, *Astrantia major*; 2, *Aster Novi-Belgii* var.; 3, *A. floribundus*; 4, *A. levigatus nanus*; 5, *A. Nova-Angliæ pulchellus*; 6, *A. Novi-Belgii densus*; 7, *A. levigatus*; 8, *A. Amellus*; 9, *A. Amellus*; 10, *Berberis Neuberti*; 11, *Abies grandis*; 12, *Anemone japonica*; 13, *A. j. alba*; 14, *Pinus Cembra*.—W. Nash.—*Phaseolus Caracalla* (the Snail flower).—Archd. Seth Smith.—*Cymbidium giganteum*.—Croydon.—*Boussingaultia baseloides*.—W. T.—1, *Crataegus coccinea*; 2, *Pyrus aria*; 3, *Euonymus europæus*.—E. Castle.—Please send better specimens.—W. H. Maxwell.—Looks like a variety of the Egg plant.—Sootney.—*Rhus toxicodendron* (the Poison Ivy), but we cannot be sure unless you send us stems with the leaves on. It has poisonous properties, some people suffering very much from handling it.

## BOOK RECEIVED.

"**British Fungus Flora**," a classified text-book of mycology. By G. Massee. G. Bell & Sons, York Street, Covent Garden, and New York.

"**The Garden**" Monthly Parts.—This journal is published in neatly bound Monthly Parts. In this form the coloured plates are neatly preserved, and it is most suitable for reference previous to the issue of the half-yearly volumes. Price 1s. 6d.; post free, 1s. 9d. Complete set of volumes of THE GARDEN from its commencement to end of 1891, forty vols., price, cloth, £29 8s.

"**Gardening Illustrated**" Monthly Parts.—This journal is published in neatly bound Monthly Parts, in which form it is most suitable for reference previous to the issue of the yearly volumes. Price 5d.; post free, 8d.

"**Farm and Home**" Monthly Parts.—This journal is published in neatly bound Monthly Parts, in which form it is most suitable for reference previous to the issue of the yearly volumes. Price 5d.; post free, 8d.

"**Hardy Flowers.**"—Giving descriptions of upwards of thirteen hundred of the most ornamental species, with directions for their arrangement, culture, &c. Fifth and Popular Edition, 1s.; post free, 1s. 3d.

All of our readers who are interested in the improvement of cottage homes are invited to help us to make Cottage Gardening known. It is published at the very lowest price to meet the wants of those for whom it is intended, and copies will be sent for distribution, free, by the publishers, Messrs. Cassell and Company, La Belle Sauvage, Ludgate Hill, E.C.

**Garden Design and Architect's Gardens Illustrated.** To show by actual examples from British gardens, that gardening and planning are not two distinct professions, but architects are gardeners, and gardeners are architects. London: John Murray, Albemarle Street.



# FLORISTS' FLOWERS.

## TUFTED PANSIES.

D. & Co. were among the first to raise Tufted Pansies by crossing the Alpine species with the Show and Fancy Pansies, and they thus succeeded in raising varieties possessing the hardy tufted or branching habit of the wild Violet, but with greater size of flower and purer and simpler colours. They have a stock which cannot be surpassed for quality or variety of colour. For bedding purposes or for supplying cut flowers for glasses or table decoration they are unequalled. No other class of plants will give a longer season of flower, or produce a more interesting and beautiful effect with so little trouble or expense.

**Purchaser's Selection, 4s. to 9s. per doz.**

**D. & Co.'s Selection, 2s. 6d. per doz.; 12s. 6d. per 100; £5 per 1000.**

Archie Grant, dark purple large.  
Ajax, white, upper petals light blue.  
Ariel, white, shaded blue, fine. Figured in THE GARDEN.  
Ardwell Gem, sulphur yellow, dwarf, free.  
Abercorn Beauty, primrose, free grower.  
Alba Odorata, pure white, sweet scented.  
Alba Hybrida, pure white, fine.  
Astrea, bluish puce.  
Aigle d'Or, yellow, large blotch.  
Bessie Clark, light mauve, dwarf, close habit.  
Beauty, white, dwarf.  
Blue Cloud, white, heavily edged ultramarine blue.  
Blue Stone, Prussian blue, free.  
Bronze Queen, bronze, tinged lilac.  
Buccleuch Gem, pure white, violet markings.  
Bullion, bright golden yellow, first-rate.  
Brilliant, rich yellow, fine.  
Beauty of Norton, light purple, free.  
Chelsea Belle, violet, shaded blue.  
Countess of Hopetoun, the best white variety.  
Countess of Wharncliffe, pure white, fine.  
Cloth of Gold, golden yellow.  
Crown Jewel, clear pale yellow, dwarf.  
Criterion, pale blue, large.  
Charmer, purple, top petals white.  
Distinction, pale blue, violet blotch, distinct, free.  
Daldowie Yellow, clear yellow, dwarf.  
Diana, white, top petals lavender-blue.  
Dawn of Day, white, shaded blue, distinct.  
Dorothy Tennant, light peach, very free and large, smooth and distinct.  
Duchess of Fife, light primrose, distinctly edged lilac.  
Duchess of Sutherland, bluish mauve and white.  
Eva, fine white, compact habit.  
Emperor, dark blue, large.  
Eynsford Yellow, yellow.  
Eynsford Gem, yellow.  
Exquisite, bluish violet.  
Formosa, lavender self, black blotch.  
Favourite, bronzy purple.  
Flag of Truce, large white.

Golden Gem, bright yellow, free.  
Golden Gem (Dean), yellow, dwarf.  
Golden Queen of Spring, dwarf yellow.  
Glow, carmine self, free, compact.  
Goldfinch, yellow, distinctly edged pale purple.  
Goldfinder, deep golden yellow.  
Gaiety, yellow and bronze.  
George Corbet, lemon-yellow, dwarf.  
Gipsy's Bride, very light lilac, streaked violet.  
Her Majesty, pale yellow.  
H. M. Stanley, deep mauve, striped dark purple, large, extra.  
Holyrood, dark blue, large and fine.  
Joy, top petals lavender laced purple, under petals white edged lavender.  
John Burns, velvety purple, marbled light peach.  
Jeffrey's White, pure white.  
Jackanapes, yellow and dark purple, very striking.  
Jubilee, white.  
King of Yellow, yellow, large blotch.  
Lady Dundonald, clear white, pencilled purple.  
Le Grand, dark blue.  
Lilacina, rich lilac, dark blotch, free.  
Lord Fitzgerald, pure white, yellow eye, fine.  
Lottie, mauve.  
Ladykirk, yellow, very fine.  
Lady Diana, purplish crimson, free.  
Mrs. Gray, white.  
Mrs. Hood, white, top petals edged blue.  
Mrs. Nisbet, bronzy yellow.  
Mrs. Holmes, crimson, shaded white.  
Mrs. Pierce, white, flushed lilac.  
Mrs. Thomson, fine white.  
Mrs. M'Master, purple, tipped white.  
Mrs. Kinnear, pure white, close habit.  
Mrs. Grant, crimson, shaded yellow.  
Mrs. Ferguson, white.  
Mrs. Frater (1892), white, striped dark purple.  
Mrs. Clark, silvery white, free.  
Mrs. Dranfield, pale lavender, shaded white edges.  
Mauve Queen, deep mauve, large.

Modesty, pale lilac.  
Minnie G. Clark, white, fine.  
Multiflora, lavender, centre purple, free.  
Mary Gilbert, yellow, very free, best yellow out.  
Marchioness of Tweeddale, waxy white, fine.  
Mont Blanc, white.  
Nabob, lemon yellow.  
Neatness, creamy white.  
Perfection, white, style of *Pilgrig Park*.  
Pantaloon, plum and white.  
Peach Blossom, soft peach.  
Pilgrig Park, large pure white, pencilled violet free.  
Princess Beatrice, light lilac, shaded rosy purple.  
Pallida, pale yellow.  
Queen of Crimsons, crimson, distinct.  
Rimmie Donaldson, fine white.  
Royalty, bright yellow.  
Skylark, white, edged blue, free blooming.  
Sportsman, dark purple, tipped white.  
Stricta Aurea, small yellow, dwarf.  
Stricta Azurea, pale blue, free and distinct.  
Stricta Cygnet, yellow, fine.  
Spring Beauty, dark blue.  
Sovereign, golden yellow, dwarf.  
Souvenir, lavender, large and free.  
Sweet Pea, peach.  
Tory, indigo blue, best of its class.  
The Mearns, rich plum, top petals edged white.  
The M'asters, yellow, very free.  
The Bride, white.  
True Blue, fine blue, free.  
Verginalis, silvery white, very dwarf.  
Vestal, white.  
Venus, waxy white.  
Violet King, bronze purple, large.  
Violetta, small white yellow centre, free, strongly scented.  
Wemyss Gold, fine golden yellow.  
Wonder, light yellow.  
William Niel, rosy lilac, distinct.  
Yellow Boy, fine yellow.  
Yellow Gem, primrose, compact.

## PINKS.

Mrs. W. M. Welsh, large pure white, very free and vigorous, useful for pot culture and bouquet work, should be grown extensively where cut flowers are in demand. The best white in cultivation.

**6s. per doz.; 30s. per 100.**

D. & Co. have a full collection of the finest Show and Border Pinks, both for exhibition and cutting purposes.

**6s. per doz.; 30s. per 100.**

## NEW CARNATIONS.

D. & Co. have every confidence in recommending the following Border Carnations. They are seedlings of Redbraes Picotee, which is the best grower and the most useful Border Carnation in cultivation. They are all of the most robust and hardy constitution. The colours are so varied and pleasing, that they are quite indispensable for border decoration, and for cut flowers and exhibition. The following are selected from 2000 seedlings. Plants now ready at

**2s. 6d. each; 24s. per doz.**

Castle Craig, white, edged and spotted crimson, very fine.  
Dunkeld, white ground, spotted and striped scarlet, very free and distinct.  
Homburg, golden yellow edged with scarlet, one of the most hardy and free flowering Picotees. (This is not a Seedling

of Redbraes) Very distinct, and ought to be in every collection.  
Miss Gilroy, white, striped and blotched with rose, large and very fine.  
Miss Annie Currie, peach coloured self, large, free, and vigorous; the best of the colour ever offered. First-Class

Certificates at the Royal Caledonian Horticultural Society's Show, September, 1892.  
Mrs. Wm. Christie, vivid scarlet self, very effective colour, large and fine.  
Mrs. Tom Wilson, salmon, very distinct and free, quite a new shade of colour, very attractive.

## BORDER CARNATIONS.

This Collection is composed of the best border varieties in cultivation. For general decoration they are indispensable, to say nothing of their great value for cut flowers. Many are very sweet scented, and all are great favourites. The plants are hardy, well rooted, and fit to plant out at any time.

**D. & Co.'s Selection, 6s. per doz.; 30s. per 100.**

	Per doz.—s. d.
Alice Ayres, pure white, striped carmine	6 0
Amber, soft amber self	9 0
Belle Halliday, sulphur yellow, one of the finest yellow selfs	9 0
Boston Pink, fine pink self	6 0
Brigadier, clear scarlet, good for cutting	12 0
Caledonia, the finest purple carnation, extra	18 0
Countess of Ellesmere, white, shaded pink and spotted crimson	12 0
Dorothy, buff ground, edged reddish crimson	12 0
Dr. Parke, deep pink, shaded rose	12 0
Effie Welsh, white ground, light rose edge, extra fine	18 0
Flsie, pale yellow, marbled rose-pink	12 0
Fedora, clear rose, free	9 0

	Per doz.—s. d.
Fireman, bright scarlet self	9 0
Germania, fine yellow, very vigorous and free, extra	12 0
Gloire de Nancy, large pure white, useful for cutting	9 0
Kenet, crimson, purple flaked	each 1s. 6d.
La France, yellow, streaked pale carmine	12 0
Maggie Lawie, clear bright pink, large and very free, extra	12 0
Marchioness of Londonderry, white	6 0
Marjorie, clear soft yellow, large flower	12 0
Mrs. Frank Watts, pure white, of extra quality	9 0
Mrs. Muir, pure white, a grand flower, and very free	9 0
Mrs. Reynolds Hole, light terra-cotta, shaded buff yellow	12 0
Pride of Penshurst, bright yellow, very free	12 0

	Per doz.—s. d.
R. H. Elliot, buff, striped with bright rosy lake, vigorous	9 0
Raby Castle, bright salmon pink	6 0
Red Glove, the old well-known variety	4 0
Redbraes, white ground edged purple, hardy and free	4 0
Salisbury, white, fringed, erect habit	6 0
Souvenir de la Malmaison, beautiful flesh white, strong	18 0
Terra-Cotta, soft terra-cotta, edged pale pink	12 0
The Bride, pure white, very neat	4 0
The Deacon, sulphur, edged pale red	12 0
Vivid, crimson	4 0
White Glove, useful for cutting	4 0
W. P. Milner, pure white, smooth flower	8 0

## SHOW CARNATIONS AND PICOTEEES.

D. & Co. have a very select stock of these. The finest varieties of each section are kept in stock. Purchasers may have every confidence in leaving the selection to D. & Co.

**9s. and 12s. per doz.**

**DICKSONS & CO., 1, WATERLOO PLACE, EDINBURGH.**



No. 1095. SATURDAY, November 12, 1892. Vol. XLII.

"This is an Art  
Which does mend Nature: change it rather; but  
THE ART IS LIKE IN NATURE."—Shakespeare.

## TREES AND SHRUBS.

## AUTUMNAL FOLIAGE.

THE season of 1892 will long be remembered for the wealth of beauty shown by all our forest trees and shrubs in the matter of autumnal leafage tints. Too often in this country we get, instead of brilliantly coloured leaves, those of a seared and rusty appearance, that rather detract from than enhance our autumnal forest beauty, and this season is certainly an exception, for the rich tints of many of our woodland and park trees and shrubs recall what in all probability we have not seen, and will not again see for a number of years. A walk into the country anywhere around London fills one with delight at the marvellous colours donned by our trees and shrubs. The hedgerows are at present (October 23) very beautiful, the deep scarlet of the Dogwood and Wayfaring Tree contrasting so well with the golden-yellow of the Maples and Limes. But the *Ampelopsis Veitchi* almost bears the palm for beauty of leafage tint, some of the buildings in Southern England being decked with scarlet or rather the deepest of crimson. The deciduous Cypress is a marvel in the way of autumn leaf tints, the changes from day to day being quick and more and more beautiful, but I think I can remember some years ago noting how remarkable of tint the leaves of this tree were when they had been subjected to rather intense frost early in the season. To-day the trees are of an agreeable russety-brown, but to-morrow, should a few degrees of frost be registered in the night, they may be of quite a distinct and even more pleasing tint. Some of the Maples are truly gorgeous, probably the best of all just now being *Acer polymorphum*. *A. Negundo*, too, is charming, but there are very few of the family that are not well worthy of notice in the way of leaf colouring. The Sumachs are agreeably mixed, some leaves being bright crimson, while others are of a bright shade of yellow. Curious that some of the purple Beeches turn green or almost so before the leaves are shed, but this does not happen with *Prunus Pissardi*. *Vacciniums* are lovely, some leaves being of the dark normal green, while others are bronzy-purple, thus producing a striking contrast in the same plant. *Mahonias* and *Barberries* have a wealth of leafage colouring that it is hard to beat, and the best of it is that the leaves of most being persistent we enjoy their beauty for a long time. A pretty picture is at present to be seen in the lake wood at Holwood Park, where the long vista is charmingly lit up by the bronzy Beeches, the golden-yellow Chestnuts, the chocolate of the Medlar and Quince, and lots of other equally showy and attractive autumn-tinted trees. The big Beeches interspersed with Oaks and Chestnuts are, however, the main attraction, owing probably to the great masses of the variously coloured leaves.

The scarlet Oak is hardly worth growing in this country for the sake of its brilliantly coloured leaves, for it is not one season in ten that they turn out at all satisfactory, being

usually of a rusty brown and rather inclined to mar the landscape than otherwise. But, as I have said before, there are scarlet Oaks and scarlet Oaks, for the differences in character and leafage are very marked, and in the colouring of dying-off foliage more marked still. The Dogwood in a mass is showy for a long way off just now. Not far from St. Paul's I lately admired the wealth of beauty revealed by a good sized wall plant of the Virginian Creeper. As regards autumnal leafage tints, Londoners need not grumble, for a walk along the Embankment and in some of the parks and squares makes one almost forget the incessant din of the streets of the great metropolis, so lovely and diversified are the trees at present in the way of foliage colouring. The tints of red and yellow in the Manna Ash are interesting, one branch or twig being of a ruddy hue, while its neighbour is a golden yellow. *Liriodendron tulipifera* (the Tulip Tree) dies off of the richest yellow. The *Liquidambar* makes a rich contrast to the latter, the leaves having all shades of red, pink, and purple, and being of good substance, they remain on the bushes for a considerable length of time. Of the Hawthorns, several die away of the richest shades of red and yellow, to wit, *Crataegus cordata*, *C. Aronia*, *C. coccinea*, and others, while the stately *Quercus tinctoria* is visible in the landscape for a long way off. Other Oaks worthy of note are *Quercus aquatica* and *Q. prinoides*, both of which in dry seasons assume pretty and distinct tints.

There are many other trees and shrubs that change their foliage colouring before the leaves drop off, but those just recorded have afforded most pleasure and been most distinct during the past fortnight. The frost of the night of October 26 hastened the downfall of many leaves without the least change of colour being revealed, this owing to the close, muggy day that we experienced on the 25th. On that evening the leaves of the Tree of Heaven (*Ailanthus glandulosa*) were intact and beautiful in their palest of green; the following morning the ground underneath was thickly strewn with the still green leaves.

A. D. W.

**Memorial trees.**—The practice of planting memorial trees has in many cases hopelessly disfigured otherwise fine landscapes, not necessarily from the planting of the trees in prominent positions, but from the selection of undesirable subjects. *Wellingtonias* are amongst the very worst things for the purpose, as only rarely do they do well, and when they do succeed, more often than not their stiff and formal habit does not fit in with the natural surroundings of the position. When they both do badly and are badly placed they are positive eyesores, and then the fault of selection is strongly apparent, for their removal is generally not to be suggested or thought of for an indefinite period, during the whole of which time these memorials are not regarded as unmixed blessings. Some little time ago I saw what might have been a splendid view, from perhaps one of the most important points in a fine old park, entirely spoilt by a shabby specimen of *Wellingtonia* that had been planted as a memorial, and though it was quite big enough to be very conspicuous and nearly half the tree was blighted, no question of removal could be entertained. What other tree could be in England so appropriate as our national tree, the Oak? It is sturdy, long-lived, with more beauty of form either when clothed with foliage or with bare branches than almost any other tree, and where there is room for a tree to develop itself, it can seldom be misplaced. There are other good trees, such as the Sweet (Spanish) Chestnut, the Walnut, and the Beech in various forms which might be used, and all of them are superior to the coniferæ for the pur-

pose. If a conifer is desired and the position is suitable, nothing is better than either the Cedar of Lebanon or *C. atlantica*. One thing against the Cedar is the uncertainty of moving it successfully, and another is its very slow progress after transplanting, though it makes up for this by rapid growth after it has started, and it is certainly far less formal than many other things. One of the boldest attempts I have ever met with in connection with memorial trees was the planting of an avenue of Cedars; the idea was a good one and well carried out, plenty of scope being allowed for spreading, and a fine site chosen. Many of the trees have died or disappeared, while others have grown well, so that others planted to fill the gaps are small and destroy the uniformity of the avenue. —CORNUBIAN.

## DIMORPHANTHUS MANDSCHURICUS.

FOR quite fifteen years it has had its own way here pretty well, with the exception of the removal of a sucker now and then. At the present time it is like a gigantic *Spiræa* with compound clusters of creamy white flowers as big as a man could grasp with both arms. These are immediately sustained by enormous leaves a yard long and a yard wide, composed of 3-inch to 4-inch lanceolate leaflets and carried on short leaf-stalks, which spring directly from the new wood of the thickest kind; in other words, there are no small leaves carried on short twigs. The bigger leaves, which would be quite 4 feet in diameter, have already fallen. The remaining ones just referred to take many bronzy hues, varying from yellow to purplish. The effect of a partial fall of foliage is rather pretty than otherwise; inasmuch as the curiously contorted and forked stems are to be distinctly seen in connection with the blossom. The woody part of the tree, if it can be so called, for it only reaches 9 feet high here, is singular by reason of its ruggedness, cork-like bark and big prickles. Altogether, it is a singular and beautiful tree, suited for gardens especially where the tropical or sub-tropical idea is aimed at. It is beyond doubt able to withstand our severest winters without the least protection, but I am sure it prefers a light and somewhat rich soil. I mention this because, though it has never given me a moment's trouble, only to remove growths when they have become too thick, I know some of my friends could scarcely get it to produce a leaf where the land happened to be stiff. It should never have its wood shortened. If you do that, you destroy two of its beautiful features; you cut away the flowering points and you interrupt the beautifully forking habit peculiar to this species of *Spikenard*.

J. WOOD.

Woodville, Kirkstall.

***Hedera spectabilis aurea*.**—Tinted Ivy leaves are now largely used, and very pretty some of the varieties are at this season of the year. The leaves of the Irish Ivy are gathered and sold in bunches, the colours always being brightest on the chalk or limestone formation. The leaves are used for placing with Violets. If anyone has not used them for this purpose, he should give them a trial. The reason of my calling attention to tinted Ivy leaves is the charming appearance the above-named Ivy has at the present time. In the first place it is the most constant of the golden varieties, some of them being addicted to sporting back to green. The golden foliage, intermixed with a pleasing green, has now quite a pink or rosy tint spread over the surface. We have it growing in all aspects, and it is quite as highly coloured on the north as any other.—A. YOUNG.

**The Quince as an ornamental tree.**—Much of late has been written in THE GARDEN with reference to the beauty of fruit trees in the landscape. Beautiful as Apples and Cherries are when in bloom, I consider the Quince more suitable than either for placing on the turf, where it is desired that it should grow at will. The Quince is more suited to this kind of situation than many other deciduous trees. Its pendulous growth fits it in a marked degree for such a situation. We have a fine tree of the Portuguese kind growing



in the abbey yard. It was planted upwards of twenty years ago by the present owner. It has made good growth, and is now a large tree. Its not being very high is an advantage, seeing it does not obstruct the light from the windows which taller growing trees would. It has been allowed to grow naturally, with the result that at the present time it touches the turf all round. It is astonishing how handsome some of our trees and shrubs are when left to themselves, as has been done in this case. To see it at its best, it must be seen, as now (end of October), full of fine large golden-yellow fruit. Added to this the leafage is just on the turn, and the yellow fruit contrasts well with the yellowish-green leafage. In a short time the leaves will have turned bright yellow, and then it is highly ornamental. It is a mistake to too quickly gather the fruit from either these or Apples when planted for ornament. The fruit of the Quince is most valuable in many establishments. It is much sought after here for making jam or preserving. — J. CROOK, *Forde Abbey*.

## ORCHIDS.

### THE HELMET FLOWERS.

(CORYANTHES.)

I AM in receipt of a flower of one of these plants from Mr. W. C. Leach, asking for its name, he evidently mistaking it for one of its near relatives, the Stanhopeas, but it is a more wonderful flower than any member of that genus. The bloom resembles a bucket, and it hangs down in a perfectly steady manner. In a state of nature the flowers contain a large amount of sweet honey-like fluid, which is very attractive to the ants, which build their nests about the plants for the sake of the food which they supply. Coryanthes grow in warm parts in Brazil and Demerara upon the very tops of the tallest trees exposed to the full sunlight, whilst the Stanhopeas grow in heavy shade and comparatively cool, and this accounts for our failing to grow these plants; indeed, one seldom sees Stanhopeas now, although at one time they used to be grown and flowered well.

Coryanthes must be grown in a hanging position, and I like to have them established upon a good-sized block of wood, which may be placed in a wire basket, thus admitting of a little peat fibre and Sphagnum Moss being given them. The plants must be well exposed to the full sunshine without shading of any kind. During the summer season they should be hung up in a nice bright place in the East India house, and have a liberal supply of water both to their roots and overhead. After growth is finished and the plants have gone to rest, the overhead supply may be stopped and just sufficient given to the roots to keep the bulbs in a plump and healthy condition; as the house will be reduced in temperature at this season, the plants may remain in the same position. The spike would be erect, but the large size of the flowers causes it to become nodding or pendulous, and thus bring the flowers into their proper hanging position. Tested in the above manner I used to grow and flower these plants some thirty years ago, when I used to have always between twenty and thirty plants under my charge; they do not like cutting or dividing, which must be done with great care and before the bulbs have started into growth in the spring. The following are a few of the best kinds known to me:—

C. MACULATA PUNCTATA is the kind sent me by Mr. Leach. The flower is large and handsome, the dimensions are upwards of 5 inches round, the bucket some 2 inches deep, the stout arm, which apparently keeps it steady, being 3 inches long

with many rows of frills towards the upper part; this is surmounted with a cap or helmet, which is reddish-brown; the bucket is creamy-yellow, speckled and mottled with vinous red, the inside beautifully and regularly spotted with crimson-purple. The sepals and petals are large, but very much thinner, dull yellow, much spotted with vinous red. The flowers, although thick and waxy in texture, do not remain long in beauty. It usually produces three or five flowers. It is said to be a native of Demerara.

C. MACULATA ALBERTINE.—These plants all resemble each other very much both in their growth and in the shape of their flowers, having strongly ribbed bulbs and thin plicate leaves of a light green, the flowers of this kind being of a light yellow, spotted with purplish violet.

C. MACULATA ALBERTINE.—Flowers bright yellow, spotted with rich red in the sepals and petals; the hood white, with rose-coloured dots, and the bucket reddish crimson, with lighter spots.

C. SPECIOSA.—This species, although having the same grotesque form, is not so marked a plant. The flowers are pale yellow, without spots or markings of any kind, and the variety alba produces flowers of a pure white quite destitute of spots; whilst the variety known as vitellina is likewise destitute of spots, but of a rich deep yolk-of-egg colour.

C. MACRANTHA has flowers of a bright yellow, spotted with red, and the helmet of a rich orange-brown.

C. FIELDINGI.—The flowers of this plant are of a deep yellow, suffused with rich brown.

The above-named kinds have been known for some time, and I have flowered them all. I recently heard of a new species having flowered with M. Linden, of Brussels.

WM. HUGH GOWER.

*Lycaste cruenta* (C. W.) is the name of the variety you send. The flowers are deep yellow, having a deep blotch of blackish purple at the base of the lip. This is frequently found in collections under the name of *L. aromatica*, from which it differs in its very much larger flowers, which are not sweet-scented, and in having the deep purple blotch at the base of its lip, which *aromatica* is destitute of. It frequently casts its leaves in the winter season, and, like your plant, flowers without them.—W.

*Cattleyas from Cheam Park*.—Mr. May, gardener to Mr. Jacomb, at the above-named place, sends me a very nice lot of these flowers for an opinion. The box contains sundry forms of *C. Warocqueana*, which shows what a very pretty *Cattleya* it is and how valuable it is, flowering now. With the above also come some magnificent flowers of *C. maxima*, measuring some 6½ inches across, the sepals and petals deep rose, the petals broad and undulated on the upper margin. The lip is large, prettily frilled round the edge, of a rich magenta-crimson, with a broad central band of rich yellow. There are also some flowers of *Lælia pumila*, these being the largest and most richly coloured I have ever seen. Each measures nearly 6 inches across, the lip large and very highly coloured. The whole front lobe is deep maroon, saving the central part, the front of which is white, the throat at the base being rich yellow.—W. H. G.

*Satyriums*.—These may be considered hardy or not hardy, according to the manner of treatment. I make this statement in relation to my Yorkshire climate and at a low elevation, where I experience the lowest readings of temperature of the surrounding district. Of all hardy Orchids I think these are the most easily grown and established in bold groups. Of course, something might be said as to the selection of sorts; as with many other genera of the Orchid order, there are species of but indifferent decorative qualities. *S. carneum* and *erectum* have respectively soft rosy

flowers and bright orange. These attain a height of from 1 foot to 3 feet. If you plant the big tubers with a view to their staying out all winter, do so about the month of April. See that the tubers are in a sound and dormant condition, and without any spots of decay. Another way is to set out in May plants that have been started in pots and brought on very slowly in a cool greenhouse. The thing to do is to plant deeply and even, then the first year to cover the dormant bulbs with coal ashes or cocoa-nut fibre. I say the first year, because it is the habit of the tubers to die annually, and in dying to make offsets at the ends of underground stems or stolons, which go down deeper every year, and so they practically go beyond the reach of frost. Hitherto I have grown the *Satyriums* effectually in burnt loam in a lumpy state. In this they seem to revel, and there can be no doubt that such stuff is, by reason of its texture, much warmer than the natural soil, and certain it is that in such material you are not likely to suffer a great deal from an extra low temperature caused by an excess of wet. These Orchids, therefore, are hardy in the sense that they may be grown out of doors when set deeply and in an artificial soil of the character just mentioned.—J. WOOD, *Woodrille, Kirkstall*.

*Curious Cypripedium flowers*.—I described some curious abnormal variations in the form of the blossoms in certain species of the genus *Cypripedium* which I had met with in the course of the last two years in THE GARDEN of March 28. Since then I have had the opportunity of examining two more very singular variations in the flowers of *C. superbiens*, one in which the flower was to all appearance normal, except that one of the side petals was entirely wanting. No trace of it was visible. The column also was not well developed. In the other variation the upper and lower sepals were joined together, and each was so pulled out of its ordinary position, that the joint sepal had its apex behind one of the side petals. There was nothing to show where the two sepals were united, but one could just distinguish the point of each sepal. The flowers of this genus seem to be capable of almost any amount of variation. I have now found them with no lip; with two lips; with a distorted and rudimentary lip; with no upper sepal, but with the two side petals joined together and occupying the position of the upper sepal; the lip also was wanting; with the side petals joined to the lower sepal and without a lip; with only one side petal; with the upper and lower sepals joined together; also a blossom or blossoms of *Cypripedium Sedeni* in which a fasciated stem terminated in two blossoms enveloped in green bracts. The two flowers were so contorted and mixed together, that it was impossible to make out what parts, if any, were wanting. Several flowers on the same plant were distorted much in the same manner.—G. S. S.

### SHORT NOTES.—ORCHIDS.

*Cypripedium insigne* varieties.—J. Johnston sends me fine forms of this old plant, which is now flowering splendidly with him. Some of the flowers are beautifully spotted, the dorsal sepal of some being heavily bordered with white, which gives them a very grand appearance. These flowers, although fine, are not worthy of varietal names.—W. H. G.

*Cattleya Harrisoniæ*.—W. C. Leach sends flowers of this for a name. It is an exceedingly pretty old plant. The flowers now before me have the sepals and petals soft satiny rose, the lip white, beautifully fringed, the same colour as the petals on the point, and faintly tinged with pale yellow on the disc. There are several varieties of this plant, *Harrisoniæ violacea* being a larger and handsomer kind.—W. H. G.

*Garden Design and Architect's Gardens Illustrated*, to show by actual examples from British gardens, that planning and designing are to make the garden harmonious with architecture and the surrounding landscape, and in artistic London: John Murray, Albemarle Street.



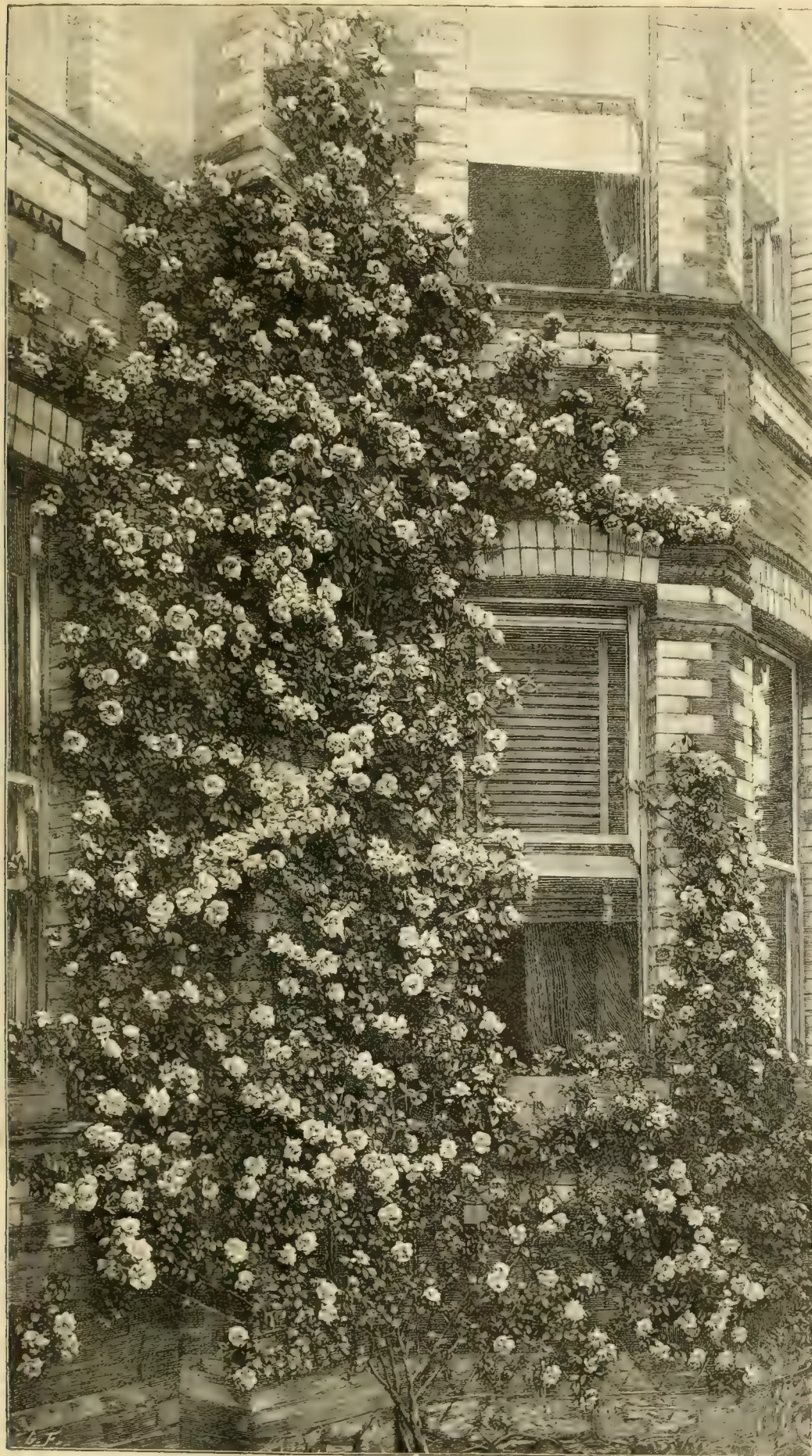
# ROSE GARDEN.

ROSE WILLIAM ALLEN  
RICHARDSON.

THIS has gained a foremost place very rapidly, and deservedly so, for I know of no Rose more suitable for button-holes or one that will produce a greater quantity of blooms upon the same space. Early, midseason and late, William Allen Richardson is a grand Rose. At present (October 15) I could point out over a dozen gardens where this Rose is in full blossom. More than one cottage in the neighbourhood has a considerable portion of its front covered with this Rose in almost as much beauty as during midsummer.

W. A. Richardson is very like *Maréchal Niel* in some respects. For instance, it is quite as much subject to canker. It is also very variable in its growth, sometimes making phenomenally rapid progress, at others seeming to stand still, and even growing less. One may plant a couple of each of these grand varieties and treat them alike, when one will sometimes grow away rapidly and the other remain in a state of existence, and no more. They also bloom most freely upon the long growths made the previous season. Now and again a plant will flower from the eyes of an early and fairly ripened summer shoot, and at such times we get the grand autumnal displays I was mentioning in the early part of this note. Under glass we get these successional crops in a greater measure. The wood starts into growth sooner, and we can also afford the plants the necessary aid and protection in opening their later blooms. Were I tied to two Roses under glass, they would be William Allen Richardson and *Maréchal Niel*, and I should without hesitation give the preference to the former.

*Maréchal Niel* varies very much in the depth of colour of its flowers; so also does W. A. Richardson. Indeed, one may often cut at least three distinct flowers off one truss of the latter. I have observed carefully, and could never discover any reason for this Rose varying so much. At one time I thought the late blooms had the deepest colour, but this has so frequently been the case in the spring as well, that I abandoned that idea. Again, I for a time found more of the lighter blossoms upon the points of long and strong growths, but this did not continue. I have a plant which last spring carried almost all light-coloured flowers, while at present it is bearing a full crop of deep orange and apricot blooms. For covering an arbour there is no Rose better than this grand *Noisette*; nor can you improve upon it for fences and walls. I have tried it on a good many stocks and also upon its own roots, and have arrived at the conclusion that the *De la Grefferaie* is the best for my soil. It also does well upon the *Brier*, but with me it is rather more subject to canker than when on the *De la Grefferaie*. In connection with this disease, I may say that I have found this stock much the best for the extra strong growers; it grows so rapidly and swells



Rose W. A. Richardson on a house in Devonshire.



more equally with the Rose than other stocks. I should not think of using it, however, for any but the very strongest growers, and even then it would depend somewhat upon the compost they were growing in. I have a plant of this variety upon the De la Greferaie growing at the end of my Rose house. This has produced quite 1500 good flowers during the past two seasons. Unfortunately, it is now developing canker rapidly, and I am afraid this was brought about by cutting away so much of its wood for propagating. To all who have room for one more Rose, and do not already possess this grand variety, I can recommend it with every confidence, and if the first plant does not thrive satisfactorily, let them try another. The chief thing in growing this Rose is to keep the knife away from it as much as possible. Never mind how strong it grows; the more so the better, as all matured growth will flower freely the next year. I would never prune it except to remove some of the growth that has already flowered, and so throw more strength into the other wood that has not bloomed.

R.

#### CLIMBING ROSES UNDER GLASS.

The wood of these where they have been properly treated during the past summer and autumn should now be perfectly ripe. However, the plants will benefit considerably if allowed a few weeks' complete rest before being restarted into growth. Roses and the majority of greenhouse climbers are seldom allowed so much complete rest as is good for them. This is to a certain extent unavoidable, as in most cases the houses are required for other subjects which need to be housed and protected before the Roses are really ready for such close treatment. In the case of a greenhouse set apart entirely for Roses, amateurs often make the mistake of starting their plants into growth too early. There is so very little gain in this as far as the earliness of bloom is concerned, that it is a pity to do so, unless one really requires early flowers. Roses started too early need a lot of attention to keep them up to the mark. You also get fewer flowers from the same amount of wood than you would if the plants were started, say, a month to six weeks later. Get them in a state of rising sap and buds just on the burst by the time the days are well turned, and they will come on apace and soon make up for any fancied backwardness. If you are to get good Roses, the young wood must grow away without the least check of any kind, and the flowers must be produced upon well-matured growth of the previous season. I have a large number of Roses planted out, and although I have enough piping to maintain a suitable temperature for early forcing, I still prefer to leave the house unheated until the end of November. My earliest Roses are in pots, and some climbers are grown and flowered extra early in this form. Plants that are growing in a greenhouse border, however, do not ripen so early as those grown in pots. Nor can you secure that the roots of such are in so forward a state as those in pots would be under the same temperature. The soil is much colder, and necessarily not nearly so much under the influence of your artificial heat as that in pots, the latter being entirely surrounded with it, while the former receives a chill from being in closer contact with the cold and wet soil of the open. Under these circumstances Roses that are planted out are not nearly so well situated for early forcing. And as climbers naturally do so much better when planted out and allowed freer root-run than they would enjoy in pots, I would advise that they be not started or their tops excited in any way until we get nearer the end of the year and can hope for a steady increase of brighter weather. By waiting thus you secure a much more uniform and joint growth of both tops and roots. Nothing can possibly be prettier or more pleasing among Roses than a strong climber well flowered. On the other

hand, it is very annoying to get a lot of wood and few blooms. The latter is always caused by the too early starting of immature wood, while the former desirable end is far from difficult to obtain. I have Mme. Berard, Beauté de l'Europe, Bouquet d'Or, Climbing Niphetos, Maréchal Niel, Reine Marie Henriette, and William Allen Richardson as climbers in this house, and all of them bear well-ripened wood, and will be a great disappointment to me if they do not carry a good crop of bloom through March and April as usual. Where a quantity of Roses is required at any one time, there are no better kinds than the climbers. These, speaking comparatively, only produce one crop a season. This is realised within two or three weeks, and it is my aim to secure it at Easter. It is easy to do this with such varieties, but with those of the dwarf type you cannot secure so many flowers at any given time. True, for ordinary purposes the dwarf and most perpetual varieties are preferable. At the present time, and while the wood of my plants is nicely ripe and hard, they will be subjected to a thorough cleansing. Where climbing Roses are trained to a wall, it is well to un-nail them and clean thoroughly. You should also seize this opportunity to whitewash the wall and so kill any enemies lurking in its crevices. It would be impossible to use so strong a solution at any other time of the year; nor could you apply it with a syringe nearly so effectually. N. S.

#### Three grand yellow Roses for climbers.—

Probably if a poll were taken, Maréchal Niel would still be considered the finest of all yellow Roses. As a climber, it is without doubt the best of this colour. Perle des Jardins is a grand yellow Rose, and recently there has been introduced a sport from this variety that climbs very freely. It flowers freely and the blooms are an exact counterpart of those of the normal variety. Perle des Jardins often cracks out of doors, but under glass it is one of our most reliable yellow Roses, and the climbing type produces many more blooms in the same space of house room. Henriette de Beauveau is another grand yellow Rose for climbing, and will also continue to flower in a thoroughly perpetual manner. It is a clear and pure yellow, of medium size and perfect shape.—R.

**Own-root Roses.**—"A. H." is apparently under the impression that I prefer the Manetti to all other stocks. Such is not the case; nor have I ever wittily done so. My sole aim and object have been to accord this stock its due, both from my own experience and from that of many very prominent growers. I am not so conservative in my ideas of Roses and their stocks as to think there can be no improvement. My experience among Roses fully bears out all I have ever written for or against the Manetti, and also of Roses on their own roots. One of your contemporaries in an article upon Roses, and during the same week as "A. H.'s" genial criticisms appeared, mentions having plants of Souvenir de la Malmaison on the Manetti that have been in his possession at least forty years. He also mentions that the Manetti is asserting itself again, and is in his opinion the most desirable stock for light soils. I have always qualified my praises of this stock, and also my objections to own-root Roses. Roses vary so much in their behaviour, that one cannot lay down any hard and fast lines as to what stock suits a variety upon all soils. While in the company of several rosarians (all members of the N. R. Society's committee) a few days ago, the merits of Horace Veinet were being discussed, when all but one of us considered it a bad grower, seldom living more than two or three seasons. This gentleman, however, found it grow well with him, and speaking from his own experience considered it a permanent Rose. I must repeat a former sentence of mine, "that were there a demand for own-root Roses, it would speedily create a supply," for surely the trade growers could succeed in striking Roses as well as amateurs. "A. H." would imply that own-root Roses are not procurable in sufficient quantity, and that consequently the amateur is

compelled to raise his own. My idea is that the surest test one can have of the public opinion upon own-root Roses is the frequency with which they are asked for, and I must say that to the best of my knowledge this is very seldom. Roses are very readily struck, and have many advantages over worked plants, as "A. H." justly claims, but there are many of our finest varieties which would be miserable failures if cultivated upon their own roots alone. I have frequently recommended the strong and free growers in this form. As time goes on, Roses get more or less upon their own roots whatever stock they may be worked upon, and so gain additional strength, and all I maintain is that a suitable stock is a great help towards securing a strong and well-established plant.—P. N.

#### OWN-ROOT TEA ROSES AS POT PLANTS.

LATTERLY there have been several important communications in the pages of THE GARDEN as to the advisability of growing Tea Roses on their own roots in the open border. In this note I will deal with own-root Roses as pot plants. For growing in pots for forcing, I find own-root plants of Teas by far the best. The seedling Brier, from its nature, is not a good stock for pot Tea Roses. On the Manetti they did not succeed very well, so I tried them from cuttings, and so far with success. Last spring I put in a number of cuttings taken from the plants growing in the Rose house. These were the shoots which had just borne a flower, and were taken off with a heel, also leaving three or four leaves. Ninety per cent. of the cuttings of this description may be relied on to root well. If these cuttings are left too long after the flowers have been cut, the eyes push into growth. These buds when kept dormant push out directly the cuttings are rooted, and so form an early growth—no mean advantage when the most is expected from the plants in the least possible time, as in my case I wanted the plants to produce suitable blooms for cutting during the winter months, and by present appearance they are likely to do so, the plants pushing out vigorous shoots, which in the case of Tea Roses are sure forerunners of good buds. Another advantage of these own-root Roses is the freedom with which they push up vigorous shoots from the base. The cuttings must be taken off with a sharp knife, one shoot to form a cutting on account of the heel attached. Cutting up vigorous shoots into lengths will not answer, these not rooting so freely. The cuttings should be inserted quickly after being detached from the plants, as when left exposed they soon shrivel. They also root better in well-drained small pots, the soil being sandy and to which a fair proportion of leaf soil has been added. Having been well watered, the cuttings must be placed in a close propagating case and be shaded from bright sun. They will soon form roots. After they are sufficiently rooted, they must be potted off and be placed in a warm pit. The aim must be to keep the plants growing freely. After the soil has become fairly filled with roots repot into 6-inch pots, taking care that these are efficiently drained. Tea Roses also like a more open or sandier soil than the Hybrid Perpetuals. Leaf and leaf soil in equal parts, with some pulverised horse droppings rubbed through a sieve, with a fair proportion of coarse sand and crushed charcoal, will lead to good results. Repot rather firmly and return them to the pit. If the pots could be plunged in a gentle bottom-heat it would be an advantage. Early in the afternoon of fine days the plants should be lightly syringed with tepid soft water, when the growth made will be free and healthy. Three or four sticks placed around the sides of the pots and the longer shoots trained around them will cause the back buds to break. Our plants are now in a small house where the night temperature ranges from 55° to 60°, and in which the lovely buds are now unfolding. Eventually they will be plunged in warm leaves, treatment that this class of Roses revels in during the winter months. At this time button-hole flowers are in great request, and a few pot Tea Roses can-



not but prove of inestimable value to any gardener, amateur or otherwise, during the dreary months of the year. A. Y.

### PROTECTING ROSES.

THE time is now at hand when Roses, especially Teas, used to be protected as if they were half-hardy plants. I can call to mind when these were usually taken up, and either laid in under a hedge or afforded cold frame protection. Large plants on walls used to be matted over or covered with straw hurdles, &c. At the present time our largest growers do not afford any more protection to this class than to the Hybrid Perpetuals. Many of the Teas and Noisettes are much hardier than several of the Hybrids. Over-protection and coddling only result in a more tender constitution, and generally cause the plants to push into premature growth in the spring—a state of growth they are already far too liable to reach even when growing without any protection whatever. Roses that grow so late, like the bulk of the Teas and Chinas, mostly get much of the young wood caught by the first severe frost, and hence the idea that they are naturally more tender than the other classes. As protection induces them to grow even earlier than usual in the spring, they are again caught by the late frosts, and the idea of their tenderness is confirmed. I do not advise that protection be entirely withheld, but that it be used in greater moderation. Very little protection is sufficient. I have found that a few branches of Fir, Beech, Birch, Gorse and any similarly light boughs or twigs are excellent to stick into the soil among the more tender dwarf Roses. These will afford ample shelter from wind. It is the keen frosty winds which do so much damage, far more than many degrees of frost if the atmosphere is still and quiet. There is another great advantage in using such material over Bracken or litter of any kind. The latter is very untidy and also affords much less protection at the very time it is most wanted. Wet weather beats it down and it remains in a sodden state around the base or most vital part of the plants. Then it is far more troublesome to collect in the spring. The branches are tidier and do not retain wet, they answer their purpose all through the season, are easily removed, and, unlike the litter, are still in their place when most needed. For the standard Teas, a few branches might be tied around the heads of the plants; but for dwarfs, simply sticking them among the Roses is quite sufficient. All dwarf plants should have the surrounding soil drawn up towards their base to a depth of at least 6 inches. This is the grandest protection they can have, as it secures the most vulnerable and valuable part. Even should we be visited with such severe weather as to kill the tops of the plants, the portion under the soil will be unharmed and will produce many useful bottom growths in the spring. With the exception of this last plan, I would avoid protection as much as possible, unless the plants are growing in a very exposed position. R.

### GOOD WHITE ROSES.

ALLOW me to add to "Ridgewood's" list of good white Roses the following which I grow and find most satisfactory:—

INNOCENTE PIROLA was raised by the great French rosarian Ducher in 1878. I consider it the finest of his productions, although many other first-class Roses have been introduced by him; its colour is a creamy white, sometimes very slightly and delicately tinted with pink. It is of large size and most beautiful form, and where it grows well, as it does usually with me, it is a very free bloomer. In my opinion it is by far the most effective white Rose for exhibition.

ALBA ROSEA OR MME. BRAVY, raised by Guillot in 1848, is a more uncertain Rose than Innocente Pirola, but a desirable variety; it is also a creamy white with a slight rosy tint. Its form is good, and its shape is most distinct; it also lasts well, a most desirable quality.

MARGARET DICKSON. This is described by Messrs. Dickson, the raisers, as "a white with pale flesh centre, petals large and shell-shaped, of immense substance, and magnificent form, growth vigorous, foliage large, and dark green in colour— unquestionably the greatest acquisition made to Roses for the past ten years." I would fully agree with almost every word written by Messrs. Dickson if they had put the word "white" before Roses. I have grown Margaret Dickson for two years and find the plant a good grower and splendid in flower. It may take time to get established in our English climate. In years when we have a damper atmosphere than in 1892, it will probably do best. No exhibitor should be without it, as it is by far the best white H.P. Rose in commerce. It is just possible it may, however, be excelled by Messrs. Dickson's newest Rose, Marchioness of Londonderry.

MERVEILLE DE LYON.—Raised by Penet and introduced in 1882. A white Baroness Rothschild, with which it is almost identical in almost every particular but colour, but M. de Lyon differs also in a serious failing to which it is subject, viz., that of too soon showing its eye. It is almost impossible to get this Rose in the form usually considered indispensable by rosarians. Its colour is china white and its shape cupped. This Rose frequently reverts to the original colour of Baroness Rothschild.

I am unable to grow Devonians beyond a season or two, as it soon dies, but Edith Gifford with me is the best grower and most satisfactory Tea I possess. Its size with me is large, not medium, and it is very free-flowering and excellent in every way. CHARLES J. GRAHAME.

*Crydon*

### ROSES FROM CUTTINGS.

IF it is desired to secure Roses on their own roots, now is the time to see about making cuttings and putting them into the ground. It is very possible that the recommendation is not a favourite one with the Rose nurserymen, but they, at least, can adopt the same practice and secure plants for sending out with the same facility as amateur growers or gardeners. It is asserted that, do what we may with own-root Roses, we shall have to come back to worked plants after all. That dictum may well be contested by those who can and do raise Roses freely from cuttings and have plenty of fine plants on their own roots. No doubt the strong growers give the best wood to make cuttings, and doubtless make the best plants on own roots. It is not so easy to obtain from weak growers shoots that will give the desired cutting wood. The great characteristic of the Rose, wild or cultivated, to recuperate and increase through the instrumentality of suckers or root growths is in the case of cultivated plants possible only with own-root Roses. Then they will send up very fine root shoots, and whilst the strongest, either somewhat shortened back or somewhat bent over and pegged down, will carry grand blooms, the weaker suckers, although comparatively robust, will, hard pruned back, make fine cuttings. We have not to do with Rose cuttings, as with those of the Gooseberry or Currant, remove all the lower buds, because root-growths are the very things it is desired to secure, and which we are debarred from obtaining from worked plants. Rose cuttings may be taken from the plants as soon as the leaves show evidence of maturity. Early in November is usually a capital time, but it is possible that this year the summer shoots are rather later in maturing. The great thing to aim at is to induce the cuttings to callus as early as possible. If the making and putting in of the cuttings be deferred till spring, the increasing warmth of the atmosphere induces quick leaf action, and thus sap is abstracted from the cuttings ere any callus is formed, and frequent failures ensue. These cuttings have sometimes to pass through a severe winter ordeal, and then they suffer appreciably, but, of course, in common with Rose bushes generally. Still, very much more of protection can be afforded to the cuttings than to the plants. If the cuttings be planted in rows 12

inches apart and in beds 4 feet in width, it is easy to scatter over and about them on the approach of severe weather a quantity of dry leaves, which would give to the cuttings the fullest protection. Some branches of trees or Pea sticks may be laid over the beds to keep the leaves from being blown away. The shoots and cuttings more frequently suffer from biting March winds than from winter frosts; indeed a mild winter succeeded by a keen, cold March is often productive of great harm; hence it is well to allow any protection afforded to the cuttings to remain until April is in. The bulk of the leaves may then be drawn from off the beds, and what is left will do no harm to the cuttings, which thus well cared for will soon push growth. A. D.

### OWN-ROOT ROSES.

THE Rev. F. R. Burnside's pithy note upon these (p. 377) is exactly in accordance with my experience. I, too, have afforded them an equally fair trial, and must say that own-root Roses cannot compare with those worked upon a suitable stock. So long as some amateurs endeavour to grow all varieties upon the same stock, they are certain to meet with many disappointments. It is well known that Mr. Burnside's garden is favourably situated for Roses, and as that gentleman grows so many Teas to such perfection, his confirmation of my previous notes upon own-root plants is gratifying. I also grow some thousands of Teas each year, and at present have a considerable number of struck plants in pots, but these will never make such good plants as the majority of my worked Teas.

On page 458, Vol. XLI., "A. H." in writing of these, makes the following remark:—

For the past three years I have been observing a group of own-root plants of this kind (M. van Houtte) growing side by side with worked plants to see if any difference resulted under conditions exactly alike. It is true the own-root plants have grown freely and made nice little bushes, but they have not, and apparently will not ever become so strong as the worked plants," &c.

I take it that Marie van Houtte is a fair type of the Teas; certainly one of the freest growers. Yet we find "A. H." now upholding own-root Roses over those upon foster roots. "A. H." asks why it is that some Roses upon foster roots go back after a few years. I have no hesitation in saying it is from one of two causes—an unsuitable stock or the weak constitution of the variety. All rosarians have experienced the disappointment of having such varieties as Horace Vernet and Marquise de Mortemarte die off outright or dwindle away in the most tantalising manner in spite of all attentions. If a Rose will not thrive upon a suitable stock, it will certainly not do so upon its own roots. I am quite prepared to admit that some of our strongest and freest growers prosper in this form, but for general cultivation I think it will be a long time before own-root Roses are so extensively grown as "A. H." would have us expect. P. N.

Failures in planting.—Many of the failures in planting are due to unsuitableness of soil and site, late removals, and the large size of the plants used. From the effects of wind-waving, which disturbs the old roots and ruptures the rootlets, arises the most fertile cause of the necessity for replanting or filling up. Careful observation shows that under ordinary circumstances of soil and planting, small trees planted out under 3 feet high will, even in moderately sheltered places, in a few years outstrip those put out at a height of from 5 feet to 8 feet, and where the exposure is great the difference will be even more marked. Where the system of notching-in is adopted, only small plants can be used, and to this may be attributed the great success which generally attends this method, which is much practised upon hilly districts and where the lightness of the soil renders pitting inadvisable on account of the small amount of moisture which the land after



wards retains. Better results may generally be obtained by using Firs under 2 feet 6 inches high and deciduous trees under 5 feet than by trees of a larger size.—A. J. B.

## STOVE AND GREENHOUSE.

### AMARYLLIS FROM SEED.

IN using this term, I mean more particularly those that have been raised from seed this autumn from seed saved this past summer. The sooner the seed is sown after it is fully matured the better will be the results, provided means exist to keep the young seedlings growing all through the winter without a check. Not only does the seed germinate better if sown as soon as it is ripe, but it is possible thereby to gain one season as regards flowering. This latter advantage is of itself no slight one, for all who grow these very handsome bulbs always look forward with some considerable expectancy as to the results. Some weeks back I advised the sowing of the seed; where this was done then the young plants will, if grown in a stove heat, have made good progress. Ours sown at that time have now got three or four leaves each, some of them being quite 6 inches in length. The seed was shown in shallow pans and germinated remarkably well, 90 per cent. being the result. Although not yet potted off singly into 2½-inch pots, this work may now be done at any time, and will be before many days have passed, I trust. These seedlings will be kept growing in a stove temperature all the winter where the thermometer at night averages 65° in mild weather and 60° in colder periods. By February they will be fit for 3-inch pots and early in the summer for a size larger; another shift then will bring them into 6-inch pots by this time next year, and the following spring selections will be made for another shift. It may be noted that by this process no resting period is given for the first two winters, nor is it at all necessary. Plants raised in this way two years ago are now still in good leaf, never having lost their foliage nor been rested in any way. They will now be kept dry and rested prior to repotting in the early spring before flowering. Some of these have bursted their pots with the mass of roots made during the past summer. For the first six months or so of their life I do not plunge the young plants, but after that I prefer to do it, as then I can, when they are plunged, keep them fairly well near the glass, but not when very young; hence my reason for not doing it. Long attenuated foliage is not desirable; sturdy leaves which are self-supporting are a far better indication of good progress. These young seedlings as soon as potted will be kept on a shelf close up to the glass. When being potted every rootlet will be carefully preserved to avoid any check. Some of our large trade growers plant their seedlings out in heated pits; this is undoubtedly a good plan where the convenience is to be had, and in such a case I would not hesitate to adopt it, for by that means the bulbs make even better progress and finer leaf development than in pots. By this method also, of course, no rest is given them until they approach the flowering size. Resting young plants is an absolute loss of time, whilst it also weakens the bulbs.

There is undoubtedly a great advantage in being able to grow *Amaryllis* from the seedling stage up to the time they flower and ever afterwards by themselves, but we cannot always do this in private establishments in a convenient manner. After they get to a certain size, I can, however, in my case keep them in a pit by themselves, where I find they do remarkably well, although it is somewhat doubtful if I shall have quite head room enough to flower them. This, however, will not be any difficulty, as for that short time they can be taken into a house. I have plunged them during the past season (last and the previous year's bulbs) in cocoa fibre in a heated pit with fermenting material under the fibre. They have thus made most satisfactory growth without the leaves being

in any way injured, a matter to which I attach considerable importance as well as that of keeping them clear of insect pests. Black thrips are bad enough and give quite enough trouble in syringing, but the mealy bug is ten times worse, being frequently the ruin of the bulbs. Ours are, I am glad to say, perfectly clean; this should be the chief aim of all who wish to succeed in their culture. I find that when the bulbs are plunged, not nearly so much water is needed; this is a great advantage, for any excess of water is most injurious to them. By making free use of the syringe during the season of growth, watering is furthermore avoided. It is not a good plan to attempt to grow them mixed up amongst other plants in an indiscriminate manner. When forced to cultivate them in houses or pits with other things, the better way is to give them a corner to themselves where they are not overshadowed by other plants, so as to draw up the foliage weakly and unduly lengthened, which only results in its breaking down. In some instances sufficient importance is not attached to the after-treatment of bulbs that have flowered, but they then want quite as much attention as before flowering, and that up to the time the foliage fades. When it is found that they retain their foliage too long into the autumn, it is best to lay the pots on their sides; this should have the desired effect, combined with ventilation. As regards the ventilation, I do not believe in too close treatment, for although grown in a heated pit, I do not keep it close at any time, that is, in the sense usually understood as such, air being left on day and night all the summer, even up to the present time when not frosty. Whilst the bulbs are quite at rest, a night temperature of 45° or 50° will suit them very well. I am of opinion that the splendid strain of hybrid *Amaryllis* raised by Messrs. Veitch and Sons at Chelsea will be more and more grown as their culture becomes better understood. There are no finer flowers in their season than these splendid productions of the hybridiser.

PLANTSMAN.

**Capsicum Little Gem.**—The fruits of many solanaceous plants are very ornamental, and for this reason several of them are extensively grown for decoration, the most common being *Solanum capsicastrum* in its numerous fine forms. Still, there are others that may be noted, among them being the above-mentioned *Capsicum Little Gem*, of which neat and effective plants can be grown in pots 5 inches or 6 inches in diameter. This *Capsicum* usually forms a much-branched specimen of a somewhat spreading character, while the small oblong-shaped berries are borne in great profusion in an erect manner on the upper part of the branches, which, being arranged in a horizontal fashion, or nearly so, serve to show off the fruits to the best advantage.—H. P.

**Oranges as decorative plants in small pots.**—At this season of the year these are sometimes to be obtained, the plants bearing several fruits on each, yet in quite small pots, those in 6-inch ones being oftentimes very beautiful. If any readers should perchance buy any, they will do well to keep them in a tolerably warm house, so as to fully ripen the fruits, obtaining thereby that deeper colour which makes them so attractive. As table plants, these dwarf Oranges make a capital change to the usual things in use, whilst in any house they are decided ornaments, well repaying for careful attention.—H.

**Begonia corallina.**—This is by no means a new, but still it is an uncommon *Begonia*, though a very ornamental one, and for some positions it is surpassed by none of the members of this extensive genus. It is one of the fibrous-rooted class, that pushes up strong cane-like shoots, which reach a height of 5 feet or 6 feet, and become quite woody in texture. These stems, which are less sparingly branched than in most of the others, are clothed with deep green leaves, tinged with purple on the undersides. The flowers, which are borne in very long pendent racemes, are of a bright coral-red colour, while the seed vessels are also of the same

hue. These last, which remain some time, are a notable feature of this *Begonia*. It succeeds best when planted out in a warm greenhouse, and if grown in pots needs pretty liberal treatment. The strong vigorous shoots must not be stopped, as it is their boldness of character and the large pendent masses of blossoms that impart to this *Begonia* its most distinctive features.—H. P.

### HYMENOCALLIS MACRONSTEPHANA.

THIS beautiful bulbous plant still appears to be somewhat scarce; at any rate, it is still quoted at a fairly high figure in plant catalogues. Since the time when the late Mr. Woodbridge first flowered it at Syon House (it may have been, for aught I know, flowered elsewhere before then), it has been continuously grown there. For several years now Mr. Wythes has flowered it profusely every year at Syon, the plants yielding an immense number of spikes. One great advantage of this *Hymenocallis* lies in the fact that where several plants are grown there will be successional spikes for several months. This spring, in my own case, I commenced picking the flowers early in February, and continued to do so up to May and June, hardly ever being without a spike upon one or other of the stock of plants under my charge. I have more than once tested the keeping properties of the flowers when cut, and I find that I can preserve them in capital condition in water for six and seven days. This in itself is a great recommendation for cut-flower supplies, the blossoms keeping decidedly better than those of *Pancratium* fragrans, the flowers altogether being of more substance, whilst also quite as many are produced upon the spike. These spikes are thrown well above the foliage, whilst the flowers themselves are deliciously scented; the tubes of the flowers with me are usually 5 inches or more in length, thus rendering the blooms more suitable for floral arrangements. Much as I dislike it, it is necessary to pull off the golden pollen masses if the flowers have to be packed for sending a distance; at home with careful handling this mutilation may be avoided. I find that the annual leaf-growth usually begins about June; from then until the end of August the plants will make quite a new set of leaves, after which the old foliage if faded or dirty or attacked by thrips may be removed. There is a disposition, I find, for the edges of the leaves towards their extremities to turn yellow and eventually quite brown. This somewhat disfigures the appearance of the plants when it occurs, but in no case does it appear to further affect the plants. When the growth is being made, a high temperature greatly assists the plants. In my case they are in pits where the thermometer at closing time would run up to 95° or 100°, the glass of the lights being shaded; even up to the late evening the thermometer would frequently indicate as much as 80°. This treatment seems to suit them well. I notice that the foliage this year is broader and more vigorous than usual, whilst fresh bulbs are forming in the pots, to the danger in some cases of the pots bursting. *Pancratium fragrans* (so known in gardens) is also grown in the same pit. The syringe and water-pot are both freely used during the growing period.

J. HUDSON.

**Canarina Campanula.**—As long ago as 1696 this was introduced from the Canary Islands, but now-a-days, outside of a botanic garden or in the collection of some lover of out-of-the-way plants, it is quite unknown, though far from deserving the neglect into which it has fallen. This *Canarina* forms a fleshy root-stock, from whence spring stout succulent shoots, which are branching towards the upper part and are clothed with leaves. The flowers, which are borne towards the top of the plant, are drooping, bell-shaped, and as large as those of an *Abutilon*. Their colour is a kind of yellowish red, with deeper veins, but individuals vary somewhat in



the hue of the blossoms. In the neighbourhood of London the leaves often suffer a good deal from the fogs which frequently occur about the season of flowering. The *Canarina* will succeed in ordinary potting compost, such as loam, with an admixture of leaf-mould or peat and sand. Very few of our nurserymen keep it in stock, though it is, I see, offered at a very cheap rate by some of our Continental neighbours who make a specialty of bulbous, tuberous and fleshy-rooted plants.—H. P.

## FLOWER GARDEN.

### NARCISSUS GLORY OF LEYDEN.

THIS seedling, raised by Messrs. De Graaff Bros., of Leyden, some time about 1883, is undoubtedly one of the finest of all the yellow trumpet Daffodils. It is robust in habit and the flowers are large, bold, and of good sub-

I know, has never yet been put into commerce. Now that so many amateurs are rearing seedling Daffodils, we may expect to hear of many more of these large and beautiful varieties; for example, the Rev. W. Wilks has reared a chance seedling in his garden at Croydon from the variety known as *Trollius*, and appropriately named *Cressida*, a large and robust flower. It is of a good clear yellow colour, having a much widened trumpet, deeply gashed and frilled at the mouth. In Holland some very handsome seedlings are said to have been raised, and if they surpass the kinds above alluded to, they must be very fine indeed. F. W. B.

**Abutilon vexillarium.**—The fact that this *Abutilon* will stand without protection through our winters even if trained to the wall of a hothouse, as may be seen at Kew, has doubtless surprised many, for it has been always regarded as a green-

here to be seen. Mr. T. Smith, who has charge of these gardens, commenced saving seed from some of the best-named varieties, more of these being bought in, as it was thought they would improve the strain. Only the best varieties have been preserved, and by carefully fertilising and saving seed under glass, Mr. Smith has succeeded in perfecting a strain of bedding *Begonias* that would be hard to surpass anywhere. All are of sturdy habit, the foliage being particularly good, while the flowers are erect, of excellent form and the colours beautifully diversified, the very dark shades and pure whites being most noteworthy. Two grand beds are annually principally filled with these *Begonias*, hundreds of strong two-year-old plants being put out. The centre of one bed was this season occupied by a fine plant of *Dracena indivisa*, 9 feet high, Palms, Cannas, Acacias, Grevilleas, *Ferdinandias*, *Dracenas*, variegated Maize, and other fine-foliaged plants being dotted all over the rest of the bed, all intervening spaces being filled in with tuberous *Begonias* put out 15 inches apart. In the corresponding bed, standard *Fuchsias*, the finest being 6 feet high, were largely used, and in each case the surfaces were made undulating, to further avoid any possibility of stiffness.—I.

### NOTES ON HARDY PLANTS.

**Michaelmas Daisies.**—I lately saw these used successfully as pot plants. They had been lifted and carefully potted, and are now doing splendid service under glass. The hint may be useful to those who do not grow much stuff indoors, or who may be partial to the *Starworts* during the Michaelmas season. Grown out of doors, and presumably perfectly free from insects, they might be safely taken in quantity into such a structure as a vinery, where the atmosphere in autumn is cool and airy, and where they might be allowed to develop their flowers in their purity and abundance for either cutting or for decoration in the conservatory. I had long known and proved the value as pot plants of the dwarfier Michaelmas Daisies, such as the *Amellus* group, but I had never ventured to pot up in August and September the taller kinds. No doubt much will depend on the character of the land in which they have been grown. The stiffer the better perhaps, at least for lifting and potting. Imagine a clump of *A. cordifolius* with its myriads of heads spread out and forming a specimen 4 feet or 5 feet through, or a strong clump of the splendid blue *Archer-Hind* of similar dimensions, though not quite so tall. The latter kind is also, by reason of its rich colour and lateness, entitled to some such consideration as this indoor treatment.

**Colchicum autumnale album plenum.**—This is sufficiently scarce to be deemed as yet rare. It is the best by far of the genus so far as we know the varieties at present. I believe that more *Colchicums* are lost by being chopped up in the ground, owing to their defoliated condition from July till early spring, than from all other causes combined. As already hinted, the flowers are so showy, pure, and beautiful, even when grown out of doors, as to be invaluable about the present period. They make up well in wreaths. They are also of a type not too common, and being each 2½ inches to 3 inches across, they fill up and give a good effect. Though they have practically no stems, the tubular parts of the flowers are long and tough. At the present time, when we are having 8° and 9° of frost at night, flowers of this are unharmed.

**Polygonum complexum.**—As the frosts shut out of view the hundreds of garden favourites, this becomes all the more conspicuous from its more persistent character until well into spring, till which time it is never quite bare of its former season's pretty foliage. It is otherwise very unlike the general run of Knotweeds, for it is practically a shrub with thread-like stems, more woody of course, nearer the base on old plants and it never,



Narcissus Glory of Leyden. From a photograph sent by Mr. J. D. Pearson, Chilwell, Notts.

stance. Both leaves and flower-stalk are stout and massive, a fact that in itself is indicative of great vigour. The illustration shows an average sized flower, but in such a position that the length of the trumpet is foreshortened, and so looks shorter than it really is. The colour of the perianth is soft, clear yellow, and the trumpet is pale golden yellow, while the thick texture of the whole blossom renders this variety one of the best for decoration, as when cut in the bud stage a flower will last fresh in water for from seven to ten days. The three best seedling Daffodils of recent times are *N. Glory of Leyden*, *N. Mme. de Graaff*, having a white perianth with a delicately-modelled sulphur trumpet, and a variety raised by the late Mr. Backhouse, and now known as *Weardale*. All these kinds are expensive. *Glory of Leyden* costs from a guinea to 35s. per bulb. *Mme. de Graaff*, another of the Leyden seedlings, cannot be purchased under two to four guineas, while *Weardale*, so far as

house plant; indeed, the variegated-leaved form is usually brightest when in a temperature higher than that of a greenhouse. Out of doors it will bloom for months, and during the autumn when laden with blossoms, few wall plants equal it in beauty. The major portion of the flower is the large, bright crimson-coloured calyx, while the petals, which only partially protrude therefrom, are yellow, the contrast between the two colours being very striking. This *Abutilon* is also well worth attention as a greenhouse climber, for, treated as a roof, rafter or screen plant, it is very effective, the long flexible shoots disposing themselves in a graceful manner. Numerous hybrids have been raised between it and some of the garden varieties of *Abutilon*, but the typical species as far as I have seen remains the prettiest of all. Beside the specific name of *vexillarium*, this is also known as *A. megapotamicum*.—H. P.

**Begonias at Henbury Hill.**—For several years past the gardens at Henbury Hill, Westbury-on-Trym, near Bristol, have been famed for the excellence of the beds of tuberous *Begonias*



dies down, but, in fact, retains all its stems, at least when in a normal or healthy condition. It is also known as *Muhlenbeckia complexa*, and many will recognise it better under this name. Practically, the treatment makes or mars it as a decorative object. I have one plant that has taken care of itself for at least fifteen years growing among Periwinkles and Rose Blairi No. 2. It rarely blooms in the open air; indeed, I never saw it do so in these parts, but I have seen it flower in a cold vinery, and I have also seen it in the same place in fruit. Its little berries are like big polished pearls and nearly transparent. There are scores of less worthy basket plants grown in greenhouses and conservatories. I do think that if favoured with the protection of glass, it would in all probability fruit.

**Polygonum Brunonis.**—The thick mats of lanceolate foliage of this are now assuming their warm winter colour. The foliage of this plant never seems to come off, and that of the last summer, which up to about the month of September remained apple green, is now fast assuming terracotta and mahogany hues. It hardly need be said that such warm-coloured pieces of foliage are most welcome in any garden in winter.

**Polygonum sphærostachyum.**—Just to show the continuous habit or succession of flower borne by this species, I have never been without the brilliant coloured spikes since May until two nights ago when 10° of frost drew the line. Though this belongs to a family noted for its rampant growth either by surface or underground stems, it does not belong to that section, and never runs at the root. Its root is formed of a knob of very peculiar form and habit, pot-hook shape at bottom, with the growth springing from such lower part. The fibre is very soft, thin, and dies annually. It enjoys plenty of water in the growing season, but dislikes the wet of our winters when dormant; hence the difficulty of accommodating such a plant. The readiest way I know is to give it springy peat in the ordinary border when planting, then it may remain with a glass shelter in winter. It is not cold that hurts it, but winter wet, which causes decay to set in at the softer vital part of the knob when dormant. It is said that it likes to be treated as a bog plant. This is true so far as it goes; it prospers there amazingly during the summer, but I have known many to die under boggy conditions in winter. It is not easy to describe the intense and singular colour of the spikes of flower. They are of a carmine hue with metallic shades, and the protruding anthers of dark colour further beautify the spikes. It never grows more than 1 foot high here. I invariably leave it out all winter. J. WOOD.

Woodville, Kirkstall.

### BEGONIAS IN THE FLOWER GARDEN.

ALL things considered, the season of 1892 has not been quite satisfactory as far as tuberous Begonias in the flower garden are concerned. What suits their only rivals, zonal Pelargoniums, well, viz., a hot and dry summer, does not agree so well with Begonias, these delighting in dull, moist weather. When hot and dry weather prevails, Begonias do not always grow so strongly as desirable, the male flowers also dropping prematurely. In spite of these drawbacks, they are yet very attractive, especially those improved strains, the female blooms of which equal in size and form the male flowers of the best of the older forms. As soon, however, as rainy, cooler weather sets in, the Begonias improve in appearance wonderfully; they become quite gorgeous in fact, while the Pelargoniums present a woe-begone appearance. All through September our Begonias have been remarkably showy, many of them in low-lying positions even rallying from the effects of a severe frost. Now, in very many instances it is during the late summer and early autumn months that a gay flower garden is most desirable; but those who still depend largely upon Pelargoniums, Calceolarias, and similar things cannot in many cases be complimented upon the late effect of this class of

plants, and they will do well in the future to bed out Begonias by the thousand, and Pelargoniums and Calceolarias by the hundred.

Unfortunately, the idea still prevails that the beds and borders should be quite filled with plants at the outset, and the gardeners in charge are not always the offenders in this respect. All the while geometrical (that is to say, set) designs of flower gardens are tolerated, these, though not necessarily so, will, I am afraid, be planted in a formal fashion. Masses of colour have to be produced, and the individual beauty of the materials used is not taken cognizance of. The favourite positions for viewing these arrangements of colour are terraces, high windows, parapets, or even roofs of the mansions or houses overlooking these gardens, and the pleasure thus derived must be of a very fleeting description. I hold that each bed should contain plants of an attractive or interesting character, these inviting closer inspection and more fully sustaining the pleasure in the beds than is often the case when masses of common plants are arranged. Nothing better for illustrating my ideas as to how beds should be filled than tuberous Begonias, properly planted, can well be named. Not only do they, when viewed from a distance, present a very showy appearance, but a closer inspection brings to view the beauties of the flowers and the highly ornamental character of the foliage. It is true, the strains sold by the trade vary surprisingly, few of them equalling what a few private growers have managed to select and improve for themselves. There is really no excuse for this, as it is possible to save seed that will produce nothing but superior varieties. For instance, out of 2000 Begonias I raised this season not an inferior variety has shown itself, and it is to be hoped that the time is not far distant when the trade will supply packets of seeds equally as reliable. What are wanted are varieties with moderately strong, prettily veined leaves, the flowers being of medium size, good form and substance, and, above all things, borne on stout erect footstalks. Drooping flowers are the least affected by thunderstorms or scalding sunshine, but they do not show up sufficiently, and their proper place is either along or overhanging the margins of raised beds, or in vases and hanging baskets.

Begonias are neglected, or their decorative value is overlooked by the majority of flower gardeners, but in how many cases are they properly arranged? It seems next to impossible to get away from the old order of things—I mean the wretched plan of planting thickly with the view of having a mass of colour. Directly the plants run into each other, their individuality and much of their beauty are lost. A confused mass of leaves is anything but attractive, and, but for their being rain-proof, crowded Begonias count for little more than zonal Pelargoniums. In very many instances the plans of flower beds are “coloured,” that is to say, it is decided how to plant the bulk of them the autumn previous; and before it is too late, I would especially urge that Begonias should occupy a very prominent part in the arrangements, and that their planting should also be decided upon. Beds, raised or otherwise, filled with nothing but Begonias and a few elegant Palms, Dracenas, Cannas, Grevilleas, Acacias, variegated Maize, and such things dotted thinly among them are bound to be an attractive feature in any flower garden. Large central beds and isolated beds, the larger the better, arranged with such materials give the artistic planter good opportunity, and, in addition, will be found far cheaper and infinitely more beautiful than masses of any one or two showy colours. A few score in a small garden, and a few hundred Begonias in a large garden, will well fill more space than is usually devoted to four times that number of commoner plants, their planting, as I have tried to show, being most desirable. Thus if comparatively strong plants, or any more than one year old, are put out in good, well-prepared soil (and they delight in a fairly rich retentive ground), these may safely and advantageously be disposed 18 inches apart each way. The strongest of the seedlings raised early the same season and kept growing vigorously may

be put out 15 inches and the rest 12 inches apart each way. At the outset the beds do certainly present a rather thinly clothed appearance; but this difficulty may easily be obviated by planting *Mesembryanthemum cordifolium variegatum* among the Begonias, a carpeting of that free-growing succulent keeping the ground cool and moist, thereby greatly benefiting the other occupants, as well as enhancing their beauty. With this trailing plant in free use, strong Begonias may be even more thinly planted with advantage. Surfacing the soil with fresh cocoa-nut fibre is an improvement on the bare ground, and, as it happens, a mulch of this—or some substitute, such as leaf soil, rotten tanner's bark, or well-decayed manure—is considered absolutely necessary in many positions. Showy edgings, or any in the way of Lobelias, golden Pyrethrums, Violas and dwarf Ageratums, ought not to be used for Begonia beds, as they look far better without them. If the beds are raised, the edges of these may well be thinly covered with lumps of bright spar, sandstone, clinkers, or other substitutes, letting the Begonias hang naturally over these. This would be another step towards getting rid of the undesirable formality and painful neatness in the flower garden. —I. M. H., in *Field*.

**Tropæolum speciosum.**—Many are the failures recorded in comparison with the successes in establishing this, one of the most beautiful of our hardy climbers. For twelve years I have tried to establish it here, and utterly failed until the last two years. Now it luxuriates on walls and rambles over bushes to such an extent, that at last I am inclined to hope that I have scored a success. After so many repeated failures I felt disheartened, the idea gaining on me that something was unsuitable in the soil or climate to the well-being of my favourite climber; however, two years ago I procured more roots and tried yet another move as follows: The Couch-like roots were sent me in November and on receipt I cut them into about 2-inch lengths, laid them flat and evenly in boxes of light soil, and covered them with a thin layer of the same. The boxes were then stood in a cold frame, where they remained until the following spring. As the young slender growths appeared through the soil they were carefully transplanted to their permanent positions, where they made vigorous growth and flowered profusely, followed by splendid strings of pretty berries. Judging the results justified the means, I again last year got more roots and treated them in the same way with precisely similar results. My success I attribute solely to cutting up the roots and starting into growth previous to planting out.—J. R.

**Nicotiana affinis.**—Several notes have recently appeared in THE GARDEN concerning the above. In our warm light soil it is a veritable weed, for the roots survive the winter and ramble freely in the borders, and each spring throw up plentiful tufts of flower. Plants thus produced are much dwarfer than seedlings, hence are preferable for some positions. I find them useful in the borders under our terrace walls, for their sweet and grateful scent is much appreciated in the evening. I also grow annually many seedlings in pots. These are chiefly utilised for corridors and staircases in the house, for which purpose they are eminently adapted, lasting well, while their pleasant perfume pervades the whole. Like Mr. Wythes, I find *N. affinis* comparatively useless for cutting.—J. R., *Merioneth*.

**Aralia Sieboldi.**—I wonder sometimes this is not more grown for the decoration of cold conservatories and greenhouses at this season of the year. In the open—and it will grow freely in many parts of the country, though liable to be damaged by severe frost—it blooms at the end of October and early in November. The branching spikes, which are very ornamental, are much spoiled by bad weather. When grown in a cold house in pots, the balls of white blossoms, which are freely produced by strong plants, are very fine and escape the damage which mars their beauty in the open. I have several spe-



cimens that are flowering well, and though not showy, they are yet very interesting and valuable, in the dull season of the year. The flowers exude a kind of secretion, which seems to attract every fly that has not disappeared, especially the big blow-flies. Only let the sun shine out warmly, and one can then see several blow-flies apparently feasting on a ball of blossoms. The variegated variety is a good companion plant. The leaves are margined with white, though they by no means equal the white *Hydrangea* in beauty, though that is now declining. —R. D.

**Sowing Sweet Peas in autumn.**—Of late years more attention has been paid to the raising of these beautiful flowers, and when they can be had in quantity they are much valued. The system of raising early in the spring in pots is too well known to need any remarks, but I would ask those who can give the plants good treatment or shelter to sow in the autumn if early bloom is required the following season. This may be done in various ways on a warm sheltered border by sowing in the same way as other autumn annuals, merely protecting with a few branches in severe weather. Of course, on wet, heavy land it is useless to attempt autumn sowing, but in warm light soils well drained, Sweet Peas often succeed, and if a few plants are lost by slugs or wireworm or mice, those left amply repay for the trouble by blooming early. Sowing in boxes or pots in October in a cold frame and exposing as much as possible through the winter, planting out early in the spring and protecting will give very early bloom. When sown as advised, the plants are much dwarfer in habit and flower freely. They may also be grown in pots by potting on early in the year, but I do not advise this, as they then require more attention. Princess Beatrice I consider a valuable variety. —G. WYTHES.

## FERNS.

### FERNS FOR BASKETS.

THE culture of Ferns in suspended baskets might well be considerably extended. Either in the fernery or in the ordinary stove or greenhouse few objects are more attractive than hanging baskets filled with suitable Ferns. Many of the most beautiful species are only seen to advantage when grown in elevated positions where the long drooping fronds can mature their growth without coming in contact with other subjects or being smothered up with their own foliage. Either wire or wooden baskets may be used, but I prefer those made of wire, as they are more durable. The size of baskets should be regulated according to the requirements of the various Ferns, and also the accommodation that can be given them. Where space is limited the larger growing sorts should be avoided. In large conservatories where plenty of space can be given, the larger baskets may be filled with a mixture of suitable sorts, but I prefer to use only one variety for each basket, for where several sorts are used the strong-growing ones soon cripple the weaker ones. The following list includes a good selection of useful sorts for basket work. It might, however, be considerably extended:—

**ADIANTUMS.**—Many of these are very effective as basket plants, those with the spreading rhizomes being the most desirable. *A. amabile*, also known as *A. Moorei*, is one of the best; the rhizomes spread through the soil, young fronds soon appear and cover the whole of the basket. *A. assimile* is of similar habit, with very slender fronds of a deeper shade of green; this also grows freely on a moist wall, and will soon cover a good space.

**DAVALLIAS** are essentially basket Ferns, most of them doing better than when grown in pots. Of

the larger growing sorts, *D. ornata*, *D. polyantha*, and *D. Mooreana* may be recommended. *D. elegans*, *D. Griffithiana*, *D. Mariesi*, *D. Tyermani*, and others with the conspicuous rhizomes should all be grown in baskets. *D. retusa* and *D. tenuifolia* Veitchi are very distinct and beautiful, but require a little more care than the others named, and appear to do best when grown in nearly all peat, which should have plenty of sharp sand and some broken crocks mixed with it to keep it from getting too close. A little *Sphagnum Moss* may also be mixed with the compost and the baskets be lined with fresh green Moss.

**NEPHROLEPIS.**—This is another genus, most of which are seen to better advantage when suspended. For large baskets *N. davallioides* and *N. ensifolia* should be used, but they cannot be grown where space is limited. Under favourable conditions the fronds will attain to from 4 feet to 6 feet in length. *D. exaltata* is of more moderate growth, and one of the finest of all Ferns for baskets. *N. pectinata* is the best for small baskets. *N. davallioides furcans* is a most beautiful Fern either for pots or baskets. For filling baskets it is better to use young plants with single crowns, as they make longer fronds than those with a tuft of crowns. As the *Nephrolepis* do not cover the under surface of the baskets so soon as some Ferns, a few young plants of *Ficus repens* if pegged round will soon cover the baskets and look very pretty. This may also be recommended for other Ferns which have long drooping fronds produced from a single crown, such as *Asplenium longissimum*, *A. flaccidum*, both of which do well, but they should be grown in the most shady position that can be given them.

**GYMNOGRAMMA SCHIZOPHYLLA GLORIOSA**, a most elegant Fern, requires careful attention and a stove temperature. It is remarkable that this Fern absorbs a great quantity of water, and will quickly shrivel up if neglected. The same remark applies to some of the other *Gymnogrammas*.

**GONIOPHLEBIUM SUBAURICULATUM**, which has very long drooping pinnate fronds produced from spreading rhizomes, is not excelled as a basket Fern for the stove. It cannot be taken outside, however, except at the risk of losing the fronds. I have known the fronds to be discoloured from taking a plant from one house to another, even though the weather has been mild.

**STENOCHLENA SCANDENS** is a fine sort for large baskets, which should be deeper than those used for most Ferns. The long spreading rhizomes should be pegged round the outer surface of the baskets, and when well covered with the bright fresh green pinnate fronds it is most effective.

**WOODWARDIA RADICANS** succeeds well in a cool house. The long drooping fronds are only seen to advantage when in an elevated position.

**PLATYCERIUM ALICORNE.**—Wooden baskets filled with rough peaty compost should be used for this. If nice healthy plants are used they will root through and young plants will make their appearance from the underground rhizomes and soon cover the whole surface of the basket.

**PTERIS.**—Not many of these can be recommended as basket Ferns. *P. moluccana* is an exception; this has spreading rhizomes and long recurved pinnate fronds, and makes a very effective specimen, but requires a moderate stove temperature. Some of the heavily crested varieties of *P. serrulata* may be used. *P. s. densa* is one of the best. This remarkably dense form, the fronds of which are borne down by the heavy tufts of multifid growths, shows to advantage when suspended.

Of smaller growing Ferns which are pretty for baskets, several of the *Polypodiums* may be recommended, as *P. phymatodes cristatum*, *P. pustulatum*, and *P. glaucophyllum*. *Nipholobolus heteractis*, *N. lingua corymbiferum*, and *Drynaria diversifolia* are all distinct and useful, though not often met with. I must also include *Leucostegia immersa*, one of the prettiest of basket Ferns for summer, but it is deciduous. In the treatment of basket Ferns the greatest difficulty is in the watering. They are apt to

be left until they get too dry, and then when watered the water runs through without wetting the whole of the soil. The best way to treat them is to have a large pail or bath and immerse the baskets; this will ensure wetting the whole surface. It is possible to get the baskets too wet, but as the soil is more exposed to the air, there is less chance of its getting sour than in pots; therefore, water may be used liberally. With proper attention many of the Ferns referred to above will bear full exposure to the sun except during the hottest part of the day. Ferns are often heavily shaded; the consequence is that they grow weakly, and if taken out for any purpose they soon suffer. When started and grown on throughout in a light open position they last considerably longer, besides which they are more beautiful. A. H.

### TREE FERNS.

THESE oftentimes suffer from want of water between now and the following spring. It is sometimes considered that not much water is required when no active growth is apparent, but this is far from being the case. To allow Tree Ferns to flag or droop for want of water is simply ruinous if persisted in for a few times; more plants, in fact, are spoiled through want of sufficient nourishment than from any other cause. In their native habitats they are not found thriving in dry positions, but in shady spots in ravines and in moisture-laden localities, taking the majority of kinds as usually grown in this country. Plants which have been imported with stems of good size will, of course, have a large amount of moisture conserved in the stems. These do not suffer so soon as younger plants, but in all cases moisture is necessary to secure healthy growth. In the case of these plants, it is a good plan to pour water down the stem from the top with a water-pot and fine rose, using the syringe also to the same end. Plants which have been grown on to a large size in this country require a deal of water at the roots. In fact, when they are in a healthy state, it is hardly possible to overdo them in a reasonable way. When pot-bound they will bear to be stood in pans of water, even in the winter season. This is a good safeguard against any possible contingency from drought. One of the grossest feeders of all is *Cyathea medullaris*; this, the Black Tree Fern of New Zealand, is a truly noble plant when well grown. Another splendid kind is the Silver Tree Fern (*Cyathea dealbata*), a beautiful contrast to the foregoing; this also takes a large supply of water. *Dicksonia squarrosa* is very susceptible to drought, being one of the first to suffer, showing the results in the curling upwards of the segments of the fronds. In any case when this is observed, the plants should be thoroughly syringed at once, the stem and soil also being thoroughly soaked with water. By this means, and by keeping the house close for a time, they will soon recover, except where the pinnae are already curled up; these it will not be possible to recuperate. Tree Ferns, when planted out, are not so likely to suffer; in their case it results more in a general weakening if persisted in. Young plants in small pots should receive close attention; they dry up very quickly, even in the winter season. If these are at all pot-bound, the safer plan will be to stand them as afore suggested in pans of water.

FRANCES.

**Gymnogramma chærophylla.**—Lucy writes me in great alarm, and encloses specimens of this plant, saying, "It is a Fern which came up spontaneously in some Fern pots which I bought in the spring, and now they are all dead. What is the cause of this? Kindly tell me." The above is the name of this plant, and if Lucy had asked its name earlier, she would then have learned that the plant is an annual, dying every year. It casts its spores about and comes up promiscuously in the spring, as did this. It is a beautiful plant, and should be grown more than it is. Some thirty-five years ago I used to grow it largely, and it was



a great favourite with ladies. I found the plant grew best in yellow loam and kept very moist. It does not require a large pot by any means, and looks best when grown singly. I am much obliged to "Lucy" for putting me in possession of a good crop of spores.—W. H. G.

#### DAVALLIAS.

TAKEN as a whole, these Ferns are amongst the most useful of any for general decoration. They can be selected for either the cool greenhouse, the temperate house or the stove, and with suitable sorts for either temperature, the best results should follow. Amongst evergreen Ferns the Davallias should be classed as the most enduring of any, *i.e.*, those of the family which are evergreen. A good few are deciduous, but none the less valuable in that respect. For cutting there are no Ferns to surpass such as *D. bullata*, *D. elegans*, *D. dissecta*, or *D. Tyermanni*, their durability exceeding that of the greater number of flowers—in fact, often lasting out two lots, and then being in good condition. By the selection of various species, fronds of one or the other may be had all the year round for cutting. There are several, too, that are excellent subjects for decoration as plants, lasting remarkably well even under disadvantageous conditions. In the case of these also there is another point or two to consider; they do not so quickly suffer from want of water at the roots as many other Ferns, whilst they will stand better in a dry atmosphere or where exposed to draughts. The Davallias are also amenable to various modes of culture, which in itself is a great advantage. Whilst most, if not all, may be grown in flower-pots in the usual way, and thus be used to advantage, they may likewise be cultivated in shallow pans. In fact this latter method is, I consider, much the better of the two, for, taken as a family, they are either shallow or surface-rooting Ferns, none being disposed to root deeply. Then they are peculiarly adapted for rustic pottery of various forms, likewise for growing in baskets, whether these be made of wood (teak being the best from which to make them, as in the case of Orchids), of wire (galvanised, of course), or of rustic ware, which is the most durable of all. Their uses do not end even at this, for in the fernery itself or in other suitable places the columns supporting the roof may be covered with them. I have seen them thus used in a most effective manner. The trunks of dead Tree Ferns can be covered with the scant varieties without much difficulty, whilst for covering walls upon which wirework and a little soil have been fixed, they are particularly well suited. There never need be any bare places either in a fernery or any other house suited to their culture; in fact, there never should be. For planting out upon rockwork (natural stone, of course, being preferable) they come again to the fore, being most at home on ledges where the soil is shallow. Various designs made out of the bark of the Cork Tree (usually termed rustic cork) can be turned to a good account also. Some kinds when grown in pots are seen to best advantage if made up in the form of pyramids, whilst others may be extended a considerable distance over the sides of the pots by affixing wirework thereto, particularly when large specimens are desirable. In this way I have seen excellent specimens of *D. bullata* quite 5 feet across one mass of pale green and healthy fronds.

None of the Davallias can be considered of difficult cultivation, but rather the reverse. A few kinds are, it is true, of somewhat slow growth, *D. pyxidata*, for instance, *D. alpina* from Java, *D. parvula*, a species of minute growth, and *D. Novæ-Zelandiæ*, all very beautiful kinds. For growing into large specimens, the best is *D. Mooreana*, a well-known kind, but one that requires a warm stove to have it in the best possible condition. In a cooler house, even where it will grow fairly well, it does not assume such fine proportions. *D. polyantha* is another strong-growing variety, and one that is worthy of more extended cultivation; this also requires warmth to develop its full beauty. *D. fijiensis* is

a lovely plant and one which when well grown makes a splendid specimen without occupying too much space or overshadowing other things. *D. bullata*, *D. elegans* and *D. canariensis* also make fine specimens. The first-named has been already alluded to, the second is seen at its best in the winter and spring, whilst the last is good at almost any time. As basket plants, the following may be all depended upon for a good effect, *viz.*, *D. affinis*, a beautiful Fern with finely divided fronds and one that is none too well known. *D. dissecta* is another capital variety; both of these require warmth. *D. bullata* is another good basket Fern; also *D. elegans*, both of which may be grown in a cool stove. *D. canariensis* is a grand basket Fern for the cool fernery or conservatory, thriving better even in pots than when suspended in baskets. *D. Tyermanni* should also be included here as a desirable species. A later introduction, but one of the best of all as a basket Fern, is *D. tenuifolia Veitchiana* of exceedingly elegant growth. For growing in small rustic baskets in cool and moist places, *D. Novæ-Zelandiæ* and *D. Mariæ* should be selected; the last-named will endure frost, a few degrees not injuring it in the least. This latter Fern may also with good attention be successfully grown in a window. For planting out the best are *D. elegans*, *D. bullata*, *D. hemiptera*, and *D. Tyermanni*; this work should be done just before growth in either instance commences, the rhizomes being pegged close upon the surface. For use in pots for purposes of decoration, note should be taken especially of *D. elegans*, *D. dissecta*, *D. canariensis*, and *D. solida*. *D. tenuifolia* is a very beautiful species of slender and elegant growth. *D. Griffithiana* appears to be a species that is not sufficiently well known; it is one well suited to basket or rustic ware culture. The Davallias are not at all particular as to soil; what has most to be guarded against is fine soil when dealing with other than small plants. Coarse fibrous peat and turfy loam will suit them well; failing either of these of good quality, some bits of charcoal or of sandstone should be used. During growth a liberal supply of water is required; when resting a less quantity in the case of the evergreen kinds, with hardly any for a few weeks to the deciduous varieties whilst these are entirely destitute of fronds. Whilst these latter are at rest, however, do not let them escape notice or be kept in too cool a place, according to the requirements of species. FILICES.

#### GLEICHENIAS.

UNLIKE many Ferns, during the winter months the *Gleichenias* require a liberal supply of water, not so much, of course, as when growth is more active. They are very shallow-rooting Ferns; hence they suffer sooner than one might be led to expect. The majority of the roots are to be found near the surface; therefore it is much the best to grow the plants in pans. It is never advisable to let the plants suffer from the want of water. In this respect they are almost as sensitive as the Tree Ferns. When watering them I prefer to use a fine rose upon the can, so as to ensure all the soil being thoroughly well moistened. In cases where the rhizomes and surface roots are somewhat bare and too much exposed, a sprinkling of sand and peat or leaf soil will protect them. These parts of the plants need to be kept moist; if the rhizomes suffer, the future crop of young fronds therefrom will be correspondingly weak. There will not, as a rule, be much active growth now, although some few kinds rarely take much rest. The first opportunity should be taken to thoroughly examine the plants for insect pests. In some instances the brown scale is troublesome; this should be dislodged by the careful use of a small pointed stick. It is a tedious process, but as insecticides are out of the question in a liquid state for fear of injury, it must be done. Fumigation will remove the thrips where these are found troublesome, and that without injury to the plants. The young and tender forms of the brown scale will also be killed by about three fumigations with Campbell's fumigating insecticide, which is a fact worth knowing.

I do not, however, think the old brown ones would be much affected.

Whilst most of the *Gleichenias* prefer a dry atmosphere, there are two notable exceptions; these are *G. flabellata* (quite a cool species) and *G. dichotoma*, which thrives best in warmth. Both of these may be syringed freely; thus in their case the thrips can be kept down. In most instances the growths will now be very dense. Where any are fading or already turned brown, they should be carefully cut away, taking care not to injure the leading growths in so doing, as these will extend from year to year almost indefinitely. This work is better done with a pair of Grape scissors than with a knife. In any case where the fronds are over-thick and they can be regulated, this also should be done; whilst if re-tying and staking are essential, these, too, should be seen to whilst there is time to spare to do it carefully and well. For the winter, a night temperature of from 40° to 45° will suit them well, save in the case of *G. dichotoma*, which I prefer to grow in an ordinary stove, by which treatment it develops much finer fronds. It often makes good growth during the winter-time, and at all times looks thriving if well cared for. The others cannot be hurried in their growth. FILICES.

### GARDEN FLORA.

#### PLATE 883.

#### ROSE MALLOWS.

(WITH A COLOURED PLATE OF HIBISCUS  
HUGELI.\*)

THE genus *Hibiscus* is a very extensive one, numbering no less than 150 species of stove, greenhouse, and hardy shrubs and trees, distributed for the most part in the tropics, but also occurring in temperate regions. With these last we are now specially concerned. Europe, America, and Australia all contribute to our Mallows, and although so few of the American species can be managed well in the open, the protection of a cool greenhouse or pit is found sufficient to do them well. They are found chiefly in swampy or marshy ground, and would doubtless do much better if they could be planted out in a warm, rich border near the light and where they could get plenty of sun heat in late summer.

*H. MOSCHEUTOS*, from the borders of salt marshes in Canada and generally throughout the United States, is one of the showiest of the hardier perennial species. Its flowers are quite as large as those of the single Hollyhock, of a bright rose colour with a brilliant crimson centre.

*H. COCCINEUS*, from Georgia and Florida, is also a showy species. The flowers, which are produced from July to September, are bright red and very showy when the plants are well done. It is rather more tender than the above, and should be planted out in the conservatory.

*H. GRANDIFLORUS*, with its large flesh-coloured flowers, red at the base, is one of the easiest to manage north of London in the open air. With the protection of a low wall we have had blooms freely in July, but it should be liberally supplied with water when growing and flowering.

*H. MILITARIS* is an extremely variable species, and in its best forms a very showy and valuable plant. It is found chiefly on the banks of rivers in Pennsylvania, Georgia, and Ohio, flowering from July to August. The river-sides are ablaze where *H. militaris* forms a thicket, which it often does, its stems from 3 feet to 4 feet high being surmounted by numerous large, pale rose-coloured flowers with a deeper centre.

*H. INCANUS* has very large sulphur-coloured flowers, purplish at the base.

\* Drawn for THE GARDEN in Mr. G. F. Wilson's garden at Weybridge, May 19, 1892, by Champion Jones. Lithographed and printed by Guillaume Severeys.





HIBISCUS HUGELI







H. CAROLINIANUS, with much the same habit, has bright purple flowers.

H. HUGELI, from Australia, is one of the most variable species, distinct and very beautiful varieties of which are figured in the *Botanical Magazine* and *Botanical Register*, the one as quinquevulnera, and the other as Wrayæ, in compliment to Mrs. Wray, of Oakfield, Cheltenham, who first flowered it in England. It flowered shortly after in the Royal Horticultural Society's gardens, from seeds sent by Mr. Drummond from Swan River. It is given as a greenhouse shrub of easy cultivation, but it does well against a south wall with a little protection during the severe part of the winter. Its natural time of flowering throughout winter and spring, however, points to the cool greenhouse or conservatory as the best place in which to grow this variety. Its flowers are very large, pale purple and showy. H. Hugeli var. quinquevulnera is a less showy form than either that represented on our plate or Wrayæ. It was introduced by Mr. Thompson, of Ipswich, and first flowered in August, 1853. The flowers are purplish-violet. That figured is nearer the form Wrayæ than any of the other forms we know. It is a valuable greenhouse plant, and in the south may be grown with considerable success in the open air against a south wall.

H. SPLENDENS, also from Australia, is a beautiful greenhouse shrub, producing an abundance of very large bright rose-coloured flowers.

H. MANIHOT, aculeatus, Collinsonianus, and virginicus are all well worth an effort to obtain; they would make excellent greenhouse plants, and are easily managed if supplied liberally with water and well ripened off in autumn. D.

## THE WEEK'S WORK.

### THE KITCHEN GARDEN.

GLOBE ARTICHOKE.—Last spring complaints were very rife as to the destruction of Globe Artichokes by frost, but this probably was on account of their not being efficiently protected. Artichokes of this section are far from being perfectly hardy, but yet they will withstand a tolerable amount of slight and dry frosts without any covering whatever beyond that afforded by their own foliage. When protected too heavily as well as too early, the tops rapidly decay. Taking the above into consideration, the best course is to allow the season to advance before applying the covering, or not until frosts are likely to be severe. When protection is found to be necessary, surround each clump with dry litter, also sprinkling a little over the tops.

BRUSSELS SPROUTS.—These are likely to be both plentiful and of the right size for the dining-table, not being too large. Where the planting, however, has been too close, the under leaves decay rapidly at this season, and if not promptly removed they speedily impart a strong flavour to the sprouts. If possible, select a dry day for the work, clearing away every decayed leaf, thus allowing of a freer circulation of air. The benefits arising from allowing ample space between the plants are now plainly seen by the foliage keeping fresh and the sprouts being close and sound. The practice of pulling away these sound leaves is bad in the extreme, and should not be countenanced. The tops of the plants should not be cut off at any time for use throughout the winter, or not until the sprouts are all secured, when, of course, they should be cut before they commence to run. Thinking that removing the tops will favour the growth of sprouts is a fallacy, the free show of these depending upon the growth made during the summer and early autumn months.

CELERIAC.—It is not wise to allow this crop to remain uncovered any longer, or frost will injure the roots. They may be protected where growing by drawing the soil from between the rows well over the roots, and in the case of severe frost a further covering of litter may be given. The best course, however, will be to lift a portion and store

in sand in a frost-proof and cool shed, where the roots will keep sound for several weeks. Those which may be left in the ground and efficiently protected will keep longer and form a succession.

CHINESE ARTICHOKE.—This vegetable will, no doubt, be more plentiful this season on account of the prominence accorded it. The tubers may be left in the ground and dug as wanted. In digging, care should be taken that all are forked out. This comes in as a variety to other vegetables, but is also used in salads.

GROWING CROPS.—There will be little opportunity after this to hoe amongst growing crops. I refer generally to such crops as young Lettuce recently planted, also Cabbage, winter Spinach, Onions and such like. Decaying leaves should not find a place amongst any of the crops. Directly the leaves are all down, they should be collected together and burnt. Very often, however, they are left to lie throughout the winter, especially along the sides of Box edging and under walls. This is a very unwise course, as they harbour slugs, &c.

A. YOUNG.

### PLANT HOUSES.

GREENHOUSES.—VENTILATION, TEMPERATURES, ARRANGEMENTS, &c.—During the past week or two we have experienced some considerable variation in the atmosphere, sometimes cold and frosty, at others very mild and humid. Cold and frosty weather is better than that which is mild and humid, particularly when the latter is further aggravated by fogs. The ventilation must be regulated according to the state of the weather. During fine and fairly bright weather, with an absence of keen or easterly winds, a liberal amount of air should be kept on all day. When the thermometer outside only indicates a few degrees above freezing point, then the ventilation should be at the top chiefly; air bricks at such times will admit sufficient bottom air without opening side lights. As the outside conditions become more favourable, then side lights can be opened. With mild, but clear weather both top and front air should be freely applied, turning on a little heat if required to keep up a buoyant state of the atmosphere. When the weather is close and damp, then warmth in the pipes, even if it raises the temperature a few degrees higher than usual, is decidedly beneficial. Nothing is worse for greenhouse plants, on the whole, than a damp atmosphere during mild weather; it is not then so easily dispelled as when more heat is maintained in the pipes. There is, of course, a considerable amount of difference in the construction of houses as it pertains to injury from damp. For instance, where the roofs are flat with no side lights at all, there is more liability to injury. For private gardens, light airy houses with side lights are much to be preferred as compared with those usually built for trade purposes. In the former, mixed collections of plants have to be grown, and in order to keep them all in a good state of health, a considerable amount of tact and forethought is necessary. In the latter, a house is often devoted to one kind of plant, or to such as are known to succeed well together. The temperature of the greenhouse should be looked after as much as the stove, although it is more frequently allowed to take its chance at night when no frost is apprehended. In very mild weather I would not close the top lights at all, whilst if a little frost is expected, so long as it is not severe, the same practice may be followed, but with a slight warmth in the pipes. I daresay many have noted that when frost has been apprehended and fire-heat applied at night, the house has been too warm in the morning; with a little top air this would be avoided. From 40° to 45° is a very good standard for night temperature, but in very mild weather it will range higher without the possibility of avoiding it. It is when in this latter state that plants which are excessively crowded together suffer most, much harm being often done to soft-wooded subjects. A dash of sulphur on the pipes will not do any harm; it will rather tend to the keeping down of mildew as well as partially checking the injury from the damping

of the foliage in such plants as Primulas and Cinerarias. These should be frequently examined for the removal of any decaying leaves, whilst the Primulas (singles) will also require close attention to see that flowers are pinched off before they decay, otherwise the entire truss will in time follow suit.

Late Cinerarias will still be safe enough in pits without any fire-heat by good coverings upon the glass when frosty, taking care to ventilate freely in fine and favourable weather. In lean-to houses if the plants be stood pretty thickly together, they should be often turned about and rearranged, every advantage at the same time being taken of shelves. These may, it is true, impart a little shade, but that is not nearly so bad as excessive crowding together upon stages. On the shelves the Pelargoniums (show and fancy in particular) will thrive well, it being about the best position they can have until the spring. Lachenalias also are quite at home on shelves, the foliage being thus kept shorter and sturdier. Where hard-wooded plants, as Cape Heaths and New Holland subjects, are grown either as specimens or half specimens, they should be well elevated above other plants, so as to secure a free circulation of air around each individual one. Upon these, where susceptible to mildew, a watch must be kept, all the more so if not safeguarded by sulphur on the pipes as afore suggested. No room should now be taken up with what may be termed useless plants at this season of the year. Fuchsias, for instance, should be semi-pruned and put away where they are just safe from frost. Old and scrubby plants of any kind should be cast aside at once if young ones are growing on to take their place. Where the Chrysanthemums are in the greenhouse, there will be more room to spare in a few weeks; meanwhile, every attention should be given by the means suggested, and by any other available source to keep the other plants as healthy as possible. Azaleas will want looking after rather closely still where trips have been troublesome, another stock of which may be thriving before one is aware of it. Climbers such as Roses should be pruned or thinned out moderately. Fuchsias that have been trained up rafters can be pruned in hard. Other things should be treated according to their requirements. Evergreens must be dealt with cautiously, for upon the present wood will depend the next season's supply of flower. Bougainvillea spectabilis is another instance in which pruning should be avoided, as this species produces its flowers largely from the terminals. By keeping the climbers as thin as possible now it will be much better for the plants underneath them. It is not possible to have too much light during the winter season even in the most favoured localities. Where this is secured in a large degree the plants will thrive much better; those of them which are partially resting even will start off into fresh growth all the more satisfactorily in the spring, the bright days being congenial rather than trying to them. J. HUDSON.

### ORCHIDS.

SINCE writing the last calendar of operations we have had a severe touch of the London fogs. Country gardeners have no idea of the difficulties their metropolitan brethren labour under to preserve their Orchid blooms in winter. The lovely Moth Orchids (*Phalaenopsis*) are destroyed in the bud state; *Angraecum sesquipedale* the same, and many other flowers of species and varieties of Orchids either die off or open of such a poor faded colour, that they can scarcely be recognised. I observed this first in the winter-flowering *Calanthe Veitchii* in our own garden about eight miles from the centre of London. I never could get colour into the flowers, and I noticed the same thing in other gardens near London where the culture was of the best, and one and all informed me that they could not get colour into the flowers in the London atmosphere, but that the same varieties would come of a lovely clear bright colour in pure country air. The same remark applies to other



flowers, though not to all by any means. Still, we know enough of the effects of the London atmosphere in winter to freely assert that Orchid fanciers ought not to expect anything like the same results within, say, a ten or twelve-mile radius that might be expected in the country. We shut up our houses in dense fogs night and day, but still it penetrates, filters through the cracks and crannies. Another thing which is very trying in winter is the drip either from condensed water or leakage in the roof; this, owing to the superabundant moisture in the atmosphere, is much worse near London and other large cities than it is elsewhere. In old houses the leakage is considerable sometimes, but in the new houses there is a groove running from top to bottom of the rafters, made in such a way that the wet trickles into it and finds its way to the bottom and outside the house into the gutters. Our houses have besides this the glass rounded off at the bottom of each pane, the top being cut in a convex form to fit into the next one above it, &c. This causes the rain water to be directed to the centre of the glass where it seldom leaks. In fact these houses I find are practically free from leakage either from rain drifting or melting snow. Those who have not the sash-bars made in the first place with a groove to conduct condensed water to the water troughs may adopt a plan I have seen in use, that is to cut out strips of zinc an inch or more in width, for they must be about 1 in. wider than the sash-bars. Nail them on to the bars, and turn the zinc up at each side to form a drain for the water. I have seen it stated even by good growers that certain Orchids have been benefited by being under a drip. I would not doubt their word that this was so, but would at the same time warn Orchid cultivators that it would be mere foolishness to place similar plants under a drip thinking that they would recover from a sickly state or remain healthy if placed there in a healthy condition. The drip from rafters is usually colder than the atmosphere of the house, and as it drips steadily on one part of the compost only, it is likely to be injurious fifty times for once that it is likely to be beneficial. A good Orchid grower would prefer to water his Orchids in winter with the rose of a water-pot rather than trust to drip from the roof glass. It is generally admitted that drip is very injurious to some Orchids, especially so to those that ought to be in a state of rest, causing them to start into growth prematurely, and throwing the plant entirely out of gear.

The summer flowering Cattleyas are all in a quiescent state, and must have enough water only to prevent the bulbs from unduly shrivelling. Even the autumn-flowering *Cattleya labiata* will do better to be kept well on the dry side, but as the flowers are taking a good deal out of the bulbs, enough water must be applied to the roots to make it good, but avoid constant wetness. These lovely Cattleyas are a great feature in the Orchid houses at this season, beautiful varieties turning up from last year's importations. We have the pretty little *Cattleya marginata* in flower with them, and a very charming plant it is. These Cattleyas are valuable in this respect, that fogs have very little effect upon them. We have not been repotting any plants, and will do but little in that way during the next two months; but some surface-dressing has been done, for the Sphagnum had died off where we wanted a good growth of it, and in other cases it had grown too much to the evident injury of young growths which had been completely hidden by it as they pushed out from underneath the bulbs of the last growth. All these wanted seeing to, and at the same time the flower-pots were washed and the old Moss-grown inverted empty ones on which the individual specimens were placed have either been removed and replaced with clean ones, or the old ones were washed. The roof-glass and rafters have all been made clean; slimy green growth will collect at the laps of the glass and should be removed, as it obstructs the water from getting out at the laps. During the process of looking over the plants, all such as are likely to have insect pests upon them

should be dipped in the solution that I have frequently recommended. The above remarks apply to the week's work in the cool house, principally amongst *Odontoglossums*. The few *Odontoglossums* in the Cattleya houses do not need much water in winter. *O. citrosimum* is now kept quite as dry at the roots as the Cattleyas, or more so. We keep them so dry that the bulbs frequently shrink a little, and do not apply much water until it is seen the flower-spike and new growths are appearing together in the spring. *O. grande* and *O. Insleayi* are also kept near the glass and comparatively dry at the roots when they pass out of bloom, this being the period of rest for them. Very different is the treatment of *O. vexillarium* (Miltonia), which must always be kept in a moist condition. Suspended from the roof-glass are the teak baskets holding *Dendrobium formosum*, which is kept quite dry. The evergreen growths should not be allowed to shrink up too much. The very earliest flowering plants of *Dendrobium nobile* may be put into heat and watered to produce flowers soon after Christmas. J. DOUGLAS.

#### HARDY FRUITS.

**APRICOTS.**—Young trees are now being received from the nurseries, and advantage should be taken of mild fine weather to get these planted and larger trees shifted if need be. Nothing in the shape of lifting and transplanting will arrest the spread of decay in either comparatively young or old trees. The best course to adopt with these is to cut out all the dead and dying limbs, and to bring the rest more closely together, with a view to getting all the fruit possible from these without monopolising all the wall space. Between these decaying trees should be planted other young ones, and these, if all goes on well, should arrive at a productive state by the time the older trees are no longer worth retaining. Where glazed copings are fixed over a portion of the walls the best crops are usually had, and it is these sites that ought to be kept most closely furnished with trees, even if other walls have to be robbed for the purpose. Quite large trees can be safely transplanted without the loss of a crop. Care should be taken to save a good-sized ball of soil and roots, well undermining these so as to work under a strong flat board with which to lift and carry the tree from one site to another. The process of lifting necessarily administers a severe check to the vigour of a tree, and if it is dragged out of a hole to save a little extra undermining and root searching, the chances are the check will be more than the tree will recover from in one season. A fresh, but not very rich compost is desirable for Apricots. Rough fibrous loam and the top spit of good garden soil in equal quantities, with old mortar rubbish, charred garden refuse, and ashes will suit them well. Form good-sized holes and plant high, especially in moist localities.

**PEACHES AND NECTARINES.**—No time should be lost in doing what planting and rearranging are necessary among these. Several successful seasons in succession have been the means of stimulating the cultivation of both kinds, and Peaches in particular among all classes of growers. This revival may and ought also to revive the demand for standard trees, or riders as they are termed. These are especially valuable where the walls are from 10 feet to 12 feet in height, as they quickly clothe the upper half with good bearing wood, while the dwarf trees between them are effectively clothing the lower half. If there are no riders available, plant the dwarf trained not more than 12 feet apart and let them run up quickly, but if the former can be had, plant the dwarfs 15 feet apart and dispose the standards midway between them. The only reliable sites for Peach and Nectarine trees in most gardens are south and south-west walls, but they will do well against south-east walls provided they are well sheltered from easterly winds in the spring. Any trees that have been left undisturbed at the roots more than four or five years will move fairly well now, but, naturally, those that have been more recently partially or

wholly lifted will experience much the least check in removal. Completely change the soil where young trees are to be planted where old ones have long existed, the compost recommended for Apricots also suiting these well. Animal manures are not recommended at the outset, because they are apt to promote a too rank growth. These or other fertilisers can be supplied from the surface later on, or when most wanted.

**PLUMS.**—These are not fastidious as to site, at any rate in the more southern parts of our islands. Several varieties, including Coe's Golden Drop, succeed well against walls with nearly or quite a northern aspect, a very acceptable supply of late fruit being frequently had from trees growing in such sites. They will succeed admirably against walls with an east or south-east aspect, while west walls also suit them well. Trees that have been planted from two to six years will, if proper pains be taken with the work, transplant readily, and seeing that Plums require or pay well for protection during the flowering period, it is advisable to group them together as much as possible. In these days of cheap glass there is much to be said in favour of giving Plum trees the benefit of glazed copings and blinds. Now is the time to take steps towards carrying out such a scheme, the old trees where not too large to move safely being brought together against a moderately warm wall, and young trees planted where required, with a view to placing a coping over them during the next two or three seasons, or at once.

**CHERRIES.**—Very hot walls are not the best for Cherries, finer and more luscious fruit being usually had from trees against walls with either a west or east aspect. The trees of dessert varieties also bear well against outside northern walls, but the fruit is usually somewhat acid in flavour. As far as productiveness and usefulness go, none pay so well as Morellos, these succeeding better than any other fruit against either inside or outside north walls. They must have a cool site to do them well. In order to clothe a high wall quickly, plant both dwarf-trained and standard trained trees as advised in the case of Peaches and Nectarines. In the course of a few years it may be necessary to move either the dwarf trees or standards, and these will be available for furnishing another wall if need be. Where Cherries generally and Morellos in particular fail most quickly, is in soils devoid of lime. When planting, therefore, use a compost much as advised for other wall fruits, the lime rubbish being certainly not omitted. Trees being transplanted or partially lifted should also have lime rubbish or chalk added to the soil distributed about the roots, while if any trees presented a somewhat sickly appearance during the past season, try the effect of a liberal surfacing of fresh lime now, and also just prior to active growth commencing next spring. Lightly fork this into the surface and leave it to the rains to wash down. Large old Cherry trees and Morellos sometimes cover a large area of wall space, and require to be somewhat liberally treated at the roots. It is advisable to open a deep trench from 4 feet to 6 feet clear of the stems of the trees, substituting a fairly rich compost, not forgetting the lime rubbish or chalk for the old soil thrown out. All the roots come across should be cleanly shortened and relaid in the fresh soil. The next best thing is to loosen the surface soil as far as the roots extend in quantity and to give two or three good soakings of rather strong liquid manure during the winter. W. LEGGOLDEN.

**Carnation Mrs. A. Hemsley.**—This is a grand Carnation for winter blooming, and not for winter alone, as it may be had in flower at almost any season of the year, in proof of which it may be mentioned that though beautifully in flower at the present time, it was shown in good condition and an award of merit bestowed upon it at a meeting of the Royal Horticultural Society on July 21 of the present year. It is of good habit with ample foliage, while the flowers are large and well formed, with broad regular petals of a rich deep crimson colour and clove scented. This fragrance is a very pleasing feature, as so many of



the Tree Carnations are devoid of scent or nearly so, and the perfume of the Clove is admitted by almost everyone. It is also much sturdier than many of the Tree Carnations, some of which are apt to run up very tall and thin. This variety was raised in the nursery of Mr. H. B. May, of Edmonton, where Carnations in general are well done. A coloured plate of the Carnation in question was given in THE GARDEN for March 26 of the present year.—H. P.

## ORCHARD AND FRUIT GARDEN.

### ON SELECTING FRUIT TREES.

WHEN an intending planter knows exactly what he wants, it is advisable where possible to pay a personal visit to a nursery and select for himself. It is true there are nurserymen who will send trees answering very nearly to what is ordered, but, judging from my own experience, there are not many who can thus be depended upon. The question is, which are the best descriptions of trees (I am referring to the trees, not the varieties that should be grown) to plant in different positions? Some prefer plenty for their money, while others would rather start with trees more remarkable for their clean, well-matured growth, the line, however, being drawn at any that, owing to bad usage when they were last transplanted, are badly stunted in growth. The first mentioned may easily be and not unfrequently are converted into stunted trees, the check in removing having this effect, and for a few seasons at any rate will make anything but satisfactory progress. Where solid manure can be had cheaply it is far too freely used in the nurseries, this causing a vigorous growth, and is the means of growing the trees to a very "taking" size in a comparatively short space of time, but the purchasers usually suffer for this. I am a believer in a free growth of young fruit trees wherever they are finally planted, and it is those that are reared on moderately good ground only that take the most quickly and surely to the quarters prepared for them by their purchasers.

Of late years fewer large trained trees of Peaches and Nectarines have been bought by private gardeners and far more maidens or those which have not been cut back by the nurserymen. Trees grown in the open and trained with the aid of stakes seldom ripen their young shoots properly, and only against sunny walls can they be really well prepared. Those great sappy growths are not of the right description for laying the foundation of large serviceable trees, but if nurserymen can supply trained trees, say with eight or nine growths of near about the same thickness, then there is something to be said in favour of planting these. It is surprising, however, how quickly maiden trees can be brought into a productive state, especially if they are not planted in a strong or rich compost. The start ought to be made with moderately strong, well-ripened principal growth in preference to any much stronger, the former being cut back well below where the lateral growths spring from, or, say to within 5 inches of the stock. It ought to be an easy matter to secure four well-placed shoots during the following summer, and one more rather severe winter pruning would be the means of laying the foundation of a good tree, or one that would yield a few fruit during the succeeding summer. Apricots appear to form harder, sturdier growth in the open than do Peaches and Nectarines, but being even more liable to gumming, I yet prefer to plant maidens.

Cherries and Plums usually ripen their young wood sufficiently well in the open to

admit of the shoots of trained trees being reserved to their full length. Hard or even only lightly pruned, these trained trees may be three or more seasons before they reach a serviceable state; whereas if the growths are laid in to their full length and in the form in which they were previously trained, fruit spurs will form during the following summer and enough young wood be also obtained to considerably increase the size of the trees. Pear trees for planting against walls should not be very old or very strong. I prefer those with a few medium sized, long, straight shoots, as these, in addition to moving well, are also amenable to any form of training. For instance, four or six-branched cordons, or Palmette Verriers, an excellent class of trees for walls, can easily be formed from horizontally-trained trees with one or two pairs of side branches, but not if the latter are very stout and stiff. Even if horizontally-trained trees are to be continued in that form, it is yet advisable to fight shy of those with three or more pairs of branches, as they are likely to make very slow progress for some time after being planted, much smaller trees or even maidens not unfrequently surpassing them. Some of the best wall trees in the country are to be seen in the Cardiff Castle Gardens, and these Mr. Pettigrew originally planted as maidens, their progress being remarkably rapid. Vigorous trees are not long in reaching a productive state if only the knife is sparingly used. For clothing walls quickly with productive trees, two or three-branched cordons are to be preferred, and these, unless there is a wall nearly or quite 12 feet high to furnish, ought as a rule to be on the Quince stock. The Palmette Verriers, already alluded to, are also well adapted for clothing walls quickly and completely with profitable trees. In very many instances horizontally trained trees fail to cover all the space allotted to them, especially if they happen to be on the dwarfing stock. The Pear stock is undoubtedly the best in all cases where large trees are desired, but it is good practice to dispose cordons midway between them and also to plant some among old trees where these failed to meet each other. Some of the finest Pears we have had during this and preceding seasons have been gathered from fan-shaped trees, and there is much that might be urged in favour of this form of tree. They are the most easily trained of all, leading branches being simply laid in wherever there is good room for them.

Very many varieties of Pears are naturally of a pyramidal habit, and pyramids produce good crops of fruit, especially if they are not unduly restricted in growth. Pears also transplant readily, and if properly lifted and packed, fairly large trees may be had from nurseries with every prospect of their well repaying for the trouble taken with them. If room is limited, it is advisable to plant trees worked on the Quince stock, but if bushels of fruit instead of a few dozen are required, then give the preference to pyramids on the Pear stock, letting these grow to something like their full size, and if the branches are sometimes so heavily weighed down with fruit as to need propping up, so much the better. Some of our freely grown pyramids have borne good crops this season even, and they rarely fail altogether. Horizontal or espalier-trained Pears succeed admirably in many gardens, and this old-fashioned form of training is yet worthy of being perpetuated, the trees taking up so little space, forming in many instances good backgrounds for herbaceous borders. Espalier-trained Apples are even more productive than

Pears, and this season they would appear to be exceptionally prolific. I do not consider Apples are well adapted for cultivation as pyramids. Only the most skilful growers succeed in forming handsome trees, and these if kept restricted seldom produce very profitable crops. Freely-grown bush trees and half-standards are the best for garden culture, the former on the broad-leaved Paradise stock, and formed out of what were originally bought as pyramids quickly attaining and long remaining in a productive state. Pigmies are all very well by way of hobbies, but they do not fill the fruit room, and it is the large bushes in the garden and standards in the orchards that are by far of the greatest service. W. I.

**Currants.**—The judicious pinching of the young growths of Red and White Currants at the end of summer is of much advantage in ensuring compact bushes, rendering them fruitful and assisting the colouring and flavour of the fruit. The stopping and thinning of the shoots cause the buds at the base to become fruitful, also large and plump. Some vigorous bushes which yearly produce heavy crops of extra large fruit are shortened to allow nets to be placed over them for the preservation of the fruit for late supplies. These are in better condition than those alongside of them. Some ridicule the idea of thinning Currant bushes, but what is suitable for Vines and other fruits in this way is also suitable for Currants. The lifting of and replanting them are very conducive to fruitfulness.—NORTHERN.

**Apples for the north.**—The practice of planting large collections of Apples, whether suitable to the locality or not, is still too common. In cold districts, such as the exposed parts of Yorkshire, and some localities in Scotland, many of the finest sorts of Apples are of little value even when the crop is abundant and seasons genial. The past season has been such as to give tangible proof of what Apples are worthy of cultivation on a large scale. I give half a dozen names of varieties which are seldom known to fail in the south and midland districts of Scotland, and such as give a supply from September to the end of March. They are Lord Grosvenor, Northern Greening, Cellini, Seaton House, Stirling Castle, and Golden Spire. Sandringham has done well and is a useful sort, but I am not sufficiently acquainted with its merits to pronounce a verdict. King of Pippins always bears well, but it does not often attain high quality. Worcestershire Pearmain is generally a good cropper, and its quality is not to be despised.—NORTHERN.

**Apple trees and wind.**—Whatever objection there may be by many cultivators to curtailing the growth of fruit trees, there is much to be said in favour of the practice of growing them on strong, short, clean stems, with heads bristling with fruit-buds, but not crowded with wood to prevent sun and air reaching every portion of the fruit-bearing wood. During the month of September there was an unusual amount of wind and rain in the northern counties, and much fruit was blown off and injured, rendering it worthless for keeping. On trees which have for years made little growth, except fruit spurs followed by large stout leaves and abundance of fruit, the damage by wind has been almost nil; while in orchards of the ordinary type, with loose growth, the destruction of fruit has been immense. The practice of cutting annually back strong growths to two or three buds is in every way very objectionable, and to avoid this, at planting time—the present time is the best—a good floor of brick and lime rubbish should be made, say, 15 inches from the surface, circular, and 1 yard wide. Above this the roots are laid out in the ordinary way, and are induced to grow outwards instead of downwards. If any shoots get into a state of grossness, cutting back early in the autumn should have attention. In due time the trees become stiff in habit, and the extra facilities afforded by



inducing the roots to become a mass of fibre instead of "moisture-pumping" thongs renders fruit-bearing inevitable, prevents canker, and the fruit is proof against wind. A great mistake in tree-planting is placing the roots into rich and loose soil; to leave them in their gross habit of growth too long, and then cut back the strong roots in a ruthless manner is barbarous. I removed the roots of a number of Plums and Cherries, cutting them well back, from cold damp soil last season, and now they are in capital condition.—NORTHERN.

#### PEACHES AND NECTARINES IN THE R.H.S. GARDENS, CHISWICK.

THERE are two walls of considerable length, and both facing south, devoted to the cultivation of Peaches and Nectarines. The trees are mostly young healthy specimens, trained with a central leader, the branches running out obliquely on both sides. The old trees and some few of the younger ones are trained as oblique cordons, but they do not look so happy as the others. A large collection of varieties is grown, consisting of fifty-five Peaches and twenty Nectarines, including all the best in cultivation, and as they all carried a good crop of fruit during the past season, a splendid opportunity was afforded of comparing and determining the best varieties for cultivation in the open air. The trees are kept to moderate dimensions to secure accommodation for the collection. They prove admirably what can be done with young trees in a few years and the quantity of fruit such will carry. The collection has proved of considerable interest to many Fellows and visitors to the gardens during the past season, and as the suitability of the different varieties for cultivation in the open air greatly depends upon their season of ripening, a few statistics as to this point may prove of service to intending planters. Waterloo, an American Peach, was the first to ripen, coming in on July 12. The fruits were above medium size, bright red where exposed to the sun, and of excellent flavour, the flesh adhering slightly to the stone. It was followed very closely by Alexander, also an American sort, on the 14th of the month. The fruits were large, bright scarlet where exposed to the sun, and the flesh very white. This is also a clingstone. The next to ripen was Early Beatrice on the 20th, with a heavy crop of small bright-coloured fruit. This was followed by Early Rivers on the 25th, fruits large, pale yellow, with a slight tinge where exposed to the sun. The first in August was Hale's Early, ripening on the 12th, a very fine Peach of American origin; fruits medium sized, dark crimson and with pale yellow flesh and delicious flavour. Acton Scott came into use on the 15th, ripening a good crop of bright red fruit. The Scarlet Nectarine was ready for use on the 20th, carrying a heavy crop of deeply-coloured fruit. On the 22nd two very good Peaches came into use, namely, Early Alfred and Early Albert, the former with large yellow fruits, bright crimson where exposed to the sun, and of rich flavour, the latter with medium-sized very dark red fruits. Hardwick's Elruge Nectarine was fit to gather on the 23rd, the crop being heavy, the fruits bright red where exposed, and of good flavour. Crawford's Early came in on the 24th with large bright-coloured fruits, dotted with crimson next the sun. On the 25th several were ready to gather, namely, Early Louise with medium-sized bright red fruit, flesh adhering slightly to the stone; Dr. Hogg, fruit large and round, skin thin, dotted with crimson on the side exposed to the sun, a very fine Peach; Red Magdala, which carried a heavy crop of dark red fruit; White Nectarine with large white fruits, tinged with red next the sun; and Cricket Nectarine, a small dark purple-fruited variety. Vanguard came in on the 26th with fruit above medium size, and a sharp nipple on the apex. Frogmore Golden is a fine Peach, with yellow flesh tinged with red at the stone. French Mignonne also ripened on the same date a heavy crop of pale greenish yellow fruits striped with red next the sun. Stanwick

Elruge was also fit at the same time. On the 30th there were several ready to gather, namely, George the Fourth, an excellent midseason Peach; Royal Charlotte, a deep crimson-fruited variety; Stirling Castle, and Goshawk, with large bright crimson fruits. There were three Nectarines came in on the same date—Early Murray, with a fair crop of very dark (almost black) fruit; Grosse Violette Hâtive, with deep crimson fruit; and the old Red Roman. On September 1 there were three more ready to gather—Galande, with very large dark red fruit; Bellegarde, very similar to the last named; and Violette Hâtive. The first ripe fruits of Magdala were gathered on the 2nd; the crop was an excellent one. Early Admirable came next with splendid medium-sized fruit of a light yellow colour, and where fully exposed bright red. Malta came in on the 3rd with light-coloured, medium-sized fruit, and two Nectarines were fit on the 4th, namely, Duc de Tellier and Pitmaston Orange, the latter a very fine Nectarine. Dymond came next; it is a very handsome Peach and of excellent flavour. Barrington, another very fine Peach, was ready on the 10th; also Grimwood's Royal George. The first fruits of Prince of Wales were gathered on the 12th, being large even samples; and Princess of Wales came in on the 15th with very large light-coloured fruits.

We now come to the late varieties, commencing with that grand Peach Sea Eagle, which ripened on the 25th; the fruit was large, round and even in outline, and of a pale yellow colour, with a red cheek on the side next the sun. Lord Palmerston ripened a good crop of large, light-coloured fruit on the same date, and Radcliffe was also fit. Exquisite, with large yellow fruits, was gathered on the 28th. This is a grand Peach of good flavour and immense size. In October there were four varieties gathered; on the 3rd, Gregory's Late, Stump the World, and Late Admirable; and on the 15th Salway. These are of no value for outdoor cultivation, as they seldom ripen properly.

N. Z.

#### NOTES ON STRAWBERRIES.

In reply to the following questions concerning Strawberries—

- 1, *Best kinds for flavour and bearing in your district;*
- 2, *Best early and late kinds for open-air culture;*
- 3, *New or little-known sorts you have found worthy of cultivation;*
- 4, *Mode of treatment to secure the best and most regular crops;*

we have to thank correspondents in all parts of the kingdom for replies.

— Strawberries have been a good average crop. President has been very good, and Noble did very well. I find President the best Strawberry both for flavour and free bearing. The best variety for outdoor early work is Noble, it being much better than Black Prince. I find that Strawberries do best here when they are planted every three years. I trench the ground and plant the runners in the autumn as early as possible. After I have gathered the third crop, I cut off the old crowns and plant spring and summer Broccoli, which I find to do better than that planted after Potatoes or on prepared ground. I make the new Strawberry plantation the year before I cut up the old one.—G. GRIFFITH, *Pen-y-wern, Aberystwith.*

— In this county the success of any particular variety depends upon soil and situation. A variety that succeeds well in one garden is a failure in another, gardens varying so much in character. The best and most useful sorts, and that seem to do fairly well everywhere, are Keens' Seedling and its types and King of the Earlies for first crop, with Vicomtesse Héricart de Thury and President for later. In some districts in this county, Noble, James Veitch, and similar sorts do very well, especially on good fresh loam. Old garden

ground does not appear to suit them always. The only mode I know to find the best sorts for any district is to give all the leading varieties a trial and then make a selection.—G. GRIFFIN, *Siebeck Park, Pembrokeshire.*

— As far as cropping and quality go, I may reduce the Strawberries to two varieties, Garibaldi and Elton Pine. The former is an enormous cropper and of good flavour; the second a grand cropper and of splendid colour, firm in texture, although a little acid; when well ripened nothing can beat it for a late crop. I plant them in lines, Garibaldi 2½ feet and Elton 3 feet. The ground is trenched and manured the year before, then manured and dug before planting, making the ground firm.—J. MAITLAND, *Cardor Castle, Nairnshire.*

— As to flavour, personally I prefer Pauline, La Grosse Succée, Marshal McMahon, Auguste Nicaise, and Loxford Hall Seedling, but my employers consider Sharpless the best flavoured Strawberry. All the above usually bear well here in most seasons. As to early and late kinds for open-air culture, it will be seen from the foregoing remarks that we grow several varieties and in considerable numbers, but Sharpless is the A1 early kind, earliest of all and a heavy cropper, while Loxford Hall Seedling is the mainstay for late use, and a most excellent variety of superb quality. Eleanor (syn., Oxonian), a more robust grower, is almost equally as late, a heavy cropper, but lacking in flavour as compared with Loxford Hall. As to new sorts worthy of cultivation, I am as yet unable to pass a final verdict on several, so shall extend their trial another season; but of older and little-known sorts I would certainly confidently commend Sharpless, Marshal McMahon, and Loxford Hall Seedling as three varieties well worthy of fair and impartial trial, and believe they surpass in quality many newer and much-lauded varieties—the first, very early; the second, medium; the third, late. The treatment which I find satisfactory is to plant a fresh quarter every August, one that has gone through a thorough course of cultivation, at the same time clearing an exhausted one. Thus I take three crops off the plants, and find it long enough to leave the plants to be profitable on our light shaly soil. I plant 2 feet 6 inches from row to row and 18 inches between the plants. After three years' trial I am more than half a believer in growing the Strawberry as an annual (or biennial, which is perhaps the most correct term), as is strongly advocated by Messrs. Lovel, Driffild, and others, for I find the fruit much finer on plants thus grown as well as being produced in greater abundance—so much so, that I have planted a large quarter on this principle. I am already a believer to this extent, and if this quarter turns out as satisfactory as I am led to expect from previous trials on a smaller scale, I shall adopt it to the exclusion of the orthodox doctrine and practice J. ROBERTS, *Tan-y-bwlch, Merioneth.*

— There is no doubt that the most popular sorts are still Keens' Seedling, which succeeds well on Strawberry soils; Vicomtesse Héricart de Thury, which is good on all soils; President; and Elton Pine, which continues to be the only good late kind for Scotland. Noble is fast gaining ground as an early kind, and seems as if it were destined, notwithstanding its poor flavour, to become as popular as an early sort as Elton Pine is for late work. As to new sorts, I have not tried any for a few years past save Noble and Waterloo. We are at a disadvantage with many sorts, as those of the British Queen type do not ripen up to the point of the fruit. I found the same drawback with Loxford Hall Seedling, La Constant, Helena Gloede, and others. James Veitch is still grown in some gardens as a desirable sort, but it is too soft and wanting in flavour. Duke of Edinburgh (Moffat) is also much grown, but it degenerates very rapidly and the flavour is always too acid. With regard to the last query, for some years I tried the English method of preparing young plants in pots and cultivating on the annual system; but, unless the season was an exceptionally good one, the first year's crop was so poor as not to pay for the extra trouble. Perhaps there is no better system for this district than that of plant-



ing out the rooted runners about August in nursery beds, and thence transplanting them into the fruiting quarters in the following March. I plant at a foot apart in the lines and have the rows 3 feet apart. Some allow only 2½ feet. The first year the Onion or Carrot crop can be, and is, taken off the space between the rows without any detriment to the plants. The years following there is a large crop of fruit—weather permitting of course—and the two next crops are also good, but afterwards there is great deterioration. The one sort that appears to go on year after year without decrease in size of fruit or of crop appears to be Elton Pine. But this sort does not make much growth and the crop is never very large. These remarks apply to garden culture, but field culture has been for some years becoming quite common, Midlothian farmers and some in East Lothian as well having followed the example of the men of Kent, though with less success as regards the appearance and quality of the fruit. October appears to be the month most in favour for plant-

them by being trenched and well manured, and the plants are put out 2 feet asunder in the rows and 2 feet between the rows. In order that the plants may have every chance to grow to their full size before the end of the season, I plant carefully and see that they do not suffer from want of water. As to the best varieties, after a long experience of trying and testing new ones, I have generally to come back to the old sorts. Black Prince is the earliest and best in the open garden. King of the Earlies beside it is not such a good variety; the flavour is better, but the growth is poor and it is not so good for forcing. Pauline is excellent on an early border, and two, or even three-year-old plants are better than one-year-old; it is not adapted for forcing. Keens' Seedling is the best yet for forcing. I grow a few of Black Prince for the earliest, but Keens' soon follows. President comes next, followed by British Queen; Sir Joseph Paxton, Frogmore Late Pine and Loxford Hall Seedling for the latest. All the above are grown in our garden, and the best for forcing

only three or four years in bearing, and by practising this system I generally have plentiful crops of good fruit.—W. WHITTAKER, *Croome Hall, Croome.*

### WINTER POSIES.

In gathering a few flowers at any season of the year for presentation to a friend, it is not at all times convenient or essential to use a basket; nor is it in any case desirable to adhere to the orthodox bouquet or bunch of flowers, which, to say the least, is somewhat stale. To avoid any formality in the arrangement, rather let the flowers be left just as they were gathered in the hand when taken from the plants. This, however, is not oftentimes done, but is left to be performed in what is deemed (but not rightly so) a better or more effective manner. A few flowers culled here and there and left loosely, but securely tied, produce a far better effect than any methodical arrangement, in which more often than not there is some trace of geometrical design, by triangular grouping or otherwise, according to the size of the bouquet. It is not this repetition in a set design which gives true beauty. It makes a display, it is true, but this is not in the least artistic. I am pleased to note that there is a decided improvement evident in the grouping of cut flowers; still, however, there is a wide range for further advance, the result of which will be, when carried out as it should be, a considerable saving in the quantity of flowers used.

It is not in many instances the mere quantity of flowers which gives the most satisfaction to our friends; it is rather the number so arranged as to produce a happy combination. The mere pleasure of giving is thus further enhanced by the opportunity thus afforded of being able to distribute to various sources what for want of thought or discretion might have been sent through one channel. We need not in any case desire to emulate the arrangements of some of our Continental friends, who endeavour to concentrate their efforts on huge bouquets or other emblematic devices. Bouquet papers or cups, I am pleased to note, are also being discarded.

This kind of artificial millinery is not required; it rather detracts from than adds to the effect produced by the flowers. It is true it holds the flowers together better when badly arranged. I would much rather prefer the real thing in the use of ribbon in various shades to harmonise with the flowers, but even this is not essential. Another thing in floral arrangements I would take this opportunity to condemn most emphatically is the absurd practice which some florists have of imitating ribbon by doubling back the foliage of such things as suit the purpose. This season, now drawing to a close, has also been one in which flowers have been artificially dyed, a most hideous and unnatural process, which, I trust, is nearer even its end than the present year.

SIMPLEX.

**Triteleia uniflora.**—In this we have one of the prettiest and earliest flowering spring bulbs. It is very useful and showy when planted in large masses, and when seen in company with Snowdrops, Crocuses, and other spring-flowering bulbs the effect is good. For growing in pots it is very useful, and the more so to those who have not much heat, as it will bloom abundantly and early



A winter posy. From a photograph sent by Mr. J. McWalters, Armagh, Ireland.

ing in fields.—R. P. BROTHERSTON, *Tynninghame, East Lothian.*

— British Queen is our best dessert variety. Laxton's Noble, early and large, where fully exposed to the sun and air, is of moderate quality; if the least shaded, not fit for dessert. I have most of the newer varieties on trial, but not yet in condition to report on them; they require another year's growth. The best results are obtained by planting out strong runners early every season. As a rule these produce our first and earliest fruits.—J. SMITH, *Mentmore, Leighton Buzzard.*

— I rely on Vicomtesse Héricart de Thury, President and Sir Charles Napier. These kinds are good growers, distinct in flavour and appearance, and heavy croppers. I plant out the forced plants 2 feet apart each way in well-manured and deeply-dug ground, and allow them to remain two or three years. Alice Maud is the favourite variety for early market in this neighbourhood. Sir Joseph Paxton and the varieties mentioned previously are grown for a succession principally.—S. PULLMAN, *Muntham Court, Worthing.*

— I never fail to obtain a good crop of Strawberries, mainly, I believe, because I annually plant a bed of early-rooted layers every year. The layers are pegged down into small pots as soon as they are ready. The ground is prepared for

are Black Prince, Keens' Seedling and President, in the order of their names.—J. DOUGLAS, *Great Georries, Ilford.*

— With regard to the Strawberries, the best early kinds for flavour and bearing are Vicomtesse H. de Thury, Noble, and La Grosse Sucrée. For midseason crop I find none better than President. For late crops I grow Eleanor, Laxton's Latest of All, Elton Pine; the last named is decidedly the best.—S. LOMAS, *Heggham Hall, Morecambe, Lancs.*

— The best kinds for general use are President, and next Sir J. Paxton and Laxton's Jubilee. For early outdoor and forcing I find Pauline, La Grosse Sucrée, and Laxton's Noble (leaving flavour out) the best, but from a small row of John Ruskin I had some early well-coloured and good flavoured fruit, although not very large. The best late ones here are Sir J. Paxton and Waterloo. I have some newer kinds this year, but cannot yet give a decided opinion of them. I generally plant the plants previously forced, as they bear a full crop the next year. They are planted in rows 2 feet to 2½ feet from row to row, mulched heavily with manure in the autumn, which protects the plants in winter as well as feeds them, watered with a hose-pipe when the fruit is swelling if the weather is dry, and straw or litter is put under the fruit to save it from dirt and insects. I leave the plan's



in a coll-house. Last spring I noticed a fine batch of this in pots at Inwood House, Dorset. Mr. Wilkins thinks highly of it, and finds it most useful grown in this way. — DORSET.

## KITCHEN GARDEN.

### TEMPERATURES FOR MUSHROOMS.

THE question is often asked, What is the most suitable temperature to secure the free growth of Mushrooms both in the structure in which they are growing and also in the bed which produces them? In the first place, it is quite evident that a suitable temperature in the structure in which the Mushrooms are being grown and also in the bed itself tends greatly to success. The material may be of the best procurable and also suitably prepared, but yet without the proper heat, the whole may turn out a failure. Cold will not kill Mushroom spawn unless it should be in conjunction with an over-excess of moisture, whilst, on the other hand, too much heat will most undoubtedly cause its collapse. Beds often remain quite unproductive throughout the winter months on account of the temperature being too low, but on the approach of genial weather in the spring Mushrooms have commenced to appear. Keeping the temperature of the structure too high through artificial means is a well-known source of failure, and many beds are brought annually into an unproductive state through this cause alone. If we could command a suitable temperature without having recourse to artificial heat it would be better for the Mushrooms, as witness the enormous crops which are produced in underground caves or cellars. It is often stated that what we term Mushroom houses proper would be better without any artificial heat whatever, but with this I cannot agree. Unless some means are provided to keep up a given temperature during cold weather the Mushrooms fail to appear. The temperature of underground cellars or caves is sometimes given as evidence in favour of a higher temperature being provided for the growth of this crop than that usually recommended, but it must be remembered that in such positions the temperature is considerably augmented by the material of the beds themselves. Some of the best crops of Mushrooms I have ever seen were produced in an underground shed, if it may be so called, where the temperature maintained for the free growth of the crop was entirely kept up during the coldest of weather by fermenting horse droppings. A ridge sufficient for this purpose was formed along one side of the structure, the material for the same being brought in after the first strong heat had passed away. This ridge was turned over every other day, a little fresh material being added from time to time to assist in maintaining the warmth. Artificial heating is that generally in vogue, and this demands attention, as the temperature is very often kept high to force on the crops of Rhubarb and Seakale. Of course, later in the season these force readily enough without unduly raising the temperature above that needed for the Mushrooms. A safe temperature is 55°, but even higher than this is easily reached in milder weather without increasing the artificial heat, and this higher temperature will not have any injurious effect upon the growth of the Mushroom. But any attempt to keep up a high temperature through the over-heating of the pipes, dries the atmosphere to such an extent that the Mushrooms cannot grow. Thick and fleshy, rather than lanky and attenuated Mushrooms are what we should endeavour to secure,

and which are only obtainable where both the temperature of the bed and atmosphere is equably maintained. The temperature of the bed should always be higher than that of the atmosphere, at least during the winter months. I have noticed that the beds are most productive when the temperature as registered by the bottom-heat thermometer is about 70° until the beds commence bearing. With suitable material well prepared, and the bed made firmly, there is little difficulty in this being maintained when the inside temperature of the structure is about 55°. During very cold weather in the winter the best policy is to allow a drop of 5° sooner than have recourse to over-heating the pipes.

In unheated structures, such as sheds, stables, and such like, the temperature of the beds has to be kept up by covering with dry hay, more or less as the case may be. For instance, when the beds are first made up and spawned, there sometimes is a tendency of the temperature of the bed to keep unduly high. The best guide in these cases is to spread a thin layer of hay or straw over it, and as the temperature falls to increase the covering. With good spawn and good material suitably prepared, and the temperatures kept as near as possible to those I have given, there should not be any difficulty in securing a fair supply of Mushrooms. — A. Y. A.

— There is no season of the year better than the autumn for the amateur, or those who fail with Mushrooms, to make a new start and try again. When giving advice on Mushroom growing one is often asked some curious questions, and it is difficult to make oneself understood by those with little knowledge of the subject, as often the bed is too hot or too cold, the temperature in the same condition, and the material used not at all suitable. Good spawn is also essential to success. The construction of the house is of less importance than is often thought, as excellent crops of Mushrooms are often obtained in very unlikely places. I do not recommend a costly Mushroom house built at the back of forcing or hothouses, as frequently they suffer from dryness in the atmosphere. I prefer an outhouse, cellar or shed to such a building. The best and heaviest crop of Mushrooms I ever grew was in a disused ice house without heat of any kind, but far enough from the surface to keep the temperature at 50° in severe weather. Those who have cellars or sheds removed from the dwelling-house may grow plenty of good Mushrooms in such buildings. Many good growers get their crops from beds in the open covered with litter, &c., to throw off rains and retain warmth, but it is not the most ready system when only limited means are at command, as to grow in the open needs special care. The preparation of manures requires attention. A great mistake is often made in rejecting the short litter, as if this is incorporated with the droppings there is a saving of material, the beds do not heat so rapidly and time is saved; the whole mass after being partially dried, laid in a heap and turned several times, should be placed in the house or shed and a bed of from 12 inches to 16 inches in depth formed and made firm. In cases where the maker has had no previous experience I would defer the final treading for twenty-four hours to see if the manure is too warm. If not, the bed should be trodden or rammed as hard as possible, and when the temperature is below 85°, spawning should take place, and the surface of the bed covered with some loam rather clayey than otherwise, made firm, the loam having been placed in the building to get warmed a few days previous to spawning, as if brought direct into the house and placed on the bed it often chills the bed, causing the heat to be at the bottom and cold where the spawn is inserted. Should the heat decline too rapidly after spawning, some warm litter over the surface will prevent it getting below 75°. In placing the loam on the bed, if at all dry, it should be moistened and made smooth with the back of a spade, as the firmer the soil the stronger

the Mushrooms. Water is not often required in a cool moist house; when it is necessary, tepid water should be used, adding a little salt. Cow manure in a liquid form diluted with warm water is also a good fertiliser. In case of severe weather in out-buildings some warm litter placed against the entrance inside will keep an even temperature and a moist atmosphere. — G. WYTHES.

### SOWING PEAS IN NOVEMBER.

IN years gone by it was usual to make a sowing of Peas during the month of November and the early part of December for the earliest supply the following season, and no doubt there are still some who follow the practice. There can be no doubt about good crops having been secured in this manner, as I have both seen them and had them, but to ensure success, the soil and situation must be favourable and the weather not unduly severe. In sheltered districts in the midlands where Peas are grown largely for market, the weather being favourable and the soil also in good condition for the reception of the seed, the growers generally sow in November, knowing that by so doing if the season turns out favourable they will be well repaid for their trouble by being able to send Peas early into the market.

Private growers are situated differently, the majority being able to forward the earliest Peas at the turn of the year by the aid of glass. For the market grower other aids than sowing direct into the open would be impossible. Given a favourable sowing time on warm soil and a sunny site and the winter also favourable for the free progress of the plant, then the market grower can gather Peas earlier than the private grower who sows at the turn of the year under glass. Slugs, again, are more troublesome in private walled-in gardens than in open fields. In some gardens, if Peas were sown in November, the plants would have a poor time with the slugs and mice, and many gardeners know the trouble they have been put to on this account. After all, for private growers the game is hardly worth the candle, for as a rule the system cannot be thoroughly relied upon. Gardeners, as a rule, when they meet with a successful instance wish to make a like effort. This occurred to me two or three years since when in a large private garden a breadth of William the First turned out a grand success, and all around where the market growers had also taken the opportunity. These were sending early Peas into the market before ours, which had been raised under glass, were ready. The last year or two, however, the elements have not been favourable to November sowing. Peas forwarded under glass and planted on sunny borders have been the earliest.

As regards the best varieties to grow, the better quality dwarf early Peas are not so well adapted for sowing in November as the more inferior rounds. Of these William the First and Veitch's Selected Early are as good as any. I have, however, sown the new dwarf earlies at the latter part of November, but a warm and raised sunny border was selected and they did well. William Hurst and American Wonder were the varieties. But whatever it is intended to sow, a warm soil, comparatively speaking, must be chosen, as it would be use less to sow on clay land however open it may be to the sun. Where the market growers succeed in this district the soil is a sandy loam and well drained, also well up to the influence of the sun. Peas follow very well after Potatoes, and if the ground is in good condition manuring would not be necessary. A fork is



the best tool to work the ground over with, as with this the soil gets more divided and not likely to lie in lumps. Wood ashes is also a capital stimulant for Peas on account of the potash it contains. On Pea-sick soils or where the haulm grows weakly and has a yellow cast, a sprinkling of steamed bone flour will be a capital aid to their better progress. Early Peas will not succeed on ground of a poor character, so means must be taken to bring it into a fertile state, as something is needed to support the Peas when the pods are swelling. Drills should be drawn 4 feet apart, taking care to draw them with a flat bottom, so that the young Peas as they grow stand clear of each other. The seeds must also be scattered more thickly than at ordinary times to make up for loss by vermin. As a precaution, however, the seeds should be either coated with red lead or petroleum. A sprinkling of coarse sawdust laid along the lines also prevents slugs travelling freely. A. Y. A.

**Pea Ne Plus Ultra**—Among the finest cropping and best-flavoured Peas which have come under my notice none can surpass this good old sort. I have seen it fine in Scotland this year where many other favourite sorts were almost worthless through the damp weather. In England I have seen it in the finest possible condition, and heard it well spoken of. A friend, writing from a cold district in Yorkshire, speaks of its excellence and hardiness. Many sorts of much excellence in some parts of the country are almost useless in other districts. Some Peas which offered to grow too luxuriantly were cut over to a certain height, and have done well. This cutting over caused them to set their flowers when they otherwise would not. Dr. McLean and Autocrat have been good, though not equal to what they are in some seasons.—NORTHERN.

#### DEATH FROM MUSHROOMS.

MUSHROOMS have been so exceedingly abundant in the southern counties, at least, this season as to call forth the remarks from many elderly persons that they had never before seen them in such quantities. Fortunately, no other fungus is so common, indeed the deleterious kinds are comparatively rare. Yet several fatal cases of poisoning from eating fungi have been recorded during the present autumn; in no case, however, have we been able to ascertain what particular kind of fungus had caused, or was supposed to have caused, the fatal result. We repeat what we have so often said before, that very few fungi are really poisonous in a young state, and even Mushrooms in an advanced stage will cause irritation and diarrhoea, and may even become poisonous. Violent purging may follow the eating of Mushrooms, the gills of which are nearly black, though still firm and undecayed. Another thing to be considered is the cooking. There is no doubt that the more thoroughly fungi are cooked the less likely they are to produce unpleasant effects. In view of the deaths that have occurred in consequence, as has been assumed, of eating poisonous fungi, a contemporary lately suggested that even the true Mushroom should be avoided, because the risk of being poisoned is too great. Considering the enormous quantities of Mushrooms now consumed, both wild and cultivated, the number of casualties through mistakes is very small, and as it is clearly impossible to prevent people from eating them, it would be more to the purpose to teach the young to discriminate between the good and the bad in fungi. As a matter of fact, country-bred persons, of the labouring class especially, are able to distinguish a Mushroom from a Toadstool, and they are also able to distinguish the Horse Mushroom (*Agaricus arvensis*) from the more delicate *Agaricus campestris*, or true Mushroom. As a rule they discard everything else in the shape of a fungus, whether it be a Toadstool, an *Agaric* of any kind,

or a Devil's Snuff-box, a Puffball, or Lycopodon. Yet many of the species of *Agaricus* are equally as good as *A. campestris*, and the giant Puffball (*Lycopodon giganteum*) is delicious when young and solid. At the same time we should advise all persons who have not had practical instruction in the matter to avoid any and every fungus that they are not sure about. In nine cases out of ten the only person in a country village possessing any botanical knowledge is the "doctor," but his knowledge is rarely of the practical kind. In this connection we have a few remarks to make on the kind of botanical teaching fostered by the science and art department, to say nothing of the universities and medical schools. Take the examination papers of the science and art department for example, and we find not a solitary question on economic botany, the only branch of the science of any real utility to the 3000 or so candidates that present themselves annually. They are examined in the physiology and anatomy of plants from a text-book standpoint, and are asked questions on obscure phenomena of plant life that they have no possible chance of verifying or observing, or often even of understanding; but the kind of knowledge that would be most useful, and most easily learnt from competent teachers, is wholly ignored. The teaching is commenced at the wrong end; instead of demanding a practical acquaintance with plants and their properties, questions on tissues and vital functions are given, even in the first or elementary stage. It is true that the answers are often intelligent and good, but the fact remains that few of the candidates could distinguish a Lime tree from an Elm, Hemlock from Chervil, the Dropwort from a Parsnip, Fool's Parsley from the genuine plant, or Barley from Rye or bearded Wheat. We should much like to see the elementary stage, at least, almost limited to the discrimination of plants and their products, reserving questions on the minute structure, growth, and nutrition of plants for the advanced stage. A knowledge of the berry-yielding plants of the hedges and woods would be far more useful than the phenomena of root-pressure, or the supposed sources of the carbon and nitrogen of plants. What is most deplorable is that few of the teachers possess sufficient knowledge of field and economic botany to teach it, so they must first be taught. But if the department insisted on real knowledge instead of book learning, it would soon be forthcoming.—*British Medical Journal*.

#### CHRYSANTHEMUMS.

##### SO-CALLED SPORTS.

Now that we are in another flowering season, I would caution the uninitiated as to the production of sports on their plants. Under the present method of cultivation so many charges take place in the colour of the blooms of certain varieties, that the inexperienced are apt to imagine they are in the possession of a new variety when some flower varying from the type is found. The raising of new sorts and the craving for obtaining them have reached such a pitch, that many of the blooms now obtained are rushed to the front in the fond hope of being entitled to be classed as new; whereas, by the adoption of a wrong method of cultivation, mainly in the selection of the buds, the blooms are quite different to what they ought to be not only in colour, but also in form. When both of these points are absent, no wonder that beginners are misled. So far this season there are many cases of this kind.

Vivian Morel this year appears to vary both in the form of its florets and colour also. I have seen blooms this season the formation and colour of the florets of which were so altered, that the variety was quite unrecognisable. In one case the florets were split at the end, many incurved towards the centre, while

the colour was a pleasing shade of silvery pink or a deep blush. Mme. C. Audiguier is noteworthy for producing a variety of forms and colours. I have seen blooms of this with quite narrow florets, and which assumed a semi-drooping character without the slightest suspicion of the curling florets which this handsome variety has when seen in its true character. With these productions the colour is always paler than it ought to be in the true character of the flower. So differently do the blooms develop from wrongly selected buds at times, that I have known *Anemone* varieties so deficient in their proper centre or disc as to render them unrecognisable by the judges, the same having been staged as reflexed blooms and won prizes as such. Alfred Salter has more than once been staged as a reflexed bloom, which it truly was, but owing to the abortive character only. By a too early bud selection, the blooms of Alfred Salter do reflex their florets. Belle Paule is another instance of a remarkable change in colour in this respect, and so are Volunteer, Val d'Andorre, Puritan, and many others. This variation is not confined to one section only. All are affected by it more or less. Even the pompons are susceptible to a change in the formation and colour of their florets.

Single varieties are the only exception that I know of at present in the form of their florets. The colour changes a little perhaps under early bud-selection in the case of single varieties. No one can be certain of being the possessor of a real sport until the second year's growth has verified the promise; even then the sportive character of some varieties is so peculiar that they cannot be depended upon. Miss Lilian Cope, a white sport from *Etoile de Lyon*, is an example of this. I saw plants of this flowering during the season of 1890 which were as true as possible in character; even small late buds opened quite white upon the plant which was raised from the previous year's sported branch. Unfortunately, too many of the plants sent out as Miss Lilian Cope are developing exactly the flowers of its parent in colour. No sport ought to be admitted as genuine until several plants exhibit the same feature.

Now that we obtain so many new varieties of Japanese Chrysanthemums from seed, there is less reason for troubling about sports. A quiet, yet exhaustive trial of any sport would command confidence and reduce the disappointment felt to a minimum. E. MOLYNEUX.

#### October-flowering Chrysanthemums.

—Despite the magnificent blooms of many varieties of Japanese Chrysanthemums that were exhibited at the Aquarium on October 12 and two following days, the result was to a certain extent disappointing, for the greater part of those shown consisted of varieties that, given ordinary treatment, will bloom about the same time as the bulk of Chrysanthemums, and as such they can scarcely be regarded in the light of October-flowering varieties. Some of the blooms had doubtless been pushed on in heat, and it is a well-known fact that many of the Japanese varieties may be assisted in this way; while the incurved forms, which do not respond to this mode of treatment, were scarcely represented. The specimen plants, it will be noticed, consisted almost entirely of Mme. C. Desgrange and its sports, though in the groups, of course, other varieties were to be seen. In visiting the exhibition I hoped to pick up a few good varieties to be added to those which form, as it were, the advance guard of the Chrysanthemum season, that is, some which might be induced to flower during October without any special treatment. As an illustration of such I may mention M. William Holmes, that beautiful rich crimson coloured flower which is now such a



general favourite; Mlle. Lacroix, white, with both its sports (J. R. Pearson, pink, and Mr. Charles E. Shea, yellow); Alexandre Dufour, amaranth; Feu de Bengale, reddish orange; Souvenir de M. Menier, chestnut-red; James Safer, pale pink, with its pure white sport, Lady Selborne; Mme. Leon Collin, bronzy red; Bouquet des Dames, pearl-white, sometimes tinged pink; and Comtesse Foucher de Careil, a kind of orange-cinnamon. One great point in favour of such varieties as these just mentioned is that, given a sheltered spot, many of them will often bloom beautifully out of doors; while, even if removed under glass, simple protection is all that is necessary, and by the time they lose their freshness we have the bulk of the November varieties coming in. With the immense number of new (?) early varieties sent here every year from the Continent we should get a few good things in this class.—T.

**Exhibiting Japanese Chrysanthemums.**—Should the proposed enlarged show boards for Japanese Chrysanthemums be generally adopted, necessitating the occupation of materially increased space, I trust committees of shows will promote a class or classes for blooms on fairly long stems, the blooms to be judged from the point of quality rather than of size. We have seen at some exhibitions somewhat similar classes, but it has not been specially held that quality of bloom should be the dominating feature. A class for twelve trebles, the blooms of medium size, but of the finest quality, would be a popular one, and it would be a very attractive one for the public, who tire very much of seeing such exceeding numbers of big blooms repeated stand after stand, and in the most monotonous order. With these big show boards in common use we are in danger of seeing a dozen or so of the largest flowered varieties constantly repeated, because smaller blooms will look on big boards smaller than ever; hence growers will hesitate to exhibit them. The proposed class for trebles of the more refined flowers will enable these otherwise ostracised flowers to still have a good innings.—A. D.

**Chrysanthemum Mrs. W. R. Wells.**—At the last meeting of the floral committee of the National Chrysanthemum Society the white sport, Mrs. W. R. Wells, from Vivian Morel, was staged for a certificate. The question arose as to whether it could properly be described as a sport, and Mr. Norman Davis brought forward two plants of Vivian Morel on which two of the blooms were of a pure white and the other of the proper mauve colour, which distinguishes the parent from the supposed sport. Mr. Davis did not regard the new flower as a legitimate sport, and from what I saw at his nursery some days ago it would appear that his view is correct. Almost every plant of Vivian Morel at Camberwell that was in bloom had the first and oldest blooms pure white or very slightly tinged with mauve, and the later blooms of the orthodox colour. This hardly, therefore, seems to be a case which can consistently be termed a sport, because anyone can grow the two flowers on the same plant.—CHRYSAETH.

**Chrysanthemum Baron Hirsch,** an incurved Chrysanthemum exhibited at the last floral meeting at the Aquarium, is the finest and most striking variety of that section ever raised since I have been connected with the Chrysanthemum, and it is destined to occupy a foremost place on the show boards of the future exhibitions. It is a massive, large bloom of perfect form, well built and of great solidity and substance. The colour is a very pleasing shade of deep yellow, flushed with dark amber or cinnamon. I believe it is one of Mr. Owen's seedlings, but it would be interesting to learn something of its origin and parentage. Sports from old-established good varieties we are always likely to have, but in seedlings, nothing like Baron Hirsch has appeared in modern times since Jeanne d'Arc was sent out.—C. H. P.

**New Chrysanthemums.**—There have been several meetings of the floral committee at the Aquarium this season, but only at the one held on October 26 was anything like a large display

made. Some of the novelties are very fine and show, so far as seedlings are concerned, a very distinct advance upon the work of former years. There seems this season to be quite a run on either amaranth or crimson flowers. The former when of a deep decided tone are welcome additions to our list, but many of them are positively ugly by the dirty, washed-out tone of colour that they present. The crimsons, on the other hand, are strikingly beautiful and clear. George W. Childs, Bey of Algiers, William Seward and John Shrimpton, all Japanese varieties described in a recent issue, are likely to be sought after for their brilliant shades of crimson.—CHRYSAETH.

#### CHRYSAETHUMS AT SYDENHAM.

DURING the past three or four years Messrs. Reid and Bornemann have been closely identified with the culture of the Chrysanthemum, more particularly with regard to groups for exhibition. Last season, besides winning several important prizes at the Crystal Palace and at the Aquarium, the firm sent over to the Continent some interesting collections for competition, securing medals at Berlin, Hanover, Vienna, and St. Petersburg. Messrs. Reid and Bornemann, like the majority of the Continental cultivators, seem to pay greater attention to the Japanese varieties, leaving the incurved, Anemone and pompon sections almost alone. There is good ground for this, because the taste of foreign growers is decidedly in favour of the curious, fantastic, brilliantly coloured section of Japanese. On entering the nursery, I was first conducted to a darkened structure containing some excellent specimens of culture, the principal of which were William Tricker, a large deep pink incurved Japanese of good form, that is now fairly well known. Some plants of Sunflower, with its rich yellow colouring, were very attractive, and close by were several huge blooms of the crimson and gold Edwin Molyneux. Mrs. J. P. Ryder, a very dwarf plant with crimson and yellow florets and blooms of medium size, is an attractive variety, as also is a new French flower, Mme. Eugène Labat, a large, white, tubular-petalled Japanese of rather loose appearance. The favourite Avalanche was plentiful and in first-rate condition, but striving hard for supremacy by its side was Mlle. Marie Hoste, a very fine white Japanese of incurved form, with curly petals and a slightly greenish tinge in the centre. Another new seedling from the Continent is Louis Voraz, a tubular bloom of large size; colour pretty mauve. M. Mulnard, from the same source, is a reflexed Japanese with fluted petals of a pretty shade of pink. Ferdinand Ponci, another Continental variety, deep crimson with golden reverse, of medium size, and Alberic Lunden, an effective bloom of deep amaranth and well built, were also noteworthy flowers in this house. Vivian Morel, both true and with the white variety growing on the same plant, was plentifully represented, as also was the American yellow seedling Japanese W. H. Lincoln. The deep almost vermilion-red of Gloire du Rocher, one of the best English seedlings yet raised, formed a striking contrast to the more sober colours of the plants by which it was surrounded.

There was a curious collection of dwarf plants in 4½-inch pots carrying one large show bloom, each of which will be used for the front rows of the exhibition groups. The varieties used for this purpose were Avalanche, Val d'Andorre, M. Freeman, M. Berard, Ulrich Brunner, Sunflower, W. H. Lincoln, Vivian Morel. Most of these plants were 12 inches in height or less.

In another building I saw a choice lot of very dwarf plants of Avalanche, some more excellent Gloire du Rocher, and one of the firm's new seedlings called Hofgartner Rosenberg. This is a large Japanese incurved variety, the colour being a creamy white ground flushed and striped mauve, tipped with white. Professor Wittmack, one of the firm's seedlings sent out last year, is a very large incurved Japanese, deep rosy mauve with a paler reverse. Duchess of Anhalt, another seedling, is a promising variety with long narrow

petals, of Japanese form, very full bloom, colour pure white. Alfred Lee is another Japanese seedling of good size, the colour pink. W. Roessing, also one of the firm's new seedlings, has a promising appearance; it has broad, flat petals loosely arranged, colour white, faintly tinged bluish. Passing on to varieties not raised at Sydenham, I noticed George Savage, a beautiful pure white incurved Japanese of American origin, with grooved petals, rather a tall grower. Another popular American sort, Col. W. B. Smith, of the same type, but of a golden bronze, most distinct in colour, is also here in good form. Comte F. Lurani, a very pretty dwarf Japanese, most distinct in its white and mauve markings, was, as it always is, in capital form. H. P.

#### SHORT NOTES.—CHRYSAETHUMS.

**Chrysanthemum G. W. Childs.**—This is apparently a seedling from Edwin Molyneux, which it much resembles in form and colour except that there is a suffusion of plum colour on the surface in its young state.

**Chrysanthemum Mrs. A. G. Ramsay** is a Japanese variety with broad, flat, reflexed florets, brick-red in colour, with a warmer suffusion on the surface. It is of good size and form, full in the centre, and without any sign of coarseness.

**Chrysanthemum W. K. Woodcock** belongs to the broad-petalled reflexed Japanese section, the colour brick-red with gold tips. The flower when well grown has good substance, and is likely to be much sought after as a middle and front-row bloom by exhibitors.

**Chrysanthemum The Tribune.**—This belongs to the Japanese reflexed class. The colour is a soft primrose-yellow. There are few of this colour which really possess other necessary characteristics to entitle them to the first rank now that exhibition varieties are so numerous.

**Chrysanthemum George Savage.**—A seedling from Mrs. Alphus Hardy, but without the hairs. The florets, which are narrow, incurve closely, giving it a neat appearance—perhaps too much so for effect as a true type of Japanese, but its purity of colour should commend it to all lovers of this interesting section.

**Chrysanthemum Le Sceptre Toulousain.**—Seldom now-a-days do we see this Japanese variety, which was introduced so long ago as 1880 by Délaux. At the Brighton exhibition on the first of the month I saw a lovely bloom of it in a winning stand. There is something about the twist of the floret not seen in any other variety that I am acquainted with, while the bronzy crimson yellow-tinted colour is always deserving of admiration. The chief point about its cultivation for exhibition is not to "take" the buds too late; those formed about the middle of August develop the finest blooms in every way.—E. M.

**Chrysanthemum M. A. Deleau.**—This snowy white Japanese variety was a few years since thought highly of by exhibitors, but, presumably because it was not considered large enough to win prizes, its cultivation was given up, although one occasionally finds it still in the stand of some grower who appears to admire the purity of its colour and even outline of floret. The blooms when seen in good condition never fail to gain admirers, especially when associated with such highly coloured kinds as Cullingfordi, Mons. W. Holmes and the like, with which the Japanese section is now plentifully supplied.

**Chrysanthemum C. H. Simmons.**—This Japanese variety is a sport from the somewhat neglected La Triomphante. The new arrival opens up quite a distinct break in the matter of colour; each floret is striped once, and in some cases twice, its whole length with soft primrose-yellow, rendering it not only novel, but interesting. In other respects the flower is identical with that of its parent, which is looked upon favourably for grouping. The peduncles are stout, thus dispensing with the necessity of employing such a quantity of stakes as some sorts require to keep the blooms in anything like a presentable condition.

**Chrysanthemum Col. W. B. Smith.**—This is a Japanese kind of the first rank. The blooms are each 8 inches in diameter and 5 inches deep, without any sign of coarseness. The florets have a semi-drooping tendency, the centre quite full. The colour is quite new—a golden bronze, with a terra-



cotta suffusion. The florets as they unfold incurve slightly with a twist, but on development this gradually passes away. A point in favour of this variety is the fine habit of growth it possesses. It grows from 4 feet to 5 feet high without being topped. Exhibitors of large blooms would do well to add this to their collection, as it is sure to become popular.

## NOTES OF THE WEEK.

**The Asiatic Barberry.**—I am bringing you a bunch of *Berberis asiatica* to show what an interesting and brilliant, and at the same time strong and thorny hedge it makes. The rich orange and red colouring shows itself conspicuously in the landscape at this season. This year it has given me none of its lovely berries, which are first of all pearl-white like large grains of rice, and then later take on their purple bloom, from which it gets its name of Raisin Barberry.—M. A. R., *Liphook*.

**Gymnogramma peruviana argyrophylla.**—At the Brixton show I noted this variety thriving exceedingly well in small pots. It is very rarely seen in such good condition, many making the mistake of overpotting it, whilst some do not pot firmly enough. It does much better in a tolerably dry atmosphere, being predisposed to damping off from the large amount of farinose powder upon its fronds. When seen in such excellent condition as these examples were, this Fern is a beautiful addition to the list of plants for vases either upon the dinner-table or in the drawing-room.—H.

**Platycerium grande.**—This Fern when well grown is a truly noble object in the warm fernery. At the recent Brixton show it was shown in splendid condition, being at least 5 feet across the head and in the best possible health. The barren fronds were much larger than usual and in a good state of preservation, adding thereby very greatly to the effectiveness as a whole. This and other species of the same family ought to receive more notice at the hands of cultivators, cool house as well as stove species being available. As ornaments in any house they are distinct from other Ferns.

**Gymnogramma schizophylla gloriosa.**—At the Brixton Chrysanthemum show this beautiful Fern was shown remarkably well by several growers. Compared with the species, it is of more vigorous habit, with fronds of a deeper shade of green, whilst they are also longer. The drooping style of growth gives the plants a peculiarly graceful appearance, whilst the fronds are produced in the greatest profusion from single crowns even. It seems somewhat fitting that this variety should be so worthily acknowledged and so well cultivated in this locality, considering that it originated in the neighbourhood, although I believe it was also brought into notice about the same time on the Continent.—H.

**Begonia Frœbeli.**—"T." says this Begonia does not hybridise with other forms. About five years ago out of a number of seedlings from it I obtained undoubtedly a cross, but as I applied the pollen of many kinds to the female flower, I am uncertain which impregnated it. The plant was much taller than the species; the leaves were smaller, but the colour of the blooms differed but little; unfortunately, it perished the second winter. My experience of hybrid Begonias, of which I have raised many, is that they are as a rule much more constitutionally delicate than the types, although it is obviously not without exceptions, as *B. weltoniensis*, for instance, is one of the freest of all Begonias.—J. M., *Charmouth, Dorset*.

**Hybrid Streptocarpus.**—My experience of these accords with that of "Cornubian." Out of two packets of seed obtained from different sources I have not a flower with any tinge of red; most of them are of various shades of lilac, the rest white. To get a reddish one appears to be quite the exception. *Streptocarpus Wendlandii* is a remarkable plant. The seed I got from Mr. W. Thompson, of Ipswich, but I only succeeded in raising one plant from it. It has but one leaf, richly coloured underneath, very large, deeply wrinkled and pendent.

The flowers, which will soon appear, were described as green. From present appearance these seem to be numerous. It is well worth cultivating as a curiosity.—J. M., *Charmouth, Dorset*.

**Apple Summer or Crimson Queening.**—This is a very distinct-looking, highly-coloured and good-flavoured Apple of rather more than average size. In shape it is not unlike Adam's Pearmain, save that the outline is not so uniform as in that better-known variety, being in this instance more angular and possibly more pointed also at the apex. The flesh is firm and fairly juicy, in this respect about equal to Cox's Orange Pippin. By its appearance it should be a good keeper. I had the opportunity of tasting it early in the month of October, and it was shown in first-rate condition at Brixton on November 1 by Mr. W. Collins, of Balham, who states that it is a regular and free-cropping variety, also a good grower.—H.

**Angræcum caudatum.**—One of the rarest species of Orchid exhibited at the Drill Hall, Westminster, on November 1 was a plant of *Angræcum caudatum*, shown by Messrs. Sander. It was introduced first to this country about 1832, having been found near Sierra Leone; it has, however, always been a rare plant, although not unfrequently imported. It does not as a rule appear to be a long-lived plant, and perhaps does not exist in large quantities, even in a native state. Next to *A. sesquipedale* it has apparently the longest spur, this in some instances attaining a length of 9 inches. The sepals and petals are of a greenish-yellow tinged with brown, the lip being nearly pure white. The plant shown by Messrs. Sander was a healthy specimen carrying seven flowers, which is the average number produced on one scape, although as many as a dozen have been borne. The leaves are strap-shaped and of a deep green, the raceme being slightly pendent.

**Calceolaria Burbidgei.**—This, a greenhouse variety of *Calceolaria*, is said to be of hybrid origin, its parents being the Peruvian species *C. fuchsifolia* and *C. Pavoni*. Some plants have been flowering for several months in the conservatory at Kew (No. 4), and, judging from them, this plant is evidently of considerable value for greenhouse cultivation. So far as its general appearance goes, it is very much like *C. Pavoni*, especially in leaf and habit. The plants at Kew are 6 feet high, the leaves being downy and having winged petioles. The flowers, borne in loose corymbs, are of a clear light yellow. *C. fuchsifolia* is a charming little species very much like a Fuchsia in leaf and style of growth. Plants grown on from cuttings make nice specimens in one or two seasons, and may be used on the greenhouse shelf, flowering as winter comes on. The blossoms are of a bright yellow and the foliage is of the deepest green. *C. fuchsifolia* is of slightly woody growth, but both *C. Burbidgei* and *C. Pavoni* are herbaceous.

**Pleione lagenaria.**—This is the first of the charming little Indian Crocuses to open its flowers, although it is closely followed in point of time by *P. Wallichiana*. Of the several species now in cultivation, these two, I consider, are the ones most deserving of cultivation. The popularity of *Pleiones* has, I think, increased a good deal in recent years, and their cultivation is better understood now than formerly. The greatest mistake made was in treating them as stove plants. They are as a matter of fact cool Orchids, and except for a short time—in March and April, when they should be in the Cattleya house—the *Odontoglossum* house will best suit them. They come from considerable altitudes on the mountains of Northern India. *P. lagenaria* has the typical flask-shaped pseudobulbs of this genus, and its flowers are produced at the base from scale-like buds. The sepals and petals are of a bright rosy lilac, the lip somewhat paler, but blotched with yellow and crimson; down the centre of the latter run five crested lines. It is necessary to repot *Pleiones* as soon as the flowers have faded, as they commence to root immediately after. I am certainly of opinion that they should be shaken out every year and repotted. They are free-rooting plants, and the soil gets too

exhausted to carry a second year's growth as luxuriant as it should be. By giving them fresh compost every year a better drainage is secured to them, and the best of the pseudo-bulbs can be selected. As a rule, they double in number each season, and if left for two years become too crowded. The compost should be of fibrous peat and loam in equal proportions, with an addition of coarse sand and chopped Sphagnum. No water should be given them for some time after potting, not in fact until the roots are seen to have pushed into the new compost.—B.

**Salvia azurea.**—There are three species of *Salvia* which for flowering in the greenhouse during the autumn months cannot be surpassed. They are *S. Betheli*, *S. splendens*, and *S. azurea*, with flowers rose coloured, scarlet and blue respectively. Two or three groups of the last named are now making a very pretty show in No. 4 greenhouse at Kew, the bright blue of the blooms furnishing a welcome contrast to the red, yellow and white flowers of the *Chrysanthemums*. The plants are of slender, graceful habit and about 5 feet high, the leaves being linear and each 2 inches to 3 inches long. The flowers are thickly produced in slender spikes nearly 1 foot long, each bloom three-quarters of an inch across and entirely blue, except in the centre, which is white. A good method of growing *Salvias* is to raise them from cuttings each season, striking them early in spring, and treating them liberally right up to flowering. During the summer they should be plunged out of doors, taking them inside during September. They should be fed abundantly with manure water after the pots are fairly well filled with roots.

## SOCIETIES AND EXHIBITIONS.

### NATIONAL CHRYSANTHEMUM SOCIETY.

NOVEMBER 8, 9 AND 10.

ONE of the principal shows of the Chrysanthemum season is that held at the Royal Aquarium, Westminster, under the auspices of this society, and the display on Tuesday, Wednesday and Thursday last was fully up to the average, although in a sense spoilt by the characteristic yellow London fog that filled the building during the earlier part of the opening day. The Royal Aquarium is not a good place for such an exhibition. There is no space to get good effects; the plants are crowded up together, and the table decorations and many beautiful groups placed in the dark galleries where a gleam of sunlight never seems to penetrate. But in spite of these drawbacks, the annual exhibition of this society was worth a long journey to see, and those responsible for its management may be congratulated upon the excellent results obtained.

The greatest interest naturally centres upon the classes for cut blooms, and although in a few instances the competition was not very keen, there was a brisk contest for the awards in the majority of the sections. This was noticeable in the two chief classes in the exhibition, those for thirty-six incurved flowers distinct and forty-eight Japanese blooms, also distinct, in each case the first prize being £10 and the Holmes Memorial challenge cup, to be retained during the year by the successful competitor. The first prize in the class for incurved blooms was won by Messrs. W. and G. Drover, of Fareham, who are amongst the most successful cultivators of the Chrysanthemum at the present day. It will doubtless be interesting to our readers to give the names of the varieties shown, and they were displayed in faultless character, a remark, however, which might be applied to many other stands of flowers in the exhibition, although they would be nearer to perfection in a few more days. Abbott's White was in Messrs. Drover's stand; it is a pure white flower, the petals broad and the bloom somewhat thin; whilst also of note were the comparatively new M. R. Bahuant, Mrs. S. Coleman, Lady Carey, Golden Empress of India, Lady Hardinge, Mme. Darrier, a very beautiful



incurred flower, very neat and shapely; Prince Alfred, Mrs. F. Mistral, Alfred Salter, Mrs. W. Shipman, Novelty, Robert Cannell, a variety that is becoming very popular; Princess of Teck, Beauty, Lord Alcester, John Salter, Miss A. Haggas, Guernsey Nugget, Princess of Wales, White Venus, John Doughty, Mrs. Heale, Cherub, Mrs. Robinson King, rich yellow, a telling flower; Nil Desperandum, Mrs. N. Davis, Lord Wolseley, Jeanne d'Arc, Alfred Lyne, John Lambert, Empress Eugénie and Lady Dorothy. We noticed excellent blooms of Mme. Darrier and M. R. Bahuan in the second prize stand of Mr. W. G. Ray, Teynham, Kent. There were several entries in the great class for forty-eight blooms of Japanese varieties, and a comparatively new grower, Mr. W. H. Fowler, of Claremont, Taunton, was a good first. We have seen better collections, but the flowers from this grower were fresh, full, and of fine colour. As the majority of the varieties represented in the show were in this winning lot, we may give the names. Conspicuous amongst them were Viviani Morel, whilst also of note were Sunflower, Lord Brooke, Carew Underwood, Avalanche, Puritan, Mr. D. B. Crane, Mrs. Alpheus Hardy, Louis Boehmer, Beauty of Castlewood, Mrs. J. S. Fogg, a rich yellow flower, finely shown by the first prize-winner last year in this class (Mr. C. E. Shea); Ralph Brocklebank, Mons. Bernard, Eynsford White, Baronne de Prailly, Mlle. Marie Hoste, Mr. E. Beckett, Boule d'Or, Hamlet, Mons. Freeman, W. Tricker, W. H. Lincoln, Mr. H. B. Ironside, Col. W. Smith, Mr. W. Herbert Fowler, Lady T. Lawrence, Mrs. J. Clarke, Japonais, Condor, W. W. Coles, Gloriosum, Mr. R. Williams, Stanstead White, Gloire du Rocher, Lilian Bird, Etoile de Lyon, Miss Anna Hartzhorn, Mme. Baco, Mr. E. D. Adams, Mrs. Falconer Jameson, Ethel Paule, Edwin Molyneux, Mr. A. H. Neve, Mr. John Laing, Florence Davis, Mr. G. Bryceson, and Coronet. Many of the above-named varieties might also be seen in the second prize stand from Mr. Myers, Hinchingsbrooke, Hunts.

The awards, we are pleased to say, were, as a rule, well distributed. It was in no sense of the word a one-man show, and the twenty-four incurred flowers from that celebrated grower of this section, Mr. H. Shoesmith, Shirley, Croydon, were excellent examples of his skill, but wanted a few days to bring them to full perfection. We noticed a lovely bloom of the new French variety Mme. Darrier, which seems to have become a favourite, and certainly approaches more to the true type of this section than any of the more recent novelties. It has the great merit of not being coarse. Another very successful grower, Mr. Ritchings, Redhill, was second. The amateur growers, that is, those that do not pay for assistance of any kind in 'Chrysanthemum culture, were present in strong force, and a very successful exhibitor was Mr. John Horrill, Havant, Hants, as he was first for twelve blooms and also for six, winning in each case with excellent flowers. The glory of the exhibition consisted, however, in the Japanese varieties, and one could see the necessity of enlarging the boards, the blooms being crammed on the stands in such a way as to deprive them of much beauty both in form and colour. It is impossible to see them thus displayed. This was most noticeable, of course, in the first prize collections, in which were naturally represented blooms of the highest culture. This condition of things may, we hope, be altered next season if the proposition on foot for the enlargement of the boards is carried out by the committee. There was very little, if any, difference between the blooms in the first two prize stands in the class for twenty-four varieties. The premier award went to Mr. Fowler, and the second to Mr. Ritchings, both exhibiting extremely well. The strongest competition was in the class for twelve Japanese varieties, no less than thirteen competing. Mr. Arthur Ocock, Havering Park, Romford, came first with exceedingly good flowers, and Mr. Trinder, Dogmersfield Park, second. The twelve incurred blooms from Mr. Ocock were amongst the finest in the show and deserve special mention.

In the class in which Chrysanthemum and horticultural societies compete there were only two

entries, and the winner of the first prize, consisting of a challenge trophy and £10, was the St. Neots Horticultural Society, the flowers being contributed by those two well-known growers, Mr. J. Myers and Mr. R. Petfield, Diddington Hall Gardens, Hunts, the second place being taken by the Havant Chrysanthemum Society. The classes for six blooms of one colour only always make an attractive feature. The superb flowers of Stanstead White from Mr. John Hewett, Halstead House, Hythe, would be difficult to surpass for size and purity, and the snow-white Avalanche was well shown by Mr. Charles Cox, Hertford. A very interesting class was for six Japanese incurred flowers, such as Edwin Molyneux, and in which Mr. R. Petfield was first.

Although the great features at such shows as this are always the classes for Japanese and incurred varieties, it must not be forgotten that such charming sections as the reflexed, pompon, and Anemone pompon deserve more than passing notice. Except in the class for Anemone pompon flowers, there were several competitors, and few evidences of that forcing of the blooms so conspicuous at some shows. The fact is beginning to be recognised that bigness is not a special virtue of, for instance, a pompon flower. A good grower of the reflexed class is Mr. Geo. Carpenter, and he was first for twelve blooms; and some splendid blooms were to be seen in the class for twenty-four large-flowered Anemone varieties, the finest being from Mr. Ives, Hadley Lodge, Barnet, such very beautiful kinds as Mrs. Judge Benedict, Fleur de Marie, Mons. Charles Lebocqz, Miss Annie Low, Mlle. Cabrol, Nelson, Glück, Jeanne Marty, Empress and Thorpe Junior being in fine character. The same grower was also first for twelve, whilst the best twelve pompons were from Mr. Chas. Brown, and the finest Anemone pompons from Mr. James Myers. We hope that the latter section will receive more attention. There is a danger, in giving so much attention to the Japanese and incurred kinds, of overshadowing such charming varieties as Antonius, Mme. Sautier, Astrea, and Mr. Astie. Referring again to the Japanese class, a passing note must be made of the six blooms of Viviani Morel from Mr. James Douglas, of Ilford.

Plants were much crowded for want of adequate space. The groups had the best position and the chief class was that for an arrangement 100 feet square, the first prize £10 and a silver-gilt medal, whilst it was stipulated that quality in the blooms was to be thought more of than general effect. The first prize-winner was Mr. Norman Davis, Lilford Road Nursery, Camberwell, who had one of the finest groups seen at the Royal Aquarium of recent years, whilst Messrs. Reid and Bornemann, Sydenham, were second, and Mr. G. Stevens, of Putney, third. There were, of course, the usual classes for trained specimens, but they were not so formal as is generally the case. A very successful competitor was Mr. D. Donald, Leyton, who won the first prize for six trained plants of large-flowered varieties, the plants covered with bloom, the varieties being Christine, Margot, Gloire du Rocher, Elsie, Mme. Bertier Rendatler, Dr. Sharpe, and White Christine. Mr. Donald also had the best six standards, and in the few other classes for plants occurred the names of such well-known specimen growers as Mr. Robert Clark, Streatham; Mr. F. Gilks, Elm House, Walthamstow; Mr. W. Wesker, Tooting Bec; and Mr. Davey, Cedar House, Stamford Hill.

If the table decorations could have been better displayed they would not only have filled a larger space than on the present occasion, but added still further to the beauty of the show. The competition was very keen, the chief class being for a table of bouquets, wreaths, sprays, &c., showing the beauty of the Chrysanthemum for decoration. Very light and elegant were the arrangements of Mr. J. Chard, of Stoke Newington, who was a good first, beating Messrs. Perkins and Son, Coventry, who were second, whilst Mr. O. Garford, Stoke Newington, was third. The entries were also very numerous in the class for three vases or epergnes, the winner of the premier prize being Mr. F. W. Seale, Sevenoaks, Kent, who did not commit the

error so frequently seen of crowding the flowers together or making the stands top-heavy. A good balance was preserved, and the same remark applies to the stands from Mr. W. Mole, who was third, whilst Mr. R. Potter, Sevenoaks, was third. The bouquets of Chrysanthemums were not remarkable.

A very fine feature of the exhibition was the fruit. There were few classes, but these were well filled. The first six dishes of Pears for the table were those from Mr. G. Goldsmith, the fruits large, and of such kinds as Beurré Diel and Pit-maston Duchess, Mr. Allan, Gunton Park Gardens, Norwich, being a good second. Two classes were provided for Apples, one for dessert kinds and the other for cooking fruit. In the former class the first prize-winner was Mr. Turton, Maiden Erlegh, who showed Cox's Orange Pippin and Blenheim Orange in good character; Mr. T. Bettsworth second; whilst for cooking varieties Mr. Turton was also first, having very highly coloured fruit of Mère de Ménage, Bismarck, and Warner's King. We must not omit mention of the Grapes, which were very fine. The finest three bunches of Muscat of Alexandria were those from Mr. W. Harman, the bunches large, well shaped, and the berries of a fine colour, whilst the bunches from Mr. C. Griffin, Coombe Bank Gardens, Kingston-on-Thames, were also noteworthy. Mr. Allan, of Gunton Park Gardens, showed three splendid bunches of Alicante, and was placed first, Mr. A. Ocock being second. In the classes for vegetables we noticed such well-known names as Mr. T. Mills, Mr. S. Haines, Mr. J. H. Ridgewell, Mr. W. Pope, Mr. R. Lye, and Mr. Waite in the list of prize-winners. Messrs. Sutton and Sons, of Reading, and Messrs. Webb and Sons, Stourbridge, offered special prizes for vegetables. The finest collection that we have seen for a long time was shown by Mr. James Gibson, The Oaks Gardens, Carshalton.

The autumn exhibition of this society is always helped by the large collections of flowers, plants, or fruit from the leading trade growers, and there was no exception to the general rule on the present occasion. We must commend the collections of Apples and Pears from such well-known growers as Messrs. Cheal and Sons, Lowfield Nurseries, Crawley, Messrs. Wm. Cutbush and Son, Highgate, and Messrs. Laing and Sons, Forest Hill. In each case the fruit was highly coloured and consisted of leading varieties. Messrs. T. Rivers & Son, Sawbridge-worth, showed some very fine Cox's Orange Pippin and Rivers' Codlin Apples. Mr. Gayner, of Norfolk, had cider Apples. Chrysanthemums were shown by Mr. H. J. Jones, Hither Green, Lewisham, Mr. Robert Owen, Maidenhead, Messrs. Pitcher and Manda, Hextable, Swanley, and Mr. Wm. Wells, Redhill. In each case the collections contained many novelties of the greatest promise. A fine group of Orchids came from Messrs. B. S. Williams and Son, Upper Holloway, hard-wooded plants from Messrs. Wm. Cutbush & Son, and a fine assortment of Chrysanthemums, zonal Pelargoniums and other things from Messrs. H. Cannell and Sons. A very pretty group of plants, principally Capsicums in fruit, was exhibited by Mr. Newell, Fair-lawn, Wimbledon; and Mr. J. McLeod, Dover House Gardens, Roehampton, had a representative collection of Bouvardias. Mr. Godfrey, Exmouth, Devon, had beautiful flowers of his new Chrysanthemum Beauty of Exmouth, which has been previously described. Mr. Iceton, Putney, had fine black Grapes.

Several special prizes were offered by leading growers, and the first prize of £20, offered by Messrs. Pitcher and Manda for the best seedling grown from seeds supplied by them, was won by Mr. W. G. Gilbert, Sennowe Hall, Norfolk. The variety is of the Japanese class, large and promising.

On the second night of the show Sir Edwin Saunders entertained a select company of thirty friends and members of the society to dinner in the walnut rooms of the Grand Hotel. Sir Edwin took the chair. Among those present were Sir John Llewelyn, Bt., Sir Hy. Peek, Bt., Sir Trevor Lawrence, Bt., R. Ballantine, J. R. Starling, E. C.



Jukes, R. Dean, C. Herman Payne (officers of the society), Dr. Walker, Dr. Hare, R. Falconer Jameson, Rev. Mr. Berners, Arthur Veitch, John Laing, Senr., &c. The usual loyal toasts were honoured and the dinner was a great success in every way.

## CRYSTAL PALACE.

NOV. 3 AND 4.

THE lateness of the Chrysanthemum season was visible at this show, more particularly in the incurved blooms and classes. The Japanese section was quite up to the average in quality, if not superior in the finest exhibits. The competition was not, however, quite so keen as we have seen it, save in the larger classes where the prize money was as liberal as anyone could wish.

**Groups and specimens.**—The groups were not so plentiful as usual, but the finest of these were up to the standard. Particularly was this the case in the class for Japanese varieties only (nurserymen); in which Messrs. Reid and Bornemann, Sydenham, were worthily placed first with a group such as might be made a pattern of by many who in arranging groups utterly fail in the desired purpose of obtaining effect with good finish. The front of this group was brought down as low as it would be possible to have it with small plants bearing one good bloom each, and in some instances not 1 foot in height. The selection of colour was excellent, the best known effective kinds being judiciously employed. Messrs. James Carter and Co., Forest Hill, were a good second, the plants very healthy and bearing fine blooms, the lighter colours being at the back and the browns and chestnuts more in the front.

The corresponding class for incurved varieties was comparatively poor, calling for no further comment; but the amateurs' class for Japanese varieties was again particularly bright and good in both the first and second groups, the former coming from Mr. C. Ralph, Cranbrook Villa, Upper Norwood, who had decidedly the best, but not so well finished as it might have been. Mr. Astie, Hill House, Streatham Common, came second.

**Specimen or trained plants.**—In a few instances these were very good, the best lot being the six pompons, shown by Mr. Higgins, Eastlands, Dulwich; although rather too flat, they were beautifully grown plants, the various shades of Cedo Nulli being prominent. The next best came from Mrs. Stephenson Clarke's garden, Croydon. The best six in the incurved class were those shown by Mrs. Gabriel, Norfolk House, Streatham, consisting of old and well-known kinds. Of the Japanese six the best by far were those staged by Mr. W. Wesker, Upper Tooting, Sarah Owen, Stanstead Surprise and Margot being the best plants.

**Cut blooms.**—In the class for forty-eight Japanese and incurved there was a first-rate competition. The best, however, were those staged by Messrs. Drover, Fareham, Hants, in whose stand of incurved were some remarkably good flowers, the finest being John Lambert, M. Bahuant, Alfred Salter, Lord Alcester, Queen of England, Mme. Darrier, John Doughty and Prince Alfred. Of the Japanese, the finest blooms were found in Mrs. E. W. Clarke, Puritan, Vivand Morel, Mrs. S. Dibbins, Edwin Molyneux, Sunflower, and Mrs. C. Wheeler. Mr. Salter, Reigate, was a capital second, only wanting more weight in his incurved flowers, the best of which were Empress of India and Golden Empress, John Lambert, Baron Beust, and Queen of England; and of his Japanese, W. H. Lincoln, Gloire de Rocher, Vivand Morel and Edwin Beckett.

Mr. Douglas, Great Gearies, Ilford, was worthily first for eighteen incurved varieties with a very even lot, The Queen and Empress very strong, with fine flowers of Mrs. S. Coleman and M. Bahuant; also of Miss Haggas. Messrs. W. and G. Drover were second with good blooms, having amongst others Abbot's White, Lady Hardinge and Novelty, with John Lambert, all in excellent form. With twelve incurved, Mr. Tate, Park Hill, Streatham

(Mr. Howe, gardener), was first with very even, though not over-large blooms; Alfred Salter, Empress of India and Robert Cannell all deserve mention. Major Collis-Browne, Byfleet (Mr. Carpenter, gardener), was second, Lord Wolseley, M. Bahuant and Refulgens being excellent. The last-named exhibitor staged six splendid flowers of Refulgens, very rich in colour, full and large for the variety in the one variety class, easily winning the first prize, the next best being Empress of India, of splendid quality and purity from Mr. H. Shoesmith, Shirley Cottage, Croydon.

For eighteen Japanese in vars., Mr. Trotter, Brickendon Grange, Hertford (Mr. Cox, gardener), took the first prize with first-class flowers rather over the average in size, Etoile de Lyon, Vivand Morel, Louis Boehmer, Avalanche, Vice-President Audiguier, Stanstead White and Sunflower being the finest. Mr. Douglas followed with an excellent stand, in which Violet Rose, Vivand Morel, Mrs. Falconer Jameson and Criterion were prominent flowers. For twelve varieties, Mr. Felgate, Bush Hall, Walton-on-Thames, was first, staging fresh flowers of Condor, Puritan, and W. H. Lincoln. Mr. Howe was second, his blooms being upon the old size of board, consequently too close to be seen well. Mrs. E. W. Clarke and Mrs. Falconer Jameson were two of his finest. Mr. Howe exhibited grand blooms of Sunflower in the one variety class; these were really beautiful examples, long in the petal and rich in colour. Avalanche from Mr. Cox was second, the flowers extra large, full and bright in colour, and Vivand Morel from Mr. W. Collins, Ponsborne Park, Hertford, third in this a very strong class.

Mr. Salter was extra strong in reflexed vars., showing the best eighteen, the reflexed Japanese adding size and effect. The finest were Edwin Beckett, Cullingford, and Elaine, Mr. Felgate, who was second, had La Triomphante and King of Crimson in fine form. In pompons, Mr. Amsden, Croydon (Mr. Knapp, gardener), was first, the flowers of true pompon character, Mr. Salter following with larger blooms both fresh and good. For pompon Anemones the position of these two competitors was reversed, Mr. Salter having by far the best stand of blooms, Marguerite de Coi and Sidonie being most noteworthy. Although the singles were not a strong class, there was evidently a deal of interest taken in them by the visitors; this they fully deserved. The best came from Mr. Carpenter, who was very strong with Lady Churchill, Miss Mary Anderson, White Jane, and Rev. W. E. Hemfrey, a distinct rich coloured dark variety. Mr. Wells, a raiser of singles at Earlswood, was second. In the large-flowered Anemone class Mr. Glen, Worth Park, Crawley, was placed first with an excellent stand, Mons. Charles Lebocqz, Dame Blanche, Mrs. Judge Benedict, Gladys Spaulding, and Nelson, no other exhibitor competing.

Of the new varieties note should be made of Col. W. B. Smith, a lovely pale bronzy-brown; G. W. Childs, of an extra dark, but rich colour; and Mme. M. Hoste, a pale broad-petalled variety, all of the Japanese section, and each when fully developed of reflexed character. Another variety called Lord Brook, an incurved Japanese, deserves especial notice; the petals are broad, being deep brown in colour, with crimson veining; it should prove a decided acquisition. Messrs. H. Cannell and Sons also showed some fine flowers of Vivand Morel and Col. W. B. Smith, the latter in this instance being more of an incurved form; this, however, appears to disappear as the flowers gain age.

Of miscellaneous exhibits there were several collections of Apples and Pears. Messrs. J. Laing and Sons had a large and varied assortment, Mère de Ménage, Lady Henniker and Bismarck being most noteworthy. Messrs. J. Cheal and Sons had another large collection of sound, well-grown fruit. Messrs. J. Peed and Sons also staged some excellent fruit. Messrs. Shuttleworth and Co. made a fine display of fine-foliated plants, chiefly Palms and Crotons. Mr. W. Head had arranged the specimen plants upon the floor, an excellent plan, saving labour in erecting staging, whilst the plants

looked infinitely better, making as a group a much finer display.

A full prize list will be found in our advertising columns.

## PUBLIC GARDENS.

**The churchyards of London.**—The Parks and Open Spaces Committee reported that in April, 1890, the council decided to maintain eleven small spaces which had been laid out by the Metropolitan Public Gardens Association at a cost of £4127, but which that body had no funds to maintain. Application was made by the council to the various parishes in which the eleven places were situated, but only in two cases, viz., Red Lion Square Garden and Winthrop Street Playground, were the local authorities prepared to assist at all, and in no case would they undertake the entire cost of maintenance. The council therefore decided to maintain the places until October 31, 1892, it being supposed at the time that before that date district councils would have been established in London. This had not, however, taken place, and it was now necessary to deal with the question, as otherwise the places must be closed. The council limited the expenditure for maintenance to £900 a-year, and in addition to this amount the Holborn District Board agreed to contribute £52 a year towards the maintenance of Red Lion Square Garden, and the Whitechapel District Board £50 towards that of Winthrop Street Playground. As regarded supervision there was no difficulty, as the council's parks and open spaces were scattered all over London, and the addition of a few to the number would not in any way affect the organisation. The matter was, therefore, solely one of cost, and if the council determined to take over these places permanently it would be necessary to increase the amount allowed for maintenance, which was based in 1890 on wages varying from 12s. to 22s. a week, so that all able-bodied men might receive 24s. per week. The maintenance of these grounds must be looked upon as a tentative measure only, and with this observation the committee recommended, "That, subject to an estimate for £1420 being submitted to it by the Finance Committee as required by the statute, the council do undertake the maintenance of Carlton Square Garden, Holy Trinity Churchyard, Bow; Limehouse Churchyard, Red Lion Square Garden, St. Paul's Churchyard, Rotherhithe; Russell Court Playground, St. Paul's Churchyard, Shadwell; Spa Fields Playground, St. Bartholomew's Churchyard, Bethnal Green; Stepney Churchyard, and Winthrop Street Playground until October 31, 1894, and that previously to that date the council do further consider the question." Mr. Westacott moved an amendment, limiting the time to twelve months, which on a show of hands was carried by thirty-three to thirty-two votes.

**Royal Horticultural Society.**—The next meeting will be held on Tuesday next, November 15, at 3 p.m. A lecture on "Zonal Polyanthus for autumn flowering" will be given by Mr. C. Pearson.

**Book on English gardening.**—We learn that the Hon. Alicia M. T. Amherst and Mr. Percy E. Newberry have in preparation a work on the "History of English Gardening." The book will be elaborately illustrated and will deal very fully with the early history of gardening in this country. It will appear early next year and will be published by Mr. Quaritch.

**Names of plants.**—W. C. Lench.—1, Cattleya Harrisonii; 2, Corynthes maculata punctata.—J. Stowell.—The Parsley-leaved Bramble (*Rubus laciniatus*).

**Names of fruit.**—G. R.—1, Waltham Abbey Seedling; 2, Norfolk Beauty; 3, Yorkshire Greening; 4, Egg, or White Paradise; 5, Golden Noble; 7, Pear Marie Louise; others not known.—A. C. Foulden.—Large Apple, Striped Beaufin.—Country Doctor.—Apple not known, a poor thing.—C. H. Ridding.—1 and 2, Blenheim Orange; 3, not recognised.



## WOODS AND FORESTS.

## FELLING TIMBER.

THE general thinning of plantations may now be engaged in, paying first attention to the coniferous section, and afterwards to those composed for the greater part of hard-wooded or deciduous kinds. At the outset it is well to clearly understand what the object of thinning is and whether the plantation, wood or clump, is meant solely for ornamental purposes, for the economic value of the timber, or as far as possible for both combined. Generally speaking, in this country the woods and plantations are made to serve both for ornament and utility, and the proper management of such is fraught with much greater responsibility than when the trees are solely intended for one or other of these purposes. Where a handsome, well-developed, ornamental specimen is required it must at all times from infancy upwards be allowed plenty of room for the growth and spread of the lower branches, and usually to attain such an end a clear space of several yards should be granted outside the widest spread of branches, so that they may never become cramped or suffer from confinement. Exactly the opposite of this is the case where the trees are grown solely for the value of the timber produced, for it is a well-known fact, at least to those who have to do with timber conversion, that in order to produce this clean and as free from knots as possible, the individual trees must of necessity be grown thickly together, and so that the lower branches are killed gradually off as the tree increases in height. This is, perhaps, more the case with coniferous trees, to wit, the Larch, Scotch and Spruce Firs, but it applies to hard-wooded trees, Oak, Ash, and Elm as well, and is a matter of paramount importance where economic value of the woodlands is to be a point of first consideration. Even where it is stipulated that ornamental woodlands are to be first thought of, it is comparatively easy to thin well out the outer lines of trees and to keep those in the interior thicker. This answers very well where too many drives do not intersect the plantation and where the plantations are not visible or readily accessible from drives and roads. But I am not sure that a wood composed of tall columnar tree-stems, with the variety of light and shade falling on the bark and the ground beneath, though perhaps rather monotonous, has not for certain persons charms that can never be appreciated in an open and airy woodland.

It is a matter of extreme difficulty to lay down any hard-and-fast line as to the distance at which trees, if grown solely for profit, should stand apart, for the soil and exposure, as also kind of trees grown, will all have to be considered. I saw a plantation of Larch a few days ago in which the 60 feet-high trees were standing at about 10 feet apart all through the wood, and the stems were without a branch for 30 feet or more, and contained on an average 35 feet of timber. This I consider about the finest plot of Larch trees that could anywhere be pointed out, for on summing up it will be found that the yield of timber per acre was very high, and this, when computed even at the low figure for such class of clean straight trees as 1s. 3d. per foot, made the wood one of unusual value. Certainly the soil was good, and the management of the trees must have been worthy of commendation. This example in connection with the operation of thinning is simply given to show that in almost every case, if good clean timber, free from knots and

blemishes, is required, do not fear to grow the trees thickly together, but rather remain at all times an unbroken leaf canopy throughout the whole extent of the woodland.

Plantations on hilly exposed ground may at all times be left fairly thick around the margins, just sufficient to allow of the branches of the various trees meeting together so as to form a wind barrier. Inwards from this the trees may be left much thicker and so that the lower branches become killed off as the trees increase in height. Where game covert is a point of almost first consideration, as, unfortunately, it too often is the case, the woods and plantations must be kept well and regularly thinned out, for the first necessities of under-wood are air and light, and without which it is impossible to get up good covert throughout a wood. Game-rearing and profitable wood-management cannot well go hand in hand, for the distances at which the individual trees must be grown apart, so as to allow of the growth of underwood, preclude the possibility in most cases, at least, of clean, knotless timber being produced. In thinning, be careful that the falling trees do not injure the standing or permanent crop, as is too often the case when some of the longer branches are not first removed.

Little pruning is necessary in a plantation where the trees are grown at all thickly together, but it is just as well when thinning out young woods of hard-wooded trees particularly to keep a sharp look-out and remove any rival leading shoots, broken, dead or twisted branches, or such as are ungainly and interfering with their neighbouring tree. The trees removed in the course of thinning should be lotted together either along the clearance roads, or, better still, without the woodland, and in places where the roads are good for transit purposes. In lotting, keep the various kinds together, or, at least, such as are of about equal value, as this will greatly assist the measuring and valuing of the various lots and suit purchasers better should the timber be sold by auction.

Trees of specified sizes should also be kept together, or, in other words, do not place a tree containing, say, 5 feet of timber with that containing 50 feet or more, for the value per foot of the latter is nearly three times as much as is that of the smaller log. Poles that are not intended for cubic measurement should be lotted together, and it is not a matter of much importance how the various kinds of these are placed, although Oak and Ash would be all the better to be kept apart from the others. The firewood and faggots should also be stacked, but not immediately they are cut, as a few days of good weather will help drying greatly before they are placed together for the winter.—A. D. W.

It would be of great advantage to the consumers of timber if the producers would make it a rule to cut as much timber as possible during the winter months—say from the end of October to the end of February. Timber is more durable, and also less liable to decay and dry-rot, if it be cut when the sap is comparatively at rest than when cut when the trees are in leaf, and therefore with the sap in active circulation. The subsequent management of timber, too, after it is cut, by preventing it from being exposed to extreme moisture and dryness before it is thoroughly seasoned, is scarcely of less importance than the proper season at which to cut it. As a rule, the producer of timber has little or no interest in it after it passes into the hands of the timber merchant, and the latter has, perhaps, still less regard for durability so long as he can effect sales with profit; indeed, the less durable timber is the greater the demand, and, of course, the result is in

favour of the timber merchant. It is, therefore, hardly likely that he will trouble himself to inquire whether the timber is cut in winter or summer. The consumer, being the sufferer and most interested party, should buy, so far as is practicable, timber only that has been cut in winter and seasoned.—L.

**Pinus austriaca.**—The Black Austrian Pine is too well known to require much recommendation. It is an excellent sea-coast tree, and the rich massive foliage preserves its somewhat sombre, but healthy green in all situations. It should be planted in masses, as when isolated as a specimen or standing singly among deciduous trees, it is apt to be overturned by storms, because the roots are rather spreading than descending, and the head of the tree becomes very heavy and branching.

**Shelter and shade.**—Shelter in winter and shade in summer are important points for consideration. Evergreen trees and such deciduous ones as retain their foliage until a late period of the year—the Hornbeam, Beech, and some varieties of the Oak—afford much greater shelter in the winter and the early spring (when it is most required) than those which lose their leaves early in autumn. Shade is best afforded by trees which rise with naked stems to a considerable height and then send out a profusion of branches, as the Oak, Beech, Chestnut and Elm. Their spreading branches and umbrageous foliage are greatly superior for this purpose to those of the Ash, Sycamore and Plane.

**Planting trees on mounds.**—It is somewhat remarkable that even practical men of experience advocate the method of planting trees on mounds. I maintain that it is altogether unnecessary as far as success in planting is concerned. Although it may with advantage be carried out on a modified scale on naturally wet, stiff, clay soils, on dry, light soils mounds are wholly unnecessary, particularly abrupt, high mounds, which would be detrimental rather than otherwise by encouraging the evaporation of moisture from the roots, which probably, during an extremely dry, burning summer, would suffer so much from drought that the trees would be found to die outright. There is no better plan for planting ornamental trees and shrubs than digging up the soil and subsoil to a depth of at least from 18 inches to 24 inches, and a yard or two more in diameter than is required for the roots when planting, turning out stones, roots, any very bad subsoil, and replacing them with fresh soil or turf, well chopped up and stirred in with the original soil. On stiff clayey ground inclined to be wet, the trees should be planted on the surface, covering the roots with fresh soil so as to form a slightly raised mound over the roots, and outside or beyond the latter, not less than a yard or so. The method of surface-dressing trees every few years with turf, leaf-mould, or other enriching material and gradually forming easy mounds is preferable to planting on mounds at the outset.—O. F.

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No. 1096. SATURDAY, November 19, 1892. Vol. XLII.

"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—Shakespeare.

## ORCHIDS.

## CATTLEYA SUPERBA.

I am in receipt of a spike of this beautiful species from "W. J. T.," who says he bought it as an imported plant during the spring months for *C. superba splendens*. The flower now before me looks wonderfully like that of the typical plant which I first saw, now many years ago. I should say it is a very good variety of the typical *superba*. "W. J. T." asks how he should treat it now it is going out of flower. It is very late in the season to see this species in bloom, but coming from the first growth made after its importation there cannot be any accounting for it. You do not say whether your plant has shown any fresh growth, which it does not infrequently do, before the flowers have faded. If any growth has appeared the plant should be kept in a nice warm house, in which a moist atmosphere is maintained, so that the growth shall not be checked. If the eyes are dormant, and appear likely to remain so, I would advise its being removed to the *Cattleya* house and kept comparatively dry. *C. superba* must not, however, be kept too dry, for in its native home it is subjected to six or seven months of wet weather. The plants always grow upon trees on the sides of rivers, so that they are always within the reach of the mists and dews that rise from the streams at night or early morning, and where the heat of the day is frequently tempered with a very low night temperature. I have had a great deal to do with this species, and much regret that we so seldom see it in a good healthy condition in our many collections. I used to see this plant well done in Ireland in the establishment of Mr. Bewley at Blackrock, near Dublin. There the plants grew on large bare blocks and flowered annually. This was before the double-roofed houses were in vogue, but when these were adopted, in spite of what had been said in their favour, *Cattleya superba* and many other plants began to decline and soon died. Indeed, the collection was ruined simply through the introduction of double roofs. *Cattleya superba* usually blooms in the months of July and August, but I have seen it flower earlier, viz., in May and June, and now I have it sent to me in the last week in October. There is little difficulty in getting the plants to flower; indeed, I used frequently to pick out the buds from freshly imported examples, retaining only a single bloom on the spike to show the variety. I found the plants were much strengthened by this, and I used to keep them for many years. These plants were grown on blocks of wood and had no soil saving a little *Sphagnum*, which had been put on at first in order to attract and hold a little moisture. I do not think the blocks used now are so good as the old ones. Those of the present day are thin and flat, and the plant has to grow up. Moreover, being so thin, they cannot retain moisture for any length of time, so that the blocks of the olden times, I think, were far preferable.

*CATTLEYA SUPERBA* would appear to have been found in British Guiana early in the present century, and it is now about fifty years since Schomburgk sent living plants to the Messrs. Loddiges, of Hackney. Ever since that time it has been more or less cultivated in this country, and

when seen, the extreme beauty of its flowers has rendered it a first favourite. The exquisite colour of its flowers and their delightful fragrance have endeared it to all. The flowers, varying from two to six in number, are borne upon a terminal raceme. Each flower measures 5 inches or more across, the sepals and petals spreading (in good varieties they fill up and form a good round flower), of a rich deep rose colour; the lip is three-lobed, the middle lobe flat and toothed on the margin. The whole is of a deep rose-magenta or very deep crimson, with a yellow bar on the disc, and white at the base. The flowers last upwards of three weeks in beauty, but at this time I would advise them to be cut off. The plant has a very wide range in the warm parts of South America.

*C. SUPERBA SPLENDENS* is found in the district of the Rio Negro of Brazil. It differs from the typical plant in making longer leaves, the flowers, too, while being as broad, have the sepals and petals narrower, so that the bloom is more starry. They are of a bright rosy-purple; the lip, too, is longer, not so fan shaped nor so deeply cut. The front lobe and the side lobes are rich deep crimson, except the disc and the inside of the tube, which are of a rich yellow. It blooms at the same time as the typical plant, and lasts in perfection as long. I would strongly advise my readers not to let the flowers remain too long on the plant, as they tend to weaken it.

WM. HUGH GOWER.

*Cattleya Harrisoniæ* (T. J. J.)—This is the flower sent, and no wonder it does not accord with the plant figured in the "Orchid Album," because that is the variety *violacea*, having the sepals and petals and the side lobes of the lip dark rosy-purple, and the disc of the lip stained with rich yellow. The variety *violacea* is a much larger and finer flower than that of the typical plant, which the one you send is.—H.

*Cattleya labiata*.—The Hon. Miss Winn, of Nostell Priory, Wakefield, sends me a flower of this, asking if it is the true *labiata*. It is a magnificent *Cattleya*, very much in the way of the one named by Lindley, but it wants size to make it quite like it, and the sepals and petals should be of a brighter colour. It is, however, a very fine form, much superior to many now flowering. Another year I should like to see a flower from the same plant, as then the blooms may come larger.—G.

*Calanthe furcata*.—John Anderson sends me a spike which I consider to be this, and which by a number of growers is passed over with the remark that it is *C. veratrifolia*. Independent of the flower being larger in all its parts, especially in the lateral lobes of the lip, there are other differences which I have noted. The sepals and petals are pure white and reflexed, the lobes of the lip are creamy-white, the crest of the lip also white, while the spur is recurved and deeply forked at the point, from which comes its name. In *C. veratrifolia* the sepals and petals are not reflexed; the crest of the lip, instead of being white, is yellow, and the spur is straight, thickest at the point and not forked. You may therefore rest assured that your plant is not *C. veratrifolia*, but *C. furcata*. The Messrs. Rollisson introduced it, I believe, from Java for *C. veratrifolia*, but its flowers proved quite distinct.—W.

**Duration of Orchid flowers.**—People who have had a tolerable acquaintance with Orchids know the length of time that many of the species will retain their flowers in good condition, and also know that to leave them on the plants until they completely fade would be ruinous to many. I think it was Mr. F. W. Burbidge, when speaking of this very question, attributed the superb health of a celebrated collection of Orchids to the owner cutting off the spikes soon after they were fully expanded. It does not do to cut the spikes too early or before the flowers are fully expanded, as if so they quickly fade when cut and placed in the house; whereas, when left for, say, a week or a fortnight, they keep longer when cut. Of course, there are some species which are not suit-

able for cutting, but yet remain fresh on the plant for a fairly long time and without doing any injury. I refer to *Miltonia Roezli* and *M. vexillaria*. This question suggested itself to me after reading Mr. Gower's answer to a correspondent *re* cutting off the spikes of *Cypripedium Stonei* where they had been open since the last week in August. Often when reading the account of the length of time such and such flowers of Orchids have been on the plant, I wonder if the owners of them are aware of the injury they are doing. Recently Mr. Douglas, in his calendar notes when commenting on the same subject, referred to the benefit sickly Orchids received from removing the incipient flower-spikes, and also to the danger which is likely to accrue by removing the spikes from healthy plants before they opened, by causing them to grow out of their season.—A. Y.

***Cypripedium japonicum*.**—In your excellent article upon the hardy species of this genus, which are not by any means excelled by the numerous hybrids of garden origin, *C. japonicum* is omitted, and I think it is now becoming scarce. When I had charge of the Messrs. Rollisson's collection at Tooting I imported some hundreds of this plant, which I found exceedingly easy to grow and flower. It has a stout underground creeping rhizome, and grows about a foot high, bearing a pair of nearly opposite leaves, which resemble enlarged ones of the *Salisburia adiantifolia*. The flowers are solitary, the sepals and petals being of a soft greenish hue, spotted with red, the large lip open in front, white, suffused with pink. It is a bold-growing plant, and requires a somewhat sandy yellow loam. The plants should be kept in a nice moist condition during the winter, not allowing them to become dried up. During the growing season it likes an abundant supply of water. If in the open border it should have a rather shady position.—W. H. G.

## SACCOLABIUM GIGANTEUM.

WHAT a beautiful sweet-scented species this is, and how freely it grows. I first saw it just thirty years ago in the Bishop of Winchester's garden, where it was known as *Vanda densiflora*. At that time it was a remarkably rare plant. Some few years later I noted some grand specimens of it in Mr. John Day's collection at Tottenham. I have seen it from time to time since in many collections. The spike of bloom of this species recently received from J. McIntosh was a very well-marked variety, although the spike was short, as I have often seen it quite a foot long. The individual flowers are situated upon somewhat long pedicels, so that the raceme appears very stout. *Saccolabiums* require strong heat to grow them well. They do not like cold in their resting season. On one occasion I subjected them to a low temperature, and I found when the spring days came and the plants began to grow again that they cast nearly all their leaves. This was a serious matter, for in those days a plant with so many pairs of leaves was worth a certain number of guineas. The temperature during the resting season should not fall lower than 65°, and in the daytime it should rise a little higher. The pots or baskets in which these plants are grown must be exceptionally well drained, and the material used should be clean living *Sphagnum Moss*, which should be packed in firmly, and the surface covered with the selected growing tops of the Moss cut up short.

*Saccolabiums* should have an abundant supply of water to their roots, and the atmosphere must also be kept well charged with moisture. Do not use the syringe freely, because the imbricating leaves, I have found, retain more moisture than is good for them. The plants should be grown in a sunny spot, but not in the full sun, as the leaves will become of a dirty yellow hue. Through the hottest part of



the day a thin shading should be used to break the sun's rays. During the winter the watering-pot must not be used too freely, but a little moisture in the atmosphere at times will greatly assist them.

*S. GIGANTEUM* is a bold-growing plant with broad, strap-shaped, distichous leaves, deep green, with paler green streaks on both sides. They are each about a foot long and 3 inches wide. The racemes are about a foot in length and pendent, covered with rather small, waxy, fragrant flowers. The sepals and petals are white, sparingly spotted with bright purple; the lip a soft shade of violet, tinged with mauve. This description applies to the typical plant, but there are one or two well-marked varieties; for instance,

*S. GIGANTEUM ILLUSTRE*, originally introduced by M. Linden about ten years since. It is characterised by having longer and broader leaves than the typical plant and by its longer raceme, by the flowers being set upon the spike somewhat more loosely, and by their brighter and more rich colouring. This form comes from Cochin China, the typical plant from the hot parts of Burmah. There is also another form of this plant introduced to cultivation by Godefroy-Lebeuf, of Argenteuil, from Cochin China. The sepals and petals and the lip are pure white. It was named *Pitotianum* by Reichenbach fils.

WILLIAM HUGH GOWER.

*Trichosma suavis*.—Although this plant comes very near the *Cœlogynes*, especially in the outline and colour of its flowers, it is quite distinct from any member of that genus in its erect, somewhat Lily-of-the-Valley-like growth. The slender tapering stems are about 8 inches high, and bear a pair of bright green oblong leaves. The flowers number four to eight in the raceme, which is produced at the top. The sepals and petals are creamy white and curved inwards, the lip having three lobes, the lateral ones of which are white, marked with brownish crimson stripes, whilst the central one is yellow edged with crimson. The species was first brought to this country in 1840, having been discovered on the Khasya Mountains. It is not very frequently seen now-a-days, although sometimes included in importations of Orchids from Northern India. Where it is grown it is mostly treated to either a stove or intermediate temperature, the latter of which even is too hot. The *Odontoglossum* house will be found more suitable, the "spot," which cannot be avoided in warmer houses, being rarely present if treatment in other respects is correct. It likes abundance of water in summer, and even at this season (November) ought to be kept fairly moist, by which the necessity of perfect drainage is implied. A compost of peat fibre and Sphagnum is the best. It blooms during October and November, the flowers being not only pretty, but delightfully fragrant.—B.

*Cyperorchis elegans*.—More frequently known as a *Cymbidium* than under the name here given, this Orchid has now been in cultivation over fifty years. It has at no time, however, been anything other than an uncommon plant, although the time of year at which it blooms as well as the elegance and beauty of its inflorescence ought to recommend it to every cultivator of Orchids. It is a native of Nepaul, and was introduced to this country probably in 1840. In habit it is like a *Cymbidium*, in which genus it was originally placed by Lindley. The leaves are each 2 feet long, linear, somewhat coriaceous, and of a deep green. The blossoms are borne on a gracefully arching scape  $1\frac{1}{2}$  feet long, on the terminal portion of which thirty or more of them are gathered in a dense pendent raceme. The flowers are never more than half expanded, scarcely so much as that even, until past their best. The sepals and petals are each  $1\frac{1}{2}$  inches long, similar in shape, and of a slightly green-tinged, but pleasing yellow, the lip being of a deeper and more pronounced yellow. This *Cyperorchis* remains in full beauty for several weeks, extending over what is perhaps the duller period of the year so far as Orchid flowers are concerned. It should be grown in an intermediate

house, and likes the same treatment in regard to light and moisture as the *Cymbidiums*. One third of the compost should be fibrous loam, the remainder peat and Sphagnum.

#### SHORT NOTES.—ORCHIDS.

*Vanda suavis* Gottschalekei.—J. Meredith sends me a fine flower of this. I consider *V. suavis* as only a variety of *V. tricolor*, and therefore the name of *suavis* is not necessary. The sepals and petals of the form sent are white, profusely spotted with rich bright purple, and the lip is rosy-purple, white at the tip of the front lobe.—W. H. G.

*Odontoglossum Uro-Skinneri* (J. B.).—The flower you send is a very fine form of this species. In the flower figured by J. Bateman the lip is spotted with light blue, while in the bloom sent the lip is deep rose colour. Mr. Skinner himself brought home with him drawings of three distinct colours of the plant, and he said that the plant in a state of nature was very variable in the colour of its lip, nearly every plant presenting some difference.—W. H. G.

#### BOOKS.

##### MEMORIES OF DEAN HOLE.\*

HERE is a charming book of memories of Dean Hole, to whom we garden folk are much indebted for many pleasant pages. His has been a long and happy life among pleasant people. Many conditions of men he has been familiar with, and though of late years the Church has absorbed all his best endeavours, he has many memories of old friends among archers, authors, artists, cricketers, clergy, gardeners, hunting and shooting men, and last, though not least, working men. The book is full of amusing stories. Among the things that seem to us most fresh and delightful in the book is his view of the present, and, we think, ugly and noisy way of driving game. The following is a good sketch of

##### PARTRIDGE SHOOTING.

I am not surprised that the young men of our present day do not enjoy partridge-shooting as it was enjoyed in the days of my youth. I am not surprised that they go forth some two or three hours later, and return some two or three hours earlier; that they dawdle over their elaborate luncheons, pipes, and cigarettes, and may be found in the billiard-room, or the morning-room, or the easy-chair in the drawing-room, when they might have been, as we were, still in the fields. I am not surprised, because though they have some advantages, though they no longer need the paraphernalia with which we were encumbered—the powder-flask, the shot-belt, the ramrod, the wads, and the caps—though they have more birds to shoot at, artificially reared, and driven in the earlier hours of the morning into the Turnips, the sport itself is comparatively uninteresting, dull, formal, monotonous. When the sickle was superseded by the scythe and the mowing machine, and the face of the earth was clean-shaved, when the high hedges were cut down and the broad dykes filled in, when fields were added to fields, or only separated by the light iron fence, when the old order changed and gave place to the new, there were manifest gains in facilities of cultivation and in the increase of produce; but to the artist and to the sportsman, to those who loved the picturesque, and to those who followed the partridge, the transformation was indeed deplorable.

In those days, when we had no breech-loaders, and when we followed and found the game, instead of its being driven to us, we considered twenty brace a satisfactory "bag" for two guns, and it required good walking and good shooting to accomplish such a result. Under the present system of driving the coveys into Turnips before the shooters go out, and then walking them up

with a long line of beaters, much larger quantities are easily secured; but this process cannot be compared for a moment with the diversity of enjoyment which we had in the olden time, and hardly deserves to be described as sport. The rearing of tame birds by the hundred in itself invalidates any claim to the title, and my memory suggests an illustration in support of my argument. There was a numerous assemblage of shooters, keepers, loaders, and beaters on the estate of a great breeder and preserver of game in my neighbourhood, and a multitude of partridges were congregated in two vast fields of Turnips. There was a piece of Grass land between these two fields, and on it stood the house and premises, kennels, and coops of the head keeper. As the company passed from one piece of Turnips to the other, some scores of young birds, late hatched and little more than half-grown, gathered themselves around the keeper, and affectionately insisted, to his intense disgust, in following him across the field!

We hope the old way will long stay with us, and we believe it will, as the expense of driving these creatures with a number of men is as remarkable as the ugliness of the resulting picture.

##### "POULTRY SHOWS."

Similar exhibitions may be witnessed in the coverts as well as in the field—young pheasants following the man who has reared them as he passes the place where they have been fed; and I protest against these poultry shows, this excessive and artificial multiplication of game, not only as detracting from the manliness of the sport and converting healthful, vigorous, sustained exertion into the brief battue, half luncheon and half lounge; as creating a spirit of jealous competition, which induces the competitors to appraise the merits of a day's shooting rather from the quantity which has been shot than from their enjoyment of the diversion; as interfering in many cases with another recreation, which, being offered to all who can avail themselves of it, gives a much more extensive pleasure—I mean hunting, sometimes forbidden, and sometimes only permitted, because there is nothing to hunt; but, in addition to these objections, I denounce this extravagant display as an additional temptation, which allures men to disobey the law of trespass, to disregard the rights of property, and to defy those who defend them.

No doubt there may be great skill shown and necessary for success in such shooting, but, Sir R. P. Gallwey notwithstanding, nothing can get over the ugliness of covert shooting as at present practised; whereas men finding their own game with dogs is often a pretty incident in the country landscape. Here is a story of the poacher.

He watches not only the game, but the keeper, and rejoices to elude and deceive him. Guns are fired by one or two of his company far away from the covert in which the rest are engaged with their nets. Nor does he confide his devices to the keeper. A dealer in game at Nottingham came to the police office to state that a man had driven to his house early that morning, bringing two large sacks containing hares in his cart. Each sack, he said, held twenty-five hares, and he opened one and took out three or four specimens to show that they were fresh and good. The bags were old and worn, and the legs protruded and the skins were visible here and there where a rent had been made. The seller was in a very great hurry, as he "thought the bobbies were after him," and the dealer agreed to take the sacks as they were and to give £3 for the lot. On emptying them, he found himself the proprietor of the four sound hares which had been shown to him as a sample, seven hares' feet, several pieces of fur, which had been deftly sown on the sacks, and a various collection of old rags, grass, papers, and other rubbish!

**Garden Design and Architects Gardens Illustrated.** to show by actual examples from British gardens, that tipping and allowing trees to make them "harmonise" with architecture are barbarous, needless, and inartistic. London: John Murray, Albemarle Street.

\* "Memories of Dean Hole." London: Edward Arnold, 37, Bedford Street, Strand, W.C.



## FLOWER GARDEN.

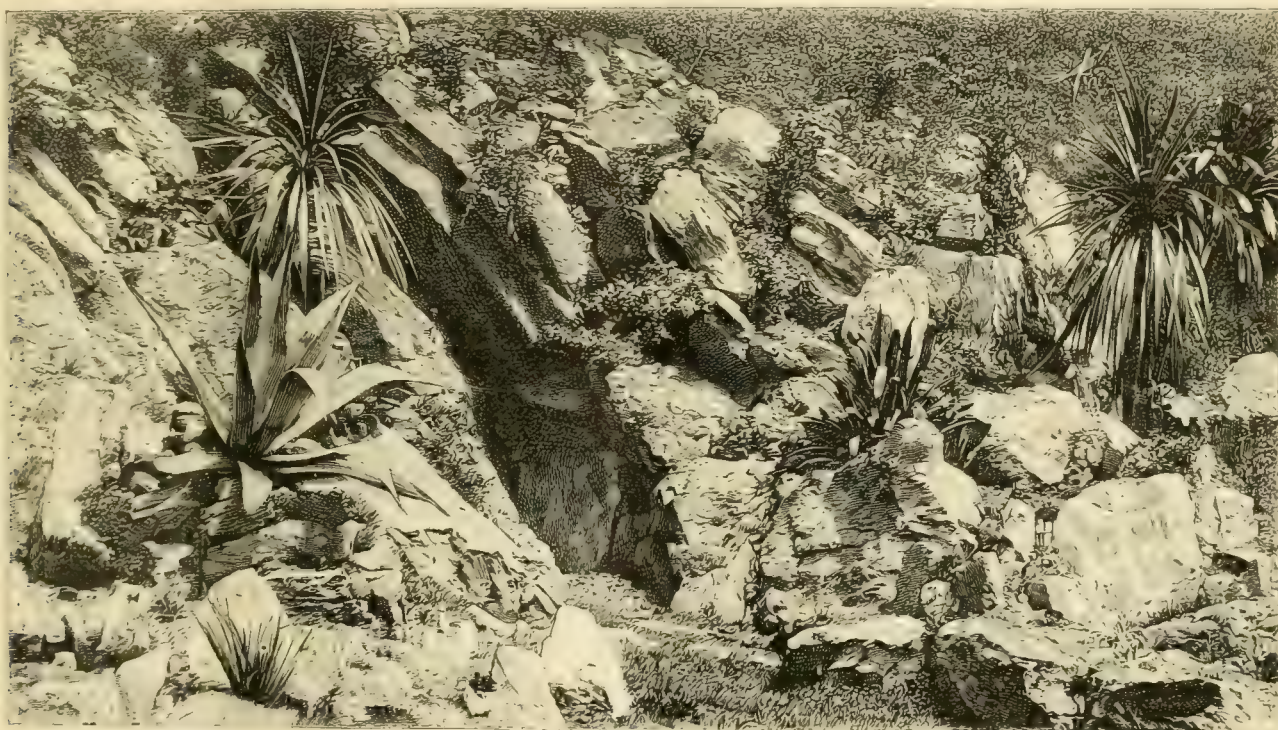
## ROCK GARDEN AT GREENWAY, SOUTH DEVON.

GREENWAY, the residence of Mr. T. B. Bolitho, M.P., is situated on that part of the river Dart which more than any other justifies the name of "the English Rhine" often applied to it. Charming woods surround this picturesque country residence, sheltering it from cold winds, thereby favouring the cultivation of plants which would not be hardy under less favourable conditions. Eucalypti, Himalayan Rhododendrons, Embotrium coccineum, Dracæna australis, Aralia Sieboldi and other sub-tropical plants may here be seen quite at home and withstanding the winter without protection. Last year a rock garden was added, and a portion of this is shown in our illustration. The rock

were quite as fine as those lately illustrated in THE GARDEN. Saxifraga longifolia, S. Boydi, S. aretioides, S. Burseriana, and others have done remarkably well; likewise several choice Gentians, Campanulas, and Androsaces. The driest and sunniest part of this rock garden has been devoted to a group of Opuntia Rafinesquiana, O. vulgaris, Umbilicus chrysanthus, Mesembryanthemum uncinatum, and several kinds of pretty Sedums and Sempervivums. In the background is a small cave lined with suitable plants, and the upright fissures on the shady side of the rocks have been filled with Ramondia pyrenaica, Saxifraga Fortunei, and other moisture-loving plants.

Among the larger plants used are two variegated American Aloes, each measuring about 5 feet or 6 feet in diameter, several Dracænas, Phormium tenax var., and others. In the background a few choice varieties of dwarf flowering shrubs have been used, amongst which

oftentimes get neglected during the spring potting. If now allowed to stand over again, there is in many cases a great danger of the plants suffering from want of water. The soil in the pots will be full of roots up to the rim where plunging has been resorted to. In such cases it is not possible to supply them with sufficient water; most of that which is given will run off outside of the pots. Repotting, therefore, in every necessary instance must be decidedly beneficial, and it should at once be attended to before the plants become dry. For such plants loam should be the chief compost. A light soil is not advisable; the better results will be found with a rather heavy soil than the reverse, because it will be more lasting in character. In repotting I would only give a fair shift, making the soil as firm as possible. When thus dealing with Dracænas, the strong fleshy roots to be found at the bottom of the pots should be cut off for a future stock of young plants, this being a capital means of increase. In two years or less they will make capital plants for furnishing purposes or for the flower beds the year after next. When plunged in beds



Portion of rock garden at Greenway, Taunton.

garden was designed and carried out by Mr. F. W. Meyer, landscape gardener to Messrs. Robert Veitch and Sons, Exeter. The position is a somewhat steep slope facing south-west, and visible from the principal windows of the mansion. The rock garden was intended principally for choice alpine plants from the higher mountain regions, but a few large Aloes, Dracænas, and other sub-tropical plants, which flourish so well in this place, add greatly to the effect. Although it may not be strictly correct and natural to grow plants from the glacial parts of the Alps within a few yards of those from the sunny climes of the southern hemisphere, yet the effect is striking, and all the plants are doing well. The stone used is limestone, which has been so arranged as to resemble natural rock, but providing at the same time deep and narrow fissures for the cultivation of choice alpine plants.

The latter have been a complete success. Dianthus neglectus has now flowered abundantly for two summers. The blooms of the Edelweiss

Grevillea alpina may be mentioned as doing exceedingly well.

## FINE-FOLIAGED PLANTS IN THE FLOWER GARDEN.

PLANTS which have during the summer months been made use of to ornament the outside garden, and which now, for fear of injury from frost, have been again brought under cover should have some consideration shown them, so as to keep them in good condition for another season. Dracænas of the Cordylina type where they have been plunged during the summer will have sent forth a lot of fresh roots around the stems, over the sides of the pots and even through the drainage holes. These plants in many instances will now be greatly benefited by fresh potting. Although potting at this season is not, on the whole, to be advised, I would make an exception in the case of such plants. It is preferable, I think, to do it at once before these young roots suffer, which they must do if exposed. In all probability this kind of plant actually stands in need of a shift, for it is such as these which

whilst still in small pots, they make good progress if kept well watered. For the first six months until growth has fairly started these fleshy roots should be kept in heat, as with other Dracænas. When the old plants are repotted, they will be found much better in appearance for any purpose for which they may be required in the conservatory or show house during the winter season. No warmth need ever be given them after potting, save what they will get in the average greenhouse or conservatory. I am led more particularly to take note now of the Dracænas, having just taken up my own, being more struck than ever by the fine healthy roots the plants have made whilst they were plunged in the flower beds this year. If these roots can be preserved in a healthy state, it must be far better than letting them die off through the winter for want of a sufficient water supply, thereby injuring the plants.

GREVILLEA ROBUSTA, which makes fine material for flower beds, should also be looked after in the same way as the Dracænas. A shift will do the plants good, although in their case the roots will not be making such a display upon the surface. For these I would use a little peat or leaf-mould,



the roots, being much finer, suffering if in too heavy a soil. The stock of these plants should all be supported by sticks where they are in the least top-heavy. Young plants (quite dwarfs) when plunged early in the summer will have made good progress if not allowed to suffer from want of water. These will make very useful plants for decorative use during the winter season. Where well exposed the growth will have assumed a bronzy hue, making the plants quite attractive and distinct. This *Grevillea* will stand a fair amount of rough usage without incurring much risk of injury.

**PALMS.**—The hardier of these which for the season have been plunged should also be carefully looked to. It will be just possible that the old ball of roots in the pots has become too dry. This does happen in the case of Palms sufficiently to cause them injury through the rainfall being in a measure warded off by the foliage. Where any suspicion of this exists the plants should be stood in tubs of water to thoroughly soak the balls. If the pots are small in proportion to the head of the plant, I would rather pot them afresh at once than leave it until the spring. They will thus become well established again before being required another season. These, like the *Dracenas*, will throw out a lot of fresh roots if plunged over the rims of the pots. When repotting, use soil as advised for the *Dracenas*. Most of the varieties used in this way being cool house kinds, no extra warmth will be required.

**FICUS ELASTICA**, if outside during the summer for similar purposes, should also be carefully attended to; having a disposition to increase in height rather quickly, some of the tallest may have become too tall. These will make good material for propagation, first striking the top and then the lateral shoots as they push forth. These plants will be all the better in a little warmth for propagating purposes. Younger ones will do very well in a cool house, provided it is not too damp. Potting, if necessary, may be done also, but probably these will not so much stand in need of it, as they thrive remarkably well in quite small pots.

**SUCCULENT PLANTS.**—These in various forms, some large, some small, some of medium size, are each and all very useful and ornamental, but, being mostly of slow growth, they require some careful handling, at least such as I am now thinking of. The *Agaves*, for instance, make grand vase plants, but if their foliage is injured, it greatly spoils their appearance for the time. Now that they are not any longer safe out of doors, they should at least be well cared for under glass. If they can be stood where they are not likely to be moved again through the winter, so much the better, whilst if out of the way of those who may not have experienced their needle-like pricks, that, too, will be an advantage. Large plants, when in a healthy state, with the foliage intact are very handsome, yet they are not unfrequently seen with broken leaves and otherwise disfigured. These *Agaves*, also the *Aloes* and *Yuccas*, will remain for years in good condition without repotting. A top dressing of good leafy soil and a little bone meal will assist; this will percolate downwards amongst the roots when the plants are watered. But little water, however, will now be required, in fact hardly any between now and the turn of days, unless much fire-heat is maintained to keep out sharp frosts. Suckers which are large enough to take off for insertion in small pots may now be cut from the parent plants. Whilst the plants are kept dry at the root is the best time to do this.

**PHORMIUMS.**—These are far safer when kept in pots and plunged during the season in the beds, if turned out of pots there is a check when lifted again. These in all probability will have grown considerably during the summer. If this be the case and repotting be required, it had much better be done at once than run the risk of the plants becoming over-dry, which they will do, and consequently suffer, being moisture-loving plants. A peaty soil suits them well, but it should be made firm. When potting, any increase by means of suckers can be attended to. Although tolerably hardy, the better plan is to keep them just clear

of frost if possible, although I have seen *P. Colensoi* quite safe after several degrees of frost upon it.

**ARACARIAS.**—Of these, the greenhouse species, I would only allude to *A. excelsa*, which makes a fine plant for plunging out of doors in the summer-time. When plants grow somewhat too large for ordinary use inside, yet can still be wintered, it pays to keep them for this purpose. Placed in a shady spot, they do not get bronzed or browned by the sun; all that is needed is to keep them well watered and safely secured by a stake, as they offer much resistance to the wind.

**ARALIAS AND ABUTILONS.**—These are another useful class of plants, being tolerably hardy, yet rather than risk all the plants out I would take the trouble to house them where safe from frost. I am now alluding to *A. Sieboldi* and its variegated forms. If they have been plunged through the summer it is more than likely that pots one size larger will be beneficial. *Abutilons* should be potted up, being mostly planted out. Old plants are frequently useful for back rows. The leaves should, however, be cut off as a corresponding check to that given to the roots. Note should be taken of *A. Darwini tessellatum*, which is much better than the older *A. Thompsonianum*, colouring better and being also of more compact habit. In the more favoured southern counties many of these plants will stand out all the winter. G. H.

### ROOT-WORK.

TO THE EDITOR OF THE GARDEN.

SIR, If a number of first-class gardeners, amateur and professional, were asked their opinion of root-work, the majority would say, Have nothing to do with it; it harbours fungus and plant vermin, and will give great trouble. More than fifteen years ago we had a fence in sight of the drawing-room which it was desirable to hide by a pretty object. I then consulted many friends, amateur and professional, as to the formation of a root-work. Most advised against, and one lady told me her root-work had to be pulled down on account of a troublesome fungus. Two good authorities, one professional, the other Mr. Berkeley, told me that they had seen quite successful root-work, so I decided to form one. A number of good-sized Spanish Chestnut and Oak trees had been cut down near us some years ago; we had the roots of them grubbed up, and found that the softer parts had perished, leaving the hard cores. With these the root-work was built, and was, with its bank, about 104 feet long, 23 feet broad in its widest part, 9 feet in its narrowest, and 6 feet high at its highest. The fungus did trouble, but we dug it out carefully, and after a time saw no more of it. Slugs and snails were rather troublesome, but that they sometimes are where there is no root-work. A good many Laurels had been planted to grow up and hide the fence, and also *Euonymus*, *Box* and small trees. Owing to other more pressing gardening work, the root-work was neglected, and many Ferns took possession, to the injury of the other plants. Some of the earlier imported *Azalea mollis*, *Abelia rupestris*, *Berberis stenophylla*, *Azalea amara*, and other small shrubs made the root-work pretty in spite of its being overgrown. Taking the hint from the success of the shrubs, we next made a small root-work at our cottage garden near, planting *Osmanthus* of all sorts, *Skimmias*, the more tender *Spiræas*, *Clematis*, climbing *Roses*, &c. This has a pretty effect, and the shrubs have thriven wonderfully.

Our old root-work was next taken in hand. We grubbed up the Laurels, all but a few of the ornamental trees and all the Ferns, put in fresh soil among the roots, made a large bed of good soil on the level at the top, and

planted all manner of alpine, herbaceous plants, and small shrubs, one object being to show what a great number of plants can be grown in a small space—an answer to friends who say that their gardens are too small to do much in. So far the remodelled root-work is a complete success, and much prettier (looking like a wild bank) than any rockwork of the same size that I have seen, the black old roots, most of them still quite sound, setting off the plants. At the bottom of the root-work there is a bed of good loam full of fine Primroses, and in the bottom bays such plants as *Ramondia pyrenaica*, *Shorthia galacifolia*, *Cyclamens*, *Colchicum speciosum*, *Hellebores*, *Meconopsis Wallichii*, *Galax aphylla*, *Pulsatilla patens*, &c. At one end of the root-work is a bed in which slabs of stone are sunk with plants against and amongst them, and at the east end a quantity of burl-work, to as to try the different shelters close to each other. G. F. WILSON.

### THE HOLLYHOCK AS A GARDEN FLOWER.

ALMOST every cultivator of the Hollyhock could speak or write about the difficulties he has had to contend with in dealing with this, the most stately of the hardy flowers that adorn the garden in autumn. Some timid amateurs are overcome with the first signs of disease on the plants, and have not energy enough to make anything like a strenuous effort to overcome it. I find a great deal depends upon the weather. Last year the disease was very troublesome. I had to give a lecture on this flower that year in August, and at the time some of the plants were quite covered with the fungus, many of the leaves being totally destroyed, others far gone, and the entire collection diseased to a great extent. I have grown some of these plants this year, others were added to them, and they have flowered splendidly. Although the disease appeared in the spring, it did not spread after May, and the plants are practically free from it. I made no attempt to destroy the fungus, and yet, owing to what I may fairly term the incidence of the season, a good bloom was obtained, and the plants now seem as if they might be propagated freely for next season's flowering. I have not yet touched the plants; they still remain in the open border, but in October or November they ought to be lifted and planted in flower-pots of a suitable size, or what answers as well, plant them out closely together in an ordinary garden frame, and give them sufficient attention in the winter to prevent the leaves from damping off. I cannot securely winter my Hollyhock plants unless I get them under glass in some way. I find even in frames, with the continued fogs near London, the leaves are constantly dying off, owing to mould getting upon them through their being almost constantly damp. If the plants are potted up and the flower-pots placed on shelves near the glass roof of a house from which frost is merely excluded by artificial heat, they are not injured in the least; but here again we have to face the readiness with which the plant is attacked by the disease under these somewhat artificial conditions, and again comes the time of propagation, when the plants, or rather the cuttings, have to be placed in a forcing house, and the chances are that even if there were no traces of fungus before it will appear now. We cannot help ourselves; the cuttings must be put into heat, and the addition of bottom-heat with a rather close atmosphere is necessary. We may expect the appearance of the fungus, and I fancy a good specific for it is sulphur stirred up in soft soapy water, about 2 ozs. of soft soap to the gallon of water; too much soft soap injures the leaves; 4 ozs. of the sulphur may be used. The sulphur has a tendency to sink rapidly to the bottom of the water, and must be constantly stirred when the leaves are being dipped. Another plan which has been found quite as effectual in removing the parasite is to dress the affected parts with Condy's fluid, using a soft brush to apply the liquid. When



the cuttings are rooted they must be taken out of the hotbed and be placed on a shelf near the glass in the same house; this causes the leaves to become more crisp, and if the cuttings have been inserted in 2½-inch pots they may be repotted into 3-inch pots, and when the plants have taken hold firmly of the new potting soil, they may be removed to a much cooler house and subsequently to a cold frame. The propagation of the plants and preparation for planting out are important parts of their culture, and the point to attend to as of most importance is to keep the leaves clean, free from the fungus, red spider, and thrips, as it is only by thus caring for the plants that they can be kept steadily growing. Care must also be taken not to allow them to receive any check at the time of their removal from the warm house to a greenhouse temperature or from the greenhouse to an ordinary garden frame.

Some cultivators of hardy plants may wonder that it is necessary that so much pains should be taken with a plant comparatively hardy. To this I reply that although the Hollyhock is a much hardier plant than the Dahlia, it cannot be so freely propagated. The cuttings take longer to form roots and growth is slower afterwards, and unless the spring cuttings are propagated as advised, they would not form roots in time to give good flowering plants, or they might not bloom at all. The preparation of the ground is also of much importance, and this should be seen to in the autumn. The Hollyhock is a gross feeder and requires a deeply worked soil with a good dressing of farmyard manure, and when the ground is trenched up in the autumn, the winter weather prepares it for planting in April or early in May. The young Hollyhock plants should have been well inured to the open air before planting them out, and the operation of planting should be performed when the weather is mild and the ground dry. The permanent sticks must also be placed to the plants at the time of planting out; indeed, it is much better to drive the sticks firmly into the ground before planting, and dig out a hole at the front of the sticks into which should be placed some prepared soil, such as is used to pot Pelargoniums, to give the plants a start. The plants must be tied to the sticks as soon as they have grown a little, and it is a good plan to mulch around the roots with a little decayed manure; this keeps the soil moist, preserves a more equable temperature over the roots, and the plants will make a much better growth. As the season advances, dry weather will set in and water at the roots will be needed, but it will also be desirable to syringe well underneath the leaves to keep off red spider. The first appearance of the fungus is the signal for an attack upon it; if it is taken in time some good may be done, but when it has spread widely over the entire collection of plants, the case is hopeless. It requires a good stout stick to hold a well-grown Hollyhock plant in position, and as the spikes advance in growth, they must be securely fastened to prevent their being snapped over in a high wind. A good strong plant will throw out many side growths, and it is usual to remove these so that all the strength of the plants may be thrown into the centre spike. Upon the side growths there are also numerous flower-buds, but at the base of each there are a few leaves with leaf growths at their axils; all these may be taken and cut out as Vineeyes are treated for propagation, and if inserted singly in a small flower-pot, they will soon form plants in a very mild heat if covered with a garden frame. The dead and decaying flowers should be removed from the plants, as they not only have an untidy appearance, but they also cause the seed-pods to decay. Seedling raising is also an important and interesting part of the cultivator's work. I sow the seeds in May, and they form strong plants for flowering the following season. They may be sown out of doors, or, what is better, in a frame over a hot-bed. The seeds are more likely to vegetate well in that position, and the seedlings can easily be pricked out into boxes to be transferred to the open borders as soon as they are large enough. They ought to be planted where they are to flower in good time so

that they are well established before the winter. Seedlings are seldom injured by frosts.

J. DOUGLAS.

#### HARDY LILIES.

WE are now approaching the time of year when it is advisable that the hardiest Lilies should be planted in their permanent outdoor quarters, and it is also a good time to buy them at a moderate expense, as many varieties reach this country in November from our principal Lily exporters, the Japanese. It seems wonderful to those who recollect how comparatively recently the auratum was first introduced into this country, to find them sold in hundreds and thousands at prices within the reach of everyone—even the humblest cottager. From my own experience of this very handsome Lily I should not care to recommend growing it extensively unless the person planting the bulbs be prepared in a few years, and quite likely in a shorter time, to find them becoming small by degrees and beautifully less, and then disappearing. The only reliable exception to this general deterioration of the auratum family is mainly confined to the varieties platyphyllum and macranthum. I do not know the exact difference between these varieties; I have bought them under both names, but they seem similar and are also satisfactory. Those I have longest in my possession, for some six years, and which never have deteriorated, I believe to be platyphyllum. To people to whom expense is no object I also recommend growing the variety virginale and the red-banded L. a. rubro-vittatum. Virginale is a beautiful Lily, having a pale gold band and no spots; it is well named. Besides the auratum and its varieties, there are many other Lilies which grow well out of doors. To everyone, L. candidum, the Madonna Lily, and L. croceum, the orange Lily, are known, but everyone cannot grow them successfully, as L. candidum especially is most tantalizing, growing freely and well in the gardens of cottagers, but with every apparent advantage doing very indifferently in many good gardens. I do not think that even experts have accounted satisfactorily for these vagaries; at all events I have read numerous reasons and remedies given, and have tried the latter when mine have done badly, but cannot say with very good results. It grows where it likes. Liliun chalcidonicum is one of our best known varieties, having been grown in this country for centuries, but it is not very frequently seen. Why this is I cannot understand, but it may be in part accounted for in the fact that it is not imported largely, as many other Lilies are. It is a very remarkable kind, its scarlet reflexed flowers showing most prominently amongst other flowers. I believe this Lily comes from the Grecian Archipelago, and its oriental magnificence of colouring is quite in keeping with the surroundings of its native habitat. One of the hardiest as also one of the handsomest of Lilies is L. Szovitzianum, but it has a vile scent, and is therefore only bearable in the open. It is, however, exceedingly effective, and is an early variety; therefore well worth cultivating. L. testaceum or excelsum is a strong and easily grown variety; its colour is very distinct, being, in fact, exactly what it is named by some, the Nankeen Lily, which is a sort of light yellow. The growth of testaceum is very similar to that of candidum, and these Lilies might easily be mistaken in the foliage state the one for the other, but when testaceum arrives at the bud stage and subsequently in blossom, there is a decided difference; the flower of testaceum when fully open is curled back somewhat like others of the Turk's-cap or Martagon varieties, to which group this Lily belongs. Testaceum and candidum flower about the same time. L. Humboldtii is a fairly hardy grower, but I have found it requires a second year in the ground before it grows or flowers properly. It is of an orange colour with black spots. Of the earliest Lilies I think the L. Kramerii to be the loveliest of all as regards its delicate colouring, and it has a most agreeable scent, but it is somewhat delicate and very difficult to grow in or out of doors. Taking this latter fact

into consideration, as also its price, as compared with the size and growth of the bulb, I can hardly recommend it for general or popular cultivation. I do not believe, with every advantage of skill and careful cultivation, you can command success with this Lily. At one time I thought I had found out the secret, having been very successful, growing them with as many as seven flowers on a stem, the more usual number being from one to three or four; but out of some 150 bulbs I once possessed I have hardly six left, the reason for my loss being quite incomprehensible to me. Comment on any possible remedy is almost unnecessary. I may say, however, that I envy those who can grow L. Kramerii with anything like success, as there is a delicate refinement about it which few Lilies possess, the beauty of Lilies being more usually of a very pronounced type. L. Brownii and its almost identical variety Colchesteri are worth growing for their remarkable size and distinctive colour—creamy yellow inside the trumpet and a brown tinge outside. They are handsome and effective in the Lily garden and not objectionable indoors, the scent being agreeable and not overpowering. It is an expensive bulb, but I think worth having and necessary in a good collection. Of the longiflorum species—one of our oldest kinds, having been imported about 1820—the original type and Liliun Harrisii are probably the best. In Bermuda these Lilies are grown by the hundred thousand. The Americans are great admirers of the Bermuda Lily. It is very effective in pots, and when you can grow longiflorum successfully out of doors it is a very desirable acquisition in the garden. I have found one rather common defect in the flower; the trumpet frequently, when developed, splits, and is of little use then for specimen table decoration, although no doubt it can be otherwise used effectively where faultless growth is not an absolute necessity.

Of the later varieties, those which are most generally useful are L. tigrinum splendens, L. speciosum rubrum (variety Melpomene), and L. speciosum album (variety Krætzleri). These three kinds of Lily, if planted in a fairly suitable position, will bloom till October, and Krætzleri until late in October. I have quite recently (this being November 7) cut a large number of flowering stems of L. speciosum Krætzleri, but have had to open most of the buds indoors. As they were planted in a somewhat shaded position in a clump of some 150 Lilies near my house, they were unable to properly develop their flowers from want of morning sunshine and after the recent cold and frost, but in a sunny position they will properly develop and be satisfactory all the late autumn. These are but a few of the best Lilies which can be grown in most cases with the greatest ease and with marked success in the open. They should now or shortly be planted before severe frosts overtake us.

C. J. GRAHAME.

Croydon.

#### PURPLE IN FLOWERS.

A GREATLY distinguished artist and Academician to whom, as a suitable authority, I have submitted this question, without in any way seeking to prejudice his opinion, writes:—

I am not aware that the word purple is now used by artists or good writers, or indeed in ordinary speech, in a more restricted or specific sense than that which it has always borne in English, namely, the commixture of red and blue in any proportions. Purple ranges from violet, which is blue with a very small infusion of red, to almost crimson. Indeed crimson may not incorrectly be called a purple, since it is red with a small infusion of blue. If milliners use purple in a more limited sense, their language may be convenient, but is incorrect. I doubt, however, whether in a shop with any pretensions of colour-knowledge a lady could be served at all if she simply asked for purple. An "educated" shopman would surely ask her what kind of purple she desired. Violet is undoubtedly only a kind of purple, standing to purple as species to genus.



I quote these words at length because I am naturally glad to strengthen my opinion, already expressed, by the judgment of one who is professionally and eminently conversant with all questions of colour.

Now as to Mr. Ewbank's reply to what I wrote, I fear my best praise must be *c'est magnifique, mais ce n'est pas la guerre*. His article is full of interest, as his articles always are, and his quotations from the poets are graceful, the only drawback being that he does not touch my position, which he altogether misunderstands, while he shifts his own ground and contradicts himself. The position I took was simply in opposition to Mr. Ewbank's plain denial that purple is now a generic colour term. "I am told," he says, "it is to be admitted that some years ago, say forty or fifty, purple covered a good deal. It was a sort of generic name, which had a good many species and sub-species under it. But I am not referring to what happened in the days of our forefathers, but to what obtains now." His application of this negation was that *Solanum Torreyi* "in this sense is not purple at all. Call it mauve or violet or anything else of the sort, but drop purple with regard to it for ever." By the expression "in this sense," I can only understand Mr. Ewbank to mean that purple is no longer a generic term which includes mauve, violet, &c. This statement I questioned, and contended that purple is a generic term and applicable as such to the flower mentioned. But obviously there is here no contention on my part that the *Solanum* is not violet or mauve, and may not be far more accurately described by some such specific adjective. Why, Mr. Ewbank knows as well as I do that all logical definition proceeds by employment of first genus, and then species. He asserts that the *Solanum* is not purple, but, say, violet. My reply is that it is both, belonging to the colour-genus purple and to the colour-species violet. All I wrote was to this effect, yet Mr. Ewbank says of me, "It is treating a violet flower very badly indeed to speak of it as though it was merely purple," and says I "suggest that purple will stand for violet in the common acceptance of the word," and that I "try to get rid of the fact that purple and violet are different things by asserting that all violet is purple." Suppose someone had described *Tropæolum speciosum* as red, and Mr. Ewbank wrote that it is not red, but vermillion, whereupon I criticised his statement by asserting that red is a generic term which includes vermillion, and that therefore *T. speciosum* is rightly called red, should I be calling a vermillion flower merely red, or saying that red will stand for vermillion, or trying to get rid of the fact that red and vermillion are different things? Mr. Ewbank in his last article keeps harping on the fact that violet is more accurately descriptive of the colour of the *Solanum* than purple, as though I had denied it; whereas, I never even implied any such denial.

But Mr. Ewbank also seems to change his ground and be self-contradictory. When he first wrote, he denied that purple has in the present day a generic sense, and seemed to maintain that if a purple ribbon were demanded of a shopman he would produce an article of specific colour, just as he would if asked for violet or mauve. Yet on p. 415 he allows that "there is a sense in which though purple need not be violet, yet violet was and always will be purple." I cannot harmonise these two statements.

Most certainly Mr. Nicholson and Mr. Thompson are right in "distinguishing between purple and violet." Every good dictionary or catalogue dealing with colours would give both

red and vermillion, though they stand in the relation of genus and species. Besides, a flower can often only be described by the generic term purple when it is of some peculiar tone of purple not easy to specify further.

The passage from Mr. Grant Allen makes for my contention. "The writer makes it evident," says Mr. Ewbank, "that violet is a more specialised, a more advanced colour than purple." Quite so; violet is a species of that colour-genus of blue-red which we call purple, and is in process of evolution towards blue.

I do not comprehend the import of the quotation about the Violets, and the commentary that the author liked them for their scent and not for their colour. The question why they are prized is foreign to the discussion. But I have a bone to pick with Mr. Ewbank about these same Violets. When I ask whether it is correct to call Violets purple, he replies that it all depends upon what Violets are alluded to, and observes that in America there are yellow Violets, and in England blue, white, and purple. No one knows better than himself that I was speaking of the typical Violet, the (if he prefers it) violet Violet, and no other. When I say rose colour, "*couleur de rose*," do I ever mean white or yellow, because there are white Roses and yellow Roses?

As to the question of teaching our children that in Nature "whatever is best," we must be content to differ. But we may agree in rejoicing that children have an optimism which the most healthy mind can scarcely keep impaired after many years' sojourn in the world—a world, I take it, notwithstanding the good Professor Balfour, in which flowers as well as mankind have fallen from their first perfection.

G. H. ENGLEHEART.

#### FLOWER GARDEN NOTES.

IF any alterations are contemplated in the flower garden and shrubbery, it is well to commence operations as soon as possible. Certainly, if one could depend upon a mild open winter such work might stand over till after Christmas, but with the earth frost-bound for five or six weeks through December and January, it is, if not started until the break-up of frost, liable to extend farther into the spring than is convenient. November, too, is about the best month in the year for transplanting deciduous and evergreen shrubs and also small conifers, especially if the soil is of a dry, sandy nature. I do not wish to imply that such things may not be shifted with an equal certainty of success in the two succeeding months, but in November operations are not so likely to be arrested by a sudden visitation of frost and snow, and March is certainly a little late if the soil be of the nature described above. This is especially applicable to those Evergreens and coniferæ of rather large, or, more strictly speaking, of intermediate size, too large to be carried by a couple of men and not large enough to require the services of a tree-lifter. I remember moving in March some Atlas and Deodar Cedars and Abies Morinda, young trees about 15 feet high that had not been previously prepared, and to the roots of which the soil absolutely refused to adhere. It proved hot and dry during the early summer, and the said trees lost all their foliage, looking from a distance bare and dead. The buds, however, kept green and plump. We gave a good surface mulching and an occasional thorough overhead wetting in the evening from the garden engine. They broke out well the following spring and have continued in good health since. The above may not seem on the surface to have much to do with

flower garden notes, but small coniferæ and the best of the deciduous flowering shrubs make a capital background for wide borders of which a portion is to be devoted to hardy herbaceous flowers, and it was this description of border that ran in my thoughts when referring to proposed alterations, for it is pleasing to hear from so many places news of the formation of new borders of this character both on a large and small scale. Even if the formal flower garden remain as it is, there are signs of increased interest in hardy flowers, and places are provided for them. There are few better sites than that portion of the pleasure ground formerly used and still existing in many places of average size as a shrubbery walk connecting the lawn and flower garden in the immediate neighbourhood of the mansion with the useful and more practical kitchen garden. Shrubby and herbaceous border can be combined on either side such a walk, the background of the border being filled with the best of the flowering shrubs and with coniferæ of comparatively dwarf, but elegant habit, sufficient width being left to do justice to the flowers. Care must be taken to keep the shrubs and coniferæ within bounds, and to this end they must be annually pruned, and that with as much discrimination as would be given a fruit tree. With respect to the first formation of such borders very much depends on the natural soil, but a general rule is to bastard trench, working in a goodly supply of rough manure with and on the top of the first spit, and to lightly tread before planting if the soil is at all on the dry side. When the border is once well made and satisfactorily planted, an annual heavy surface mulching is preferable to any forking or turning in. This mulching can be wheeled on in frosty weather and levelled as time and weather will permit. The system of planting will depend greatly on the width of the border and the tastes of the planter. Personally, I rather object to planting any one given variety in bulk in a given place; it leaves rather an unsightly gap at certain seasons of the year, especially if some of the subjects happen to be short-lived from a flowering standpoint. In such a case we have a large bare patch for at any rate ten months out of twelve. I would rather plant just enough in a mass to show the true character of each flower—a nice clump of *Spiræa* flanked with *Pyrethrums* and *Columbines*, batches of a *Starwort* and Japanese *Anemone* at the back, and a nice clump of a good purple *Viola* in the foreground. Here in a space perhaps 6 feet square one would get a bit of colour for the greater part of the year. This is merely an illustration of what can be done; the idea may be worked out again and again with the many good things obtainable. If an early summer display is required in any particular part of the flower garden, it is hardly advisable to plant this portion with such spring flowering stuff as may be likely to last well into June. One never likes to remove these flowers when just at their best. If, however, the appearance of bare beds and borders all through the winter months is objected to, they can be filled with a variety of hardy things, and a really pleasing effect produced. The easiest and quickest method is to insert a certain number of dot plants at intervals over the bed, filling in with a dwarf carpet. Nicely grown symmetrical plants of *Retinospora plumosa* and *Cupressus L. erecta viridis* in variety are about the best of the coniferæ; little pyramidal plants of the silvery *Euonymus* and *Alaternus* will give a bit of colour, and *Veronica Traversi*, *Andromeda floribunda* and the small-leaved *Aucubas*, some nice bushy heads. If there is plenty of time to spare the carpet may be composed of *Euonymus radicans*, the silvery *Veronica*, or for green, *Chamomile*. An equally good carpet can be secured with a good batch of the small-leaved *Periwinkle* in 4-inch pots. These can be plunged sufficiently close to fairly cover the soil, and in May may be lifted with the other things and plunged anew on a north border to be again used when the bedding plants are once more removed. One of the best spring beds of this kind I remember to have seen was composed of alternate plants of *Retinospora* and *Alaternus* and the



carpet of the above-named Periwinkle, over the foliage of which the blooms of the Scotch Garland Lily Daffodil were waving in profusion.

Claremont.

E. BURRELL.

## ROSE GARDEN.

### LAMARQUE ROSE IN MADEIRA.

PROBABLY every beautiful Rose has some place where it is best. Rose lovers, no doubt, see charming instances of where their favourites do well. Of all the Roses I have ever seen the one that has struck me as the most wonderful in its graceful luxuriance is Lamarque in Madeira. Other Roses do well in the same favoured island, particularly Cloth of Gold, of which I remember a wonderful covered way in an English lady's garden, with the blue Kennedya running up through it, and such flowers as I have never seen in England. But Lamarque, which I think the Rose of all white Roses, was everywhere in the island, running over cottage walls and houses. Great baskets full of its flowers

Manetti, that it ripens its wood a fortnight earlier than the Brier. It is also admitted that success mainly depends on having well-ripened wood. Surely, then, it is evident that where the climate is cold and wet and the summer short that stock must be the best which ripens its wood the earliest. Then again, in order to have autumn blooms, when the summer is shortened at both ends, it is of the greatest importance to have the first blooms as early as possible; otherwise, though a second crop of buds may be produced, there is neither time nor heat to bring them to maturity. I will not touch on other particulars respecting this stock, as they have been so fully discussed, but I think the point I have mentioned above has not received the attention it deserves.—M. E. C.

### ROSE NOTES.

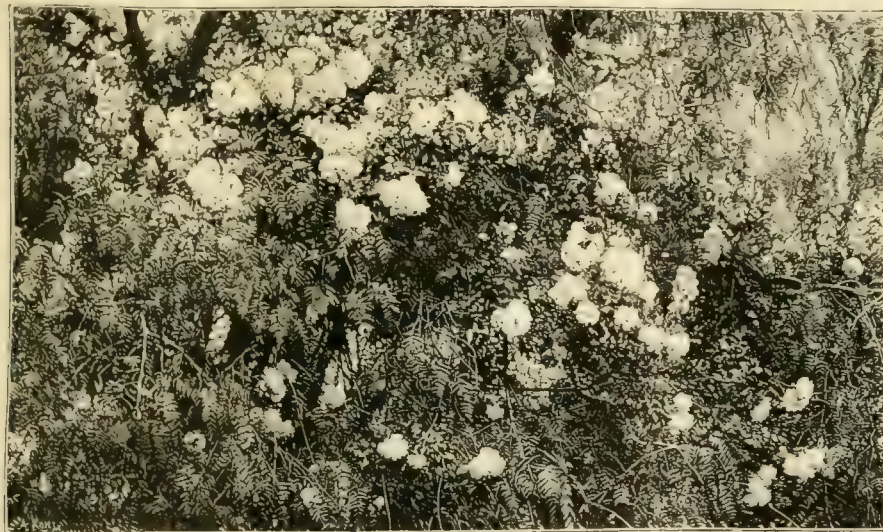
**SINGLE ROSES.**—These are very interesting and likewise very attractive in the early days of summer. There is little need to hesitate in growing the single Roses, because they accommodate themselves to a variety of conditions. On light hot soils where the double Roses can only be creditably grown at considerable expense, these single kinds

tainly one of the best. Lucida, too, is very charming and distinct in foliage as well as flower, the leaves being of a glistening glaucous tint and later on turning to rich red, whilst the flowers are bright red. Rubrifolia is distinguished by red wood, red leaves, and pale red flowers; and pulverulenta, with pure white flowers, is pretty. Carolina is specially interesting, as it comes into bloom during August and continues through September, flowering when nearly all the true species are over. Its flowers are pink. Another charming and free-flowering pink kind is Woodsi. The Apple-fruited Rosa pomifera has blush flowers and very large fruits. It is superfluous to praise the Japanese rugosa, since everyone regards it as one of the best single kinds, and it is by far the most popular, although in this respect its merits are not greatly, if at all, in advance of some of the kinds here mentioned. Hebe's Lip is, I believe, of hybrid origin, but a lovely kind all the same, the flowers large, single, white, with a distinct margin of purplish pink round the edges of the petals. All of the above I know to be good, for those that I have not grown I have seen in other gardens in a flourishing condition. Then there are one or two recent introductions waiting to become better known. R. Ecce, from Abyssinia, is said to have yellow flowers, and R. gigantea, from India, is stated to surpass all known kinds with its immense white flowers.

**SEMI-DOUBLE TEAS.**—There is one good point about these, though ephemeral in real Rose weather, that they give much pleasure in the long run, as they quickly respond to bright intervals between storms. It may be that Dr. Grill is not up to exhibition standard; nevertheless if Mr. Grahame gives it a trial he will find that it has vigour to recommend it. This desirable quality is to some extent lacking in Luciole, Ma Capucine, L'Elegante and others; but even these with me are free and I may say really strong in proportion to their natural stature. I think they like a little lighter soil than the stronger kinds. A group of L'Elegante points to the fact, for in a lighter soil than that of most of the beds it throws shoots nearly as thick as one's little finger. It is always in flower from the middle of June onwards, and now (Nov. 3) is covered with buds and perfect flowers.

**CLOSE PLANTING.**—So far as producing exhibition blooms is concerned, I cannot help Mr. Grahame in the solution of his problem. This much I can say, the most profuse-blooming group of Tea Roses for the past three years has been one of Hon. Edith Giffard, and the plants of this group are about 1 foot apart. When in full growth it is not possible to see the ground beneath them. I see no reason why the exhibitor may not likewise plant closely. If it does not tend to reduce the full crop, it would hardly affect the development of a partial crop. Souvenir de Paul Neron, too, is very closely planted, and all through the past year the plants have been producing wonderful flowers, quite up to exhibition standard. Certainly in planting Roses for ornament I would advise that they be planted more closely than they usually are. The old type of Rose bed with fifty or 100 plants in as many kinds cannot now be tolerated. The way to make the most of the ground is shown in the plan on p. 379. Some of those beds have fifty or more plants in three or four kinds, and then there is abundant room for hardy and half-hardy flowers to precede and succeed them. Some kinds, however, have a natural thinness of habit, whilst others have been purposely disposed at greater distance to admit of

**CARPET PLANTS.**—When I planted the Roses originally in a good depth of maiden loam, as exhibition flowers were not specially in request, I knew they would not want any manurial assistance for several years; consequently the bare ground was carpeted. At first all groups were so treated, but those that were closely planted only needed it for about two seasons. The plants I used at first were Sedums and Saxifrages. A group of Grace Darling has had a dense carpet of the mossy Saxifrage for three years, and up to the present there is not the slightest appearance of the Rose having suffered. We change the carpet



Rose Lamarque in Madeira. Engraved for THE GARDEN from a photograph sent by Mrs. Bridson.

were brought to the markets. Some bushes were pruned hard, while others were in full bearing. One might see a fountain of lovely blooms coming out of a Pepper tree, and in some neighbouring tree a lot of black stems pruned hard, looking like Vines, which on inquiry were found to be Lamarque pruned and at rest, while other bushes were in full luxuriance of growth. Of course, that could only happen in Madeira and like countries. But it is strange how seldom one sees this fine Rose well done in England. Our country—at least, a large area of it—is quite good enough for it. On south walls of houses, on heavy soils at least, its great heads of lovely flowers are delightful.

R.

**The Manetti stock for late districts.**—In "Ridgewood's" very interesting article in THE GARDEN September 17 on "Stocks for Roses" he remarks that the Manetti stock succeeds better in some situations than others, but he fails to mention one for which it is particularly adapted, viz, a cold and late district. Living, as I do, in one of the coldest and wettest parts of England, 900 feet above the sea, and on a clay subsoil, I can say from experience that there is no stock to compare with it; and the reason is not hard to find. It is generally admitted, even by those who do not love the

are very reliable and rarely fail to succeed. With all the wealth of fine climbing double Roses we still must find a place for the Himalayan and the Japanese kinds, R. Brunonis and R. polyantha. Walls, fences, or arches do not afford the best means for growing these two kinds. They must be left to themselves with a tree for support, preferably a dark Evergreen. A little care is necessary to start them on their way, and when they have got up among the branches they may be left alone. The single Scotch Rose in its several forms with the yellow and so-called copper Austrian Briers are among the early delights of the Rose season. Give them a bank of loose light soil, and though at first their progress seems slow they run underground and sucker till eventually they become a perfect mass. R. indica, the single type of the Tea Rose, has an historical interest in addition to its distinctive beauty. A reference to the coloured plate that appeared in THE GARDEN of August 13, 1887, will give a true idea of this handsome species. It has that continuously blooming quality which we appreciate so much in its progeny, producing its many-flowered trusses in constant succession till severe frost comes. There are at least two distinct varieties in cultivation under this name, one having pink flowers, and the other above alluded to whose flowers are of a rich bright crimson. R. macrantha, too, is very fine with large white flowers, the stamens yellow. It is cer-



plants from time to time, and this affords a means of giving manurial assistance to the plants. From Mr. Grahame's standpoint, however, the difficulty lies in applying manure water constantly, and also the heavy manure mulches that are essential to the production of exhibition blooms. Thinking that the Roses needed a little assistance this spring, a dressing of artificial manure was applied with beneficial results. Where the carpet plants had covered the ground entirely, they were reduced around the stems of the Roses, and, where recently planted, it was easy to sow the manure between the young tufts. A few choice annuals, such as *Linaria alpina* or the *Leptosiphons*, sown in spring give good results, but even then I am not sure that the excess of manure might not cause them to altogether outgrow their usual habit, and thus defeat the very object for which they were intended. Many people admire the carpets under the Roses. In spring they contrast well with the many-tinted leaves and shoots of the Roses in young growth, and in autumn and winter, too, the carpets themselves, especially those of the mossy *Saxifrage*, assume a variety of rich colours. A. H.

## CHRYSANTHEMUMS.

### CHRYSANTHEMUMS AT THE LILFORD NURSERIES.

THERE is always a good display of novelties at this nursery, and this year is no exception to the rule, for among the collection there is a thoroughly representative lot of new seedlings of great promise and high degree of excellence from English, American and Continental sources. At the time of our visit the incurved were not numerous, although many of the standard varieties were coming on, and the chief interest really lies in the new flowers of Japanese form, which this year seem to be in advance of those of the older and more formal type. Viviani Morel, a deservedly popular Japanese of considerable value from the exhibitor's standpoint, is grown largely at Camberwell, and on most of the plants both the rosy mauve coloured and the pure white flowers are found. With *Etoile de Lyon*, another of these gigantic show Japanese, the same peculiarity is to be observed; and the so-called sport *Lilian Cope* has entirely reverted to its original colour.

Dealing first with the American novelties, we notice *Amos Perry*, a flower closely resembling *Coronet*, but of a slightly paler yellow. It is a tall grower, rather freer in flowering, and belongs to the incurved Japanese type. *William Tricker* is grown very plentifully, and in young flowers the rosy mauve blooms are bright and attractive. This variety appears to be known under several other names, and we are informed that *Charity* and *Nineveh* are its two principal synonyms. *Miss Watson* is a tall-growing, light lemon-yellow Japanese of good size and substance. The rich golden bronze of *Col. W. B. Smith*, already described in a recent report of the National Chrysanthemum Society, is very attractive. *Waban*, a big incurved-petalled Japanese flower, flushed and striped light mauve, belongs to a class essentially of Oriental origin. *Mrs. E. D. Adams* also belongs to the same group, and is white, shaded and striped with mauve.

Amongst Continental novelties *M. Ernest Calvat's* seedlings most nearly approach the same style of flower as those mentioned in the preceding paragraph. *L'Ami Etienne*, a Japanese incurved, reminding us of *Mme. C. Audiguier* in build, but of a lighter and more delicate tint, is one of the best of the set. *Mme. Charles Capitant*, perhaps, comes next, being of the same type, but of a delicate shade of rosy white, with petals curiously forked at the tips. *Mrs. C. Harman Payne* is another of *M. Calvat's* seedlings, for which a first-class certificate was awarded to him last season by the National Chrysanthemum Society. It is rather a remarkable development of the Chrysanthemum to find how rapidly the in-

curved Japanese section is increasing and how steadily flowers of that type are gaining in public favour.

Conspicuous among Continental varieties from other sources are *Aida*, a very fine plant for grouping, of pure Japanese form, colour creamy buff; *Le Verseau*, of the same class, a big massive flower with enormous foliage, and blooms of very deep purple-rose; *André Faillières*, a delicate light lemon-coloured Japanese; *L'Ami Chrétien*, a distinct and striking shade of crimson-amaranth, also of Japanese form; *L'Enfant des deux Mondes*, a white hairy sport from *Louis Boehmer*, will probably replace the famous *Mrs. Alpheus Hardy*, for it is of a far better constitution and more easily grown; *Le Verrier*, a stiff flat-petalled bloom of a curious shade of bronzy cinnamon-buff; and *M. Jules Toussaint*, a decided novelty in colour, being a crimson-bronze on a yellow ground with a golden reverse, complete the list of the most noteworthy of the Continental importations.

Upon inquiry for home-raised varieties, the visitor will not fail to be impressed with *Florence Davis*, the best of the Camberwell seedlings, a Japanese of purest white with a very remarkable shade of green in its early stages; *F. Dean*, a pretty yellow sport from *Maiden's Blush*, is a flower of good form and nice tone; *Avalanche*, too, is well done; and *Gloire du Rocher*, rich and warm in colour, sheds a brightness around it unequalled by any other variety we know of; *Edwin Beckett*, a novelty of last season of a deep rich yellow, was just breaking forth into full beauty, while here and there, *Mr. C. E. Shea*, the yellow sport from our old favourite *Mlle. Lacroix*, was all that could be desired, although its size was far from being so great as that of many already named. A large stock of *J. Shrimpton*, a deep, rich scarlet-crimson Japanese flower recently certificated, and of *William Seward*, a monster flower with long velvety crimson petals, also recently certificated, has been acquired by *Mr. Davis*, and he justly regards them as the two finest Japanese flowers of the season raised either here or abroad. Another gem likely to be heard of next year is *Charles Davis*, a fine yellow sport from *Viviani Morel*, and possessing all the characteristics of its parent.

There are many of the older well-established varieties at the Lilford Nurseries, and with just a brief reference to *Edouard Audiguier*, the charmingly perfect little pompon *Mlle. Elise Dordans*, *Hamlet*, *Val d'Andorre*, &c., which are always in the Camberwell collection, we must draw our notice to a close.

**Chrysanthemum Sunflower.**—When this variety was awarded a first-class certificate by the Royal Horticultural Society on October 23, 1888, it was described in *THE GARDEN* as "vastly superior to the usual run of new varieties," and time has proved that the estimate was a correct one, for it is in the opinion of some the finest yellow-flowered Japanese in cultivation. It is a full flower, with long gracefully-disposed florets of a deep rich golden-yellow colour, which is so effective either on the plant or in a stand of cut blooms. This variety is one of the *Swanley* seedlings and was sent out in 1888, in which year *Mr. Cannell* also distributed that grand white-flowered *Avalanche*, which quickly became so popular and still remains so. *Sunflower* is of free growth, good habit and carries its foliage well—all very desirable features in a Chrysanthemum.—T.

**Chrysanthemum Florence Davis.**—This variety has struck me during the present season as much as any that have yet come under my notice, for it possesses the merit of being quite distinct from any other. It has been described as a white flower with a tinge of green in the centre, and many of the blooms that are seen just answer to this description; but in some the flowers are altogether tinged with green, and they are really very beautiful, for the green is of an indescribable shade, suggesting one of those tints in which arsenic plays a part. A good deal depends upon the mode of treatment, for at the Aquarium show, for instance, there was a very great difference in

colour, even in the case of blooms in about the same stage of development. This is very noticeable in many Chrysanthemums, for one cultivator will produce flowers much brighter tinted than another, which, beside the treatment given, is to be accounted for by the situation, as with plenty of light and good pure air, the flowers are, all other things being equal, richer in colour than in a more confined space. *Florence Davis* is an English-raised seedling of good habit, while the flowers are large and composed of a great number of long drooping florets, occasionally slightly twisted. While by no means a loose ragged flower, it is at the same time totally devoid of any stiffness or formality. It was exhibited a little last year, but the present season is the first in which it has been brought prominently before the public.—T.

**Chrysanthemum W. H. Lincoln.**—This has been very conspicuous on many of the exhibition tables during the present autumn, its large pale yellow flowers of the Japanese incurved section being shown in considerable numbers. An inspection of cut blooms, however attractive, does not reveal one of the most desirable features possessed by this variety, and that is its dwarf sturdy habit, so that for conservatory decoration it is very valuable. Good flowering plants a yard or a little more in height carrying several large blossoms can be readily obtained, and while so conspicuous during the November shows, it may be had in flower early in October. This variety is of American origin and was first seen here in 1890, though it was, I fancy, sent out the year previously. Chrysanthemums that form sturdy bushes such as this does ought certainly to be encouraged.—T.

### DAMPING OF THE BLOOMS.

DAMPING of the blooms appears to be conspicuous by its absence this season so far. This I attribute mainly to the less quantity of strong food which the plants have been supplied with during the growing season. Several decided instances of high feeding came under my notice last year, and the results were invariably the same—a bad attack of damping followed. It is such lessons as these that set people thinking. The same growers assure me with some satisfaction that this year damping is almost unknown when the plants are left out of doors a few days too long in the hope of retarding for a particular date those blooms which are developing their florets too soon. Such blooms are as sure as possible to exhibit some signs of damping. This is totally distinct from what is known as constitutional damping of the florets.

The next best preventives of damping after a mild application of rich food are a buoyant atmosphere and plenty of shade on the outside of the glass on a fine day succeeding several dull ones. The florets are rendered somewhat soft by development in a dull light, and do not in consequence withstand strong sunlight. I am aware that some cultivators think shade is not necessary, but the finest blooms ever seen were grown under glass that was continually shaded with lime, and there damping was unknown. If the temperature of a house which previously had been kept in a genial condition is accidentally allowed to fall to freezing point, this being succeeded by a bright day and no shading given, the partly expanded blooms are almost sure to be injured. Such delicate sorts as *Empress Eugénie*, *Lady Hardinge*, and *Princess Beatrice* are the first to be affected by this adverse treatment. The surface of the petals becomes quite cold; moisture condenses on them, rendering them unable to withstand even a blink of strong sunlight. Plants that have been highly fed during the growing season are more liable to be affected in the manner stated. The most favourable conditions to perfect development of the florets in all sections is a buoyant atmosphere night and day, rendered so by a moderate admission of air, avoiding direct draughts during windy weather. At the same time the hot-water pipes ought to be



warmed gently. All drainings from pots after watering should be wiped up as quickly as possible where the floors are cemented or tiled.

E. M.

### Chrysanthemum Marquis de Paris.

Amongst white-flowered Japanese varieties this is sure to take a high position, as it has all the characteristics of a sterling novelty. The florets are moderately broad, many of them split or forked at the end. It is a full solid bloom, not too large, but just the kind exhibitors should make a note of. Owing to a mistake on the part of the vendor, this variety was represented by me as being a coloured variety, a mistake which I take the first opportunity to rectify.—E. MOLYNEUX.

### Disqualification at Brighton show.

A rather curious circumstance occurred in judging the class for reflexed blooms at this autumn show. This society, like all other affiliated ones, is bound by the classification of varieties adopted by the National Chrysanthemum Society. Every stand entered for competition in the reflexed section was found to contain blooms which are considered by this authority to belong to the Japanese section, and consequently not eligible in a class for purely reflexed flowers. The offending blooms were Amy Furze, which was included in every stand, and one named Charles Delmas, plainly classed as a Japanese. What surprises me the most is the shortsightedness of the exhibitors when the inclusion of certain sorts is a matter of fact and not one of opinion, as a reference to the catalogue would at once disclose whether a variety was admissible or not. In such a case the judges have but one duty to perform—that of disqualifying. Such an occurrence is not pleasing to judges and must be annoying to exhibitors. Another instance of the same kind occurred in the pompon class. One stand—an excellent one—contained Scapin, which belongs to the fimbriated section. At another show this season, a variety named Mr M. Sullivan was included in a reflexed class. This is, in my opinion, decidedly a Japanese variety, but having been sent out since the last issue of the N.C.S. catalogue, we are compelled to pass the bloom in question.

### Chrysanthemum groups at Brighton.

At no other autumn exhibition do we see the groups arranged in the same manner as here. Instead of encouraging the growth and the massing of large blooms in a certain sized space, plants which produce a quantity of flowers in a more natural manner are here encouraged. The first prize group was really a magnificent one. Not only was it large, but the plants were also well grown, being clothed with exceedingly dark coloured leaves which enhanced the appearance of the whole. The front of the group, which was semi-circular in form, was not more than 2 feet 6 inches or 3 feet high, while the back ran up to fully 8 feet, giving a wide range for arrangement with a view to dispense with formality. A mass of seventeen richly coloured, medium-sized blooms of Vivand Morel formed the centre. At the back, a number of blooms of Fair Maid of Guernsey were conspicuous. Such distinct kinds and colours as Peter the Great, lemon; Jardin des Plantes, rich orange; Source d'Or, bronze, tipped gold; Etoile du Midi, rich crimson; Annie Clébran, pale lilac; Lady Selborne, white, and Esie, cream-yellow, were used with fine effect.—E. M.

### Reflexed blooms at Ascot.

Nowhere perhaps does this section receive the same encouragement as at Ascot. A silver cup is annually given for the best twelve distinct blooms. This society being affiliated to the N.C.S., exhibitors know that varieties which are classed as other than strictly reflexed are not admissible here. The result invariably is several exceedingly bright stands, making quite a pleasing change to the stiffer incurved stands of blooms. There is more variety of form in reflexed than in the incurved, although perhaps they may be too formal for some persons. A list of the winning flowers may be useful to those about to form a collection or add to their

stock of this section. For that reason I append the names and their colours. King of Crimsons, rich crimson; Chevalier Damage, deep golden yellow; Cullingfordi, brilliant crimson, reverse golden; Distinction, golden yellow in the centre, shaded red towards the outside; Emperor of China, white, suffused with blush; Pink Christine, light pink; Temple of Solomon, bright yellow; Fred Hart, rose-peach, tipped white; William Neville, deep orange, suffused with red; Dr. Sharpe, purple-magenta; Mrs. Forsyth, creamy white; and Cloth of Gold, light yellow.—E. M.

**Fimbriated varieties.**—Very few societies offer prizes for these. The best representative blooms of the fimbriated section are to be annually seen at the autumn exhibition of the Portsmouth Society, where prizes are offered specially for bunches of three blooms each. This method admits of the blooms being cut with a sufficient length of stem with foliage attached, enhancing their appearance considerably. Croesus, bright orange, shaded crimson; Chardonneret, bright purple; and Scapin, rosy crimson, are three of the most showy kinds in cultivation.

**Two useful Chrysanthemums.**—Two of the prettiest Chrysanthemums we have in bloom at the present time are Roi des Précoces, colour rich crimson, almost in this respect like Cullingfordi, and Alex. Dufour, colour rosy purple. I grow a few dozen of each for decoration and find them useful. To disbud such as these would be to take away their beauty. The plants are bushy little specimens with foliage down to the rim of the pot. I am growing some of the new early kinds, and no doubt some of them will prove worthy associates of the above. Some of those with bronze shaded flowers are extremely pretty, and just what are needed for a change.—A.

**Chrysanthemum Miss Lilian Cope.**—The above variety I had sent to me the first week in March last by a leading nurseryman as a white sport from the well-known Etoile de Lyon. The plant was rather weak, as is generally the case with new varieties, but it made good progress and was very strong by the time the bud was taken—on August 13, the same day as I took that of Etoile de Lyon. I naturally expected to see some very good flowers. These are very good, but they are quite as deep in colour as those of the parent, or supposed parent, Etoile de Lyon. I think it is a pity that nurserymen should send out a sport of any variety until it is thoroughly proved and certificated by the National Chrysanthemum Society. I am convinced that the variety I have is not a sport, and shall propagate from it as Etoile de Lyon for another season. I shall be pleased to hear if any person has got Miss Lilian Cope, and how it has turned out.—T. PARKIN, *Fern Hill, Stocksteads.*

### Bouquets at Chrysanthemum shows.

How seldom do we meet with a really good bouquet of Chrysanthemums at the autumn exhibitions. It is surprising how content some exhibitors are to go on year after year in the manner of arrangement of the flowers. Nine out of every ten of the bouquets exhibited outside of the regular trader are simply a mass of Chrysanthemums and Ferns huddled together without any regard to selection of colours or taste in arrangement. The main aim appears to be to see how many blooms can be crammed into a 15-inch space, that generally being the limit allowed for the diameter of each bouquet. Another aim appears to be that of so placing the flowers that not a single floret shall stand outside of the line of its neighbour. Some exhibitors arrange very carefully one large yellow incurved bloom in the centre, making the next row quite even all round with perhaps a rose or lilac colour. How often do we see blooms of the large Anemone section employed for bouquet-making. Not long since I saw some of Georges Sand, a very dull bronze colour, arranged in a bouquet. Instead of the lumpy incurved blooms and the stiff Anemone flowers, why cannot exhibitors use more freely such elegant varieties as Source d'Or, M. Garnier, Mme. Lemoine, Avalanche, M. W. Holmes, Mrs. J. Wright, and Bouquet Fait? All the varie-

ties named give flowers of a semi-drooping character, are not heavy in build, but light and graceful when arranged as they ought to be. A few blooms of such bright coloured sorts as Cullingfordi, for instance, when effectively placed do much towards brightening up a bouquet. No variety appears so suitable as Source d'Or for either bouquets, vases, or epergnes. The fault appears to lie mainly in two things—wrong selection of blooms and the want of method in preparing the flowers before making up the bouquets. It is surprising what a difference is made by fixing a small piece of wire to the peduncle of the flower. When the flowers are treated in this way they can be placed exactly where wished. There should be no pretence to formality of arrangement; the lighter and looser the flowers are arranged the better they look. The spaces between the flowers can easily be filled up thinly with suitable greenery. Maiden-hair Fern and Asparagus plumosus are both suitable. Every bouquet should have a base of greenery of some sort, nothing being better than the Asparagus named.

**Chrysanthemum Mme. Darrier.**—As I said last year, this incurved French-raised seedling has quite come up to expectations, many fine blooms having already been seen in winning stands. Several times has this been honoured with the premier award for the best bloom in the incurved section, beating such large-flowering kinds as the Queen family, on account of its symmetry, solidity and freshness. The colour is pleasing—nankeen-yellow, later flowers being lightly striped with purple. Being a late season, this variety has done excellent service. Cultivators would do well to add this to their collection.—E. M.

### LEGGY CHRYSANTHEMUMS.

It is time something was done to protect buyers of new Chrysanthemums from the risks they run of growing varieties for which they can scarcely find house room. Last autumn I decided to grow no more extra tall-growing sorts, and although in some respects a favourite of mine, Madame C. Audiguier was included in the condemned list. I never remember having it more than 9 feet high, but this season several Japanese novelties, or what might be classed as such, grew much taller. It is true the plants grown to produce large blooms have attained a greater height than usual, the extra growth taking place after the first crown buds were pinched out, this also having the effect of throwing the buds that were eventually "taken" very much later than desirable. All things considered, the worst offender in the matter of growing too tall was the much-praised Miss Marion Throver, but whether or not the blooms produced pay for the trouble taken, and the unsightliness of the plants I cannot say, mine having cracked before the buds were hardly taken. Volunteer, another wretchedly tall and weedy grower, although fully 11 feet high, was preserved and will be till the blooms are cut, and no longer; it is not worth keeping. Thunberg is from 2 feet to 3 feet higher than usual, and this beautiful variety, beautiful I mean as far as the blooms are concerned, will be discarded in the future. Nor is it wanted, as Coronet is an equally good yellow and does not grow much more than 5 feet high. Zillah is 10 feet, and Miss L. Bird 9 feet high, and they will not be grown again. M. E. A. Carrière I suppose I shall have to grow again, but with me it is 9 feet high, and so also is Stanstead Surprise, late buds being taken in this case, but this variety can be very well dispensed with. Condor is naturally somewhat sturdier, though not if terminal buds, or such as give the most perfect blooms, are taken. Our plants are 9 feet high. Gloire de Rocher all through the early part of the growing season was very sturdy, but after pinching out the July bud, the growths made were far too lengthened out to be satisfactory. Much the same remarks apply to A. H. Neve, though both are beautiful varieties, and must be given one more trial. Mr. H. Cannel, Gloriosum and Cleopatra are all 8 feet high, but being very



sturdy, the height does not seem so objectionable in these cases. Lady Lawrence and J. C. Price have also run up to a height of 8 feet, and it is doubtful if they will be grown again.

We have really so many good medium-height varieties to select from, that there is little excuse for cultivating those, once we know what they are, that attain such ridiculously tall proportions. Etoile de Lyon, Eynsford White, Louis Boehmer, W. W. Coles, Puritan, and three or four others on trial are all of such dwarf habit, the stems being stout and well clothed with fine leaves, that their height, 5 feet to 6 feet, is scarcely noticeable; in fact they fit in well with such sturdy varieties as Stanstead White, Mrs. E. W. Clarke, Madame Laing, Sarah Owen, D. B. Crane, M. Bernard, Mrs. J. Clark, J. Daniels, Beauty of Castlewood, Miss Esmeralda, Mrs. C. Wheeler, Cesare Costa, Mrs. F. Jameson, Mr. and Mrs. E. Beckett, Avalanche, Golden Dragon and Miss A. Hartshorn, all of which are from 4 feet to 5 feet in height. For the front rows, J. Stanborough Dibbens, F. A. Spaulding, W. Tricker, and Bouquet des Dames are model varieties, these being from 3 feet to 4 feet in height, and it is to be hoped more of this stamp will soon be forthcoming. Will those who can add to the list of sturdy-growing varieties kindly do so?

W. IGGULDEN.

**Chrysanthemum M. L. Parli** is one of the few genuine incurved varieties received from the Continent this year. It is rather an early bloomer, which will probably tend to make it a favourite amateur's flower. The colour is light amber, striped and flushed rose, the form is perfect, the build high, and the petals, although somewhat narrow, fairly well shaped. It was raised by M. Sautel, to whom we are indebted for Mme. Darrier, also an interesting addition to the incurved section.

**Chrysanthemum L'Enfant des deux Mondes**.—This name is unfortunately too long for a good flower, and it is more than probable that in England it will simply be called White Louis Boehmer. As a sturdy growing, white hairy variety it promises to displace Mrs. Alpheus Hardy. It is quite as hairy, although the petals are narrow and lack that delicate wax-like whiteness that characterises the more renowned variety.

**Chrysanthemum Charles Davis**.—This, no doubt, will prove to be a startling novelty when distributed next year. At present it is in the hands of Mr. Davis, of Camberwell, who has secured it as a sport from Viviani Morel. In every respect resembling its parent save in colour, Charles Davis is another of those monster blooms that have been the cause of the proposed enlargement of show boards. The ground colour is a rich deep golden yellow shaded rosy-pink, which pales as the flower advances in age.

**Epergnes and baskets at Chrysanthemum shows**.—At the late autumn exhibition held in the Pavilion, Brighton, there was a good display of these. Unfortunately, some of the exhibitors appeared to think that quantity of flowers rather than the manner of arranging them was the more important. The difficulty of awarding the prizes was in some cases increased by some of the epergnes having a good top and a bad base and *vice versa*. Then, again, the stand itself sometimes handicaps an exhibitor, as some lend themselves much more readily to an effective arrangement than others owing to the position of the water receptacles. Those which have a narrow base and a wide top are not so easily made effective as where the reverse is the case. A common fault with exhibitors is to employ flowers which are too heavy for the top of the epergne. If in the place of these a few sprays or single blooms of the single-flowered section were introduced instead of the incurved blooms sometimes seen a much better effect would be obtained. Some exhibitors use too few flowers in the top; this gives a scant look to the epergne. The aim should be to arrange the top in proportion to the base, employing a reasonable quantity of Grasses along with the flowers. The fault most common in arranging the baskets is the employ-

ment of too many colours; a few of those which harmonise are much better than the kaleidoscope method of using the blooms. They can also be placed too thinly, which is also a mistake.—E. M.

#### SHORT NOTES—CHRYSANTHEMUMS.

**Chrysanthemum Le Verseau** is a massive Japanese kind from the south of France. Colour very deep rose, shaded purplish claret.

**Chrysanthemum Miss Watson** is a Japanese variety raised in the States. It is a fine flower of a pleasing lemon-yellow colour, the petals long. It is a rather tall grower.

**Chrysanthemum William Kennedy**.—One of the few new pompons. It is hardly suitable for decoration, but grown as a flower for the show board, will be useful for its richness of colour. The style is reflexed.

**Chrysanthemum L'Ami Etienne**.—One of Ernest Calvat's seedlings. A fine globular, deeply-built Japanese incurved bloom, after the style of Mme. C. Audiguier and a very tall grower, but the colour is light and more delicate.

**Chrysanthemum M. Jules Toussaint**.—This Japanese variety was raised in the neighbourhood of Lyons. The blooms are of good size, very distinct and effective. The colour is a peculiar shade of crimson-bronze on a yellow ground with reverse of old gold.

**Chrysanthemum Excelsior**.—This English-raised seedling is likely to take a high position as an exhibition flower. It is full in the centre, and the formation of its florets is not too stiff. The colour is bright rose-cerise, the under side of the florets, which are flat, being silver.—E. M.

**Chrysanthemum Viviani Morel**.—At the Hertford show held on Nov. 3 and 4, Mr. Burbidge, gardener to Mr. Robert Smith, Goldings, Hertford, showed a plant of this, which attracted a great deal of attention. It had three large flowers entirely distinct, one being pure white, one pale pink, and the other a deep mauve.

**Chrysanthemum Source d'Or**.—It would be difficult to find a more useful variety than this for decoration. As a plant for a vase in the house, for conservatory use, or for cutting, this variety, I believe, is unequalled. What could be more handsome than a bouquet or vase composed of no other variety but this with some greenery? Outside of the exhibition room we seldom see it, simply because, presumably, it is too small.

**Premier blooms**.—It is the fashion now-a-days for nearly all societies to give prizes for the premier bloom in both the Japanese and incurved sections. I am much in favour of this method of recognising the best blooms. By singling out the best bloom in each section, visitors can see what constitutes an ideal flower. As a rule, the blooms selected are remarkable for density of colour, depth and solidity of petal, and, of course, freshness.—E. M.

**Two pretty pompon Chrysanthemums**.—Mlle. Elise Dordan, rose-pink, and Snowdrop, pure white, are two lovely little Chrysanthemums. In the hurry after larger-flowered varieties such gems are apt to be cast on one side. To show their true characters pompons must be grown as freely-bloomed bushes, but very often we see them disbudded. This certainly is a mistake. I recently saw some which had been disbudded; true, the flowers were larger, but they lacked that charm which they should possess, and which they undoubtedly do possess when grown freely.—Y.

**Chrysanthemum W. Tricker**.—In the majority of seasons this variety opens its flowers much too early to be of much service to exhibitors of large blooms, but in a season like the present, which is admittedly a late one, this variety has proved one of the best of the early Japanese varieties. By far the best examples of it that I have seen were staged in the class for six blooms, any one variety, at Brighton on the first of this month. The colour was there most striking, as the flowers were sufficiently developed to show the delicate rose of the inside of the florets, which incurve in their young state. Those in question were just past the incurving point.—E. M.

**Soil and situation for trees**.—The choice of soils and situations best suited for the healthy development of the different kinds of trees is even more important in ornamental than in economic

planting. In ornamental planting a knowledge of the wind-resisting powers of the different kinds of trees is specially needful in order to arrange them so that the stronger may shelter the weaker, and prevent that one-sided appearance which, although prized by artists in depicting wind-beaten scenery, is looked upon by tree admirers with feelings of unpleasantness.

## GARDEN FLORA.

### PLATE 884.

#### VIPER'S BUGLOSS.

(WITH A COLOURED PLATE OF ECHINUM CALLITHYRSUM.\*)

ALTHOUGH one of the most beautiful of the whole Forget-me-not family, not more than eight or ten species are known in gardens, and only half a dozen of those can be safely classed amongst hardy plants. There are over twenty species known to botanists, these being chiefly confined to Southern Europe, the Canary Islands, &c. Only two species—*E. vulgare* and *E. violaceum*—are found in the British Islands. All the species have more or less panicle or spiked flower-heads and brilliant blue or purple flowers. The South European species often live out in England during the winter, but unless well ripened the previous summer or protected they can rarely be trusted out of doors even in sheltered spots. A light and sandy or dry soil suits them best, and they should be planted where they can catch all the sun possible. When the ground is rich they grow coarse and scarcely flower, and never have such richly coloured flowers as when the plants are more or less starved. *E. plantagineum*, *violaceum*, *rubrum*, *vulgare*, and *creticum* are little more than biennials in duration, but as they ripen seeds freely in ordinary summers they are readily kept going. The seeds should be sown almost directly they are gathered. The following are the best of the shrubby species, to which *E. callithyrsum*, the subject of this week's plate, belongs:—

**E. CALLITHYRSUM**, a native of the Canary Islands, has been introduced many years, although now rarely met with outside botanic gardens. It is a greenhouse shrub or small tree, and during summer produces hundreds of flower-heads such as shown in the plate. When flowering is over all the old stems or branches are cut back, when the plant breaks away again, and in this way may be had in bloom almost at will. Cuttings strike freely, and as these begin to flower when quite young, they make delightful pot plants for the conservatory. Seedlings do not, however, bloom so quickly and invariably attain a good size before showing flower. Where space can be afforded, *E. callithyrsum* should be planted out in the greenhouse or conservatory, as it then attains a good size and makes a capital centre plant for a bed or border.

**E. FASTUOSUM**.—This, of which a coloured plate was given in THE GARDEN of December 9, 1876, is the handsomest, though not the largest of the shrubby Echinums, its flowers being of a peculiarly brilliant, though deep blue. It forms a shrub from 2 feet to 4 feet high, having long pale green leaves, which are covered with soft white hairs, and a branched stem, which is surmounted by a large dense panicle of deep blue flowers.

**E. GIGANTEUM**.—This is a striking and very handsome plant, growing from 6 feet to 10 feet high, with a branched stem, smooth hoary branches, and large thyrsoid panicles of white flowers, which become purplish as they fade.

**E. CANDICANS**.—This, a native of Madeira, is notable for its generally hoary appearance

\* Drawn for THE GARDEN in the Royal Gardens, Kew, by Champion Jones, April 11, 1892. Lithographed and printed by Guillaume Severens.











throughout, which is owing to both leaves and stem being covered with silvery white hairs. The flowers, which are comparatively small, are blue striped with white, or white throughout.

**E. SIMPLEX**.—This, a native of Teneriffe, is a comparatively low growing species, not exceeding 3 feet in height, and usually less. It is a biennial species, with large silky leaves and a very long cylindrical panicle of white flowers. D. K.

## THE WEEK'S WORK.

### THE KITCHEN GARDEN.

**FORCING VEGETABLES**.—Forcing of the various subjects which have been prepared for the purpose will now have to be resorted to. A plentiful supply of *Seakale* crowns, considering the ease with which they may be produced in a single season, should be forthcoming in the majority of gardens. *Asparagus*, of course, needs more time and care in its production so as to be in a fit condition for forcing, but sufficient should be forthcoming for ordinary requirements, if not for a regular supply. For early forcing, crowns of not less than four years' growth are the most likely to give satisfaction, but the older the better. The forcing of *Rhubarb* should also now commence, so that a supply should be forthcoming by Christmas.

**SEAKALE**.—*Seakale* is the first which demands attention; but as a thorough rest is necessary before it is forced, too many roots should not be taken up. For the earliest supply it is advisable to take up a portion and lay it in a cool shed, merely covering with an old mat. For early forcing, too much heat may even be applied to *Seakale*, the growth being forced too rapidly, with the result that the stalks are puny and the heart not properly developed. A comparatively high temperature is certainly needed, but it should be more in the form of bottom-heat. At this season of the year the Mushroom house is not the best position, as the temperature has to be kept too high for the progress of the Mushrooms. To lessen the evil from this cause, where forcing is intended to be carried out in the Mushroom house, good results may be obtained by forming a brick or sunk pit with a lid, but not too close, so that steam may be able to escape. The pit should be deep enough to hold 18 inches of fermenting material trodden very firmly, and over this a sufficient depth of soil to pack the roots into, leaving a foot of space for the top growth. This arrangement may also be carried out in a dark shed. Other methods, such as packing the roots in pots and covering over with others, may also be resorted to. In every case pack the roots in moist soil, taking care to afterwards keep it so, or the growth will be poor and tough. It is early yet to resort to the old method of forcing by a hotbed formed over the roots. If this must be done, take care that the lids of the pots or boxes are not too close, or the confined steam would spoil the points.

**FORCING RHUBARB**.—The roots of *Rhubarb* have had a fairly good early rest this season on account of the early frosts, so forcing will no doubt be more rapid than usual, that is, if strong roots of the best forcing kinds are at hand for the purpose. The best varieties are the *Early Red* and *Hawke's Champagne*. As a rule the Mushroom house is also resorted to for the growth of early forced *Rhubarb*, but the temperature is not sufficiently high enough, the best results being had by packing the roots together under a stage in a warm plant house. Take care to surround them well with soil, which must be kept fairly moist, or the lateral buds will not start. Laying the roots together without surrounding well with soil, as often done, is not a good practice. *Rhubarb* may also be forced in deep and darkened pits or frames, that is if a sufficient depth of fermenting material—leaves and stable litter in equal parts for preference—can be placed underneath to generate a bottom heat of 85°.

**ASPARAGUS**.—How this will have to be forced will depend upon circumstances, as either heated pits or hotbeds may be both called into requisition. The former are the best. The forcing of *Asparagus* is a simple affair, it being more a matter of a supply of strong crowns and the requisite heat to ensure its starting into growth. Where forcing has to be carried out on hotbeds it is essential that a good firm bed be formed, and to ensure the heat lasting, leaves and stable litter are better than the litter by itself. After the bed is made up a layer of soil should be first spread over the bottom, afterwards packing the roots together, surfacing the whole over with another 2 inches of soil, and watering with warm water at a temperature of 90°. If a length of blanched stem is needed, cover up so as to exclude light, but this is a matter of fancy. In heated pits bottom-heat also is needed. The side beds of small *Cucumber* or *Melon* houses are admirable positions for forcing *Asparagus*. Where roots are plentiful a fresh supply should be put in at intervals of three weeks. Whenever the grass is long enough, keep it cut off, as it will keep fresh for three or four days by placing the ends in cool water. I should have mentioned that a top heat of 55° to 60° is ample.

A. YOUNG.

### ORCHIDS.

The *Cattleya* house is now well furnished with brilliant coloured flowers, the most beautiful of them being the autumn-flowering *C. labiata*. Some of them have flowers of large size with deep richly coloured sepals and petals, the lip rich crimson-purple. Others are paler, and some of them will produce as many as six flowers upon one spike. The lovely *Dendrobium Phalaenopsis* in variety may also be arranged in the *Cattleya* house now that the plants are in flower. This fine species requires a warm temperature when making its growth, but when in bloom the delicate beauty of the flowers is longer retained in the *Cattleya* house. The atmosphere must not be too moist, else this may cause the petals to spot. All the *Dendrobiums* of the *D. bigibbum* type require a light house and but little shade when making their growth, plenty of heat and an ample supply of rain water. When growth is completed less water and not so much moisture in the atmosphere are necessary. The very distinct *Cattleya Bowringiana* is also in bloom; the small flowers are of a pretty rose-purple colour, and a large number are produced on a spike. At the base of the stems there is a curious protuberance from which the roots push out, and the nature of this and the roots pushing from it seem to suggest that over-dryness at the roots might be injurious even now. The plants should be in the warmest part of the *Cattleya* house when the flower-spikes are being produced, else they are not thrown up freely out of the sheaths. *Lælia autumnalis* is yet in flower, many of the blossoms being of the richest colour. Variety can be obtained from an intermixture of the many species and varieties of *Cypripediums* which flower through the winter. The beautiful *C. Spicerianum* is now in full beauty. The earliest seedlings from it—*C. Leeatum* and *C. Leeatum superbum*, now in bloom—are the most beautiful of garden hybrids, and flowering in November and December they are all the more valuable. Nearly all the *Cypripediums* require to be kept moist at the roots at all times. Many of the *Cymbidiums* are now in growth, and some of them have begun to throw up their flower-spikes. *C. Lowianum* is making the most exuberant growth in the *Cattleya* house, and weak manure water occasionally to strengthen the spikes which are just pushing out will be of great benefit. The plants of *C. eburneum*, and indeed most of the *Cymbidiums*, require to be kept moist at the roots now as well as in summer. It is now well known amongst Orchid cultivators that good fibrous yellow loam is the best material in which to grow *Cymbidiums*, and when well established, the large fleshy roots require considerable space to grow in. Fibrous loam is very porous when first used, but when the fibre

decays, it becomes a compact mass, and to prevent this the loam should be mixed with a little light well-decayed manure and a small portion of light fibrous peat; some coarse white sand should also be added and the pots must be well drained. When the compost is suitable, the thick fleshy roots rapidly push through it in all directions. Scale sometimes gets a foothold upon the plants, but it can readily be removed by hand-washing with soapy water. We have placed *Vanda teres* in the lightest part of the *Cattleya* house. The plants are close to the glass at the south end of the house, and the tops almost touch the roof glass. It is about a month since they were brought in from the warmest house, where they made their growth with the *Dendrobiums*, and with as little shading as possible. They always had a touch of the sun in the afternoon, the house being shut up early and the shading removed, so that the temperature would run up to from 90° to 100°, according to the heat out of doors. This high temperature is absolutely necessary to obtain a good growth that will produce flowers every year. The variety *Andersoni* is the best and grows like a Willow. I have had plants make shoots about 18 inches in length in one year. Some *Dendrobiums* are now starting to grow; amongst them two good old species, *D. chrysanthum* and *D. Cambridgeanum*. They have been at rest in the *Cattleya* house; now they require a warmer house and to be kept moist at the roots. They require to make a good steady growth in the winter and near the glass roof. A most useful plant to flower in the spring is *Dendrobium chilum glumaceum*. The perfume of this species is delightful, and it should always make its growth in the warmest house; in fact, I never put the plants in the *Cattleya* house, and they always make the most exuberant growth. Attention to all the details of watering, damping down, ventilating, &c., must be seen to as previously advised. The weather is so very changeable that it is difficult to pay too much attention to the minor details of the work at this season. J. DOUGLAS.

### FRUIT HOUSES.

**LATE GRAPES**.—During the month of November very many Grapes are annually spoiled, the weather being so very changeable as to make it difficult to maintain anything like the requisite equable house temperature. On fairly bright days fire-heat ought to be freely turned on and both front and top air admitted freely, closing the houses, with the exception of a few inches of top air, not later than 4 p.m. During the nights and on dull, foggy, or wet days, when very little air should be admitted, keep the hot-water pipes only moderately warm, the temperature not exceeding 50° or falling much below 45°. The houses ought to be wholly given up to the Grapes, the aim being to keep the atmosphere as dry as possible. If there are pot plants that must be watered, let this be done on the mornings of clear days, and carefully. It does not follow that the borders should be kept very dry. Next season's crops as well as those on the Vines must be studied. Therefore give the borders a good soaking of soft water whenever approaching dryness, doing this important work on the mornings when the houses can be ventilated freely. Those who have a dread of losing berries by damping consequent upon watering the borders may follow the latter operation with a surfacing of clean straw, this greatly checking evaporation of moisture. Collect the falling leaves daily. A very close look-out should be kept for decaying berries, the timely removal of one or more of these frequently saving a whole bunch. It is now when the value of comparatively small freely-thinned bunches becomes most apparent, these invariably keeping better than the larger, more solid clusters. *Gros Maroc* and *Alnwick Seedling* are among the worst keepers, and these should be used first, following with *Gros Colman*, *Alicante*, *Gros Guillaume*, *Muscat of Alexandria*, and *Trebbiano*. Mrs. Pince's *Muscat*, *Lady Downe's*, *Mrs. Pearson*, and occasionally *Golden Queen* keep very late, the two former being good in May and the others till March



and April. In each and every case very much depends upon whether the varieties were thoroughly well ripened or not and the way in which they are treated.

**BOTTLING GRAPES.**—It is much too early to commence cutting and bottling the bulk of late Grapes, the proper time for doing this being when the leaves have all fallen and pruning and resting-time are near at hand. When, however, a rod or rods of late or hanging Grapes are grown in the earlier houses, keeping the bunches on the Vines entails the expenditure of extra fire-heat and the necessity for keeping the house dry. Being thoroughly well ripened, there is no good reason why the bunches should not be cut and bottled at once. Suspend the requisite number of half-pint or pint bottles in a cool and preferably dark room and three parts fill with clear water. Cut the bunches with a good length of lateral attached; trim off the shoots or excrescences and slip into the bottle of water. The weight of the bunch ought to be sufficient to give the desired slope to the bottle, the former swinging clear of the latter. No water should be allowed to trickle down into the bunch. If preferred, bottles may be fixed in racks with their necks out clear, and zinc tubes in the form of the letter V suspended to a rack answer, these holding two bunches opposite each other. There is no necessity whatever to place charcoal or other substances in the clear water used, nor for changing the latter at any time. Keep the room close, dry, and cool, extremes of temperature being guarded against and also currents of either dry or moist air. Admitting warm air through a window, ventilator, or door directly after a spell of cold weather is a sure way of inviting decay in the berries. Examine the bunches frequently for any single decaying berries there may be in them.

**PROTECTING VINE BORDERS.**—Where the borders are outside and yet early forcing has to be resorted to, it is advisable to lose no time in heavily protecting the former, the aim being to prevent their being unduly cooled by frosts and snow. A heavy covering of fresh Oak or other leaves is the best form of protection, Bracken also being sometimes used effectively. Give the protective material a good slope to the front so as to throw off heavy rains as much as possible, and the leaves will further require to be roughly thatched with strawy litter. If the Vines with the roots principally or solely outside will not be started much before March, then there is no necessity for covering the borders. In very many instances coverings, especially of decaying manure, do more harm than good, as they keep the borders in a sodden, inert state; whereas if they were exposed to the action of frosts and other pulverising influences in common with the borders supporting a variety of fruit trees and bushes, they would be kept in a freer, more wholesome state such as the roots revel in. What few roots are injured by the frost, and there is no certainty about any being killed, will be more than compensated for in the generally improved condition of the rest.

PRACTICAL.

#### PLANT HOUSES.

**BULBS—STOVE AND TEMPERATE.**—In the stove, the Caladiums above all should be well cared for, being kept in a warm dry place. Should the house happen to be a somewhat cool one, the safer plan will be to keep Caladium bulbs near to the hot-water pipes. In such a case care must, however, be taken not to allow them to become excessively dry, a watering being occasionally given. If the bulbs have been grown on to form large plants, the safer way will be to shake them out of the soil, at the same time removing any appearance of decay at the base of the bulbs; then place in shallow pans or boxes, covering them over completely afterwards with sand. Room will thus be saved, for large pots doing nothing are cumbersome, whilst it is also safer for the bulbs than being surrounded by a large mass of soil. Small pots can easily be laid on their sides if it is not necessary to shake them out; but rather than have too many thus being kept, I would rather shake them out, as in

the case of Caladium argyrites, for instance. Caladiums are frequently lost through being kept in too cool a place whilst resting. It is an easy matter thus to lose an entire stock. When getting shabby in autumn, it is just possible they may have been placed temporarily in a rather cooler house, a warminery, perhaps, where the heat would soon be declining, but the Caladiums escaping notice at the time may be afterwards found unsound. Alocasias, their close allies, being in most cases more of an evergreen character, should be kept fairly moist at the roots, although they do not require nearly so much water as in the growing season. Two cases may be quoted, however, where even less is safer; these should be kept almost as dry as Caladiums. I am alluding to *A. Jenningsi* and *A. macrorrhiza variegata*. Achimenes will be safely kept in a temperate house where the thermometer does not fall below 50°. In no case is it advisable to store them near to hot-water pipes; being such small tubers, they would thus suffer if allowed to get excessively dry. Gloxinias will do under similar treatment, but these I would shake out of their pots and place in shallow boxes or pans in sand. Those of the Gesneras which have died down I prefer to keep in the stove as they are, taking care that they neither become too dry nor receive too much water. Tydasias I always think are kept best when not allowed to entirely lose their foliage; a little water will keep them thus comfortably. The handsome hybrids of the *Amaryllis* now grown are worth all the attention that can be given them. Young plants should be kept growing, so as to lose no time. Large-flowering bulbs ought, however, now to be at rest, with nearly or quite all of their leaves died down. Do not let them get mixed up too much with ordinary plants in growth, even if still in foliage. A dry atmosphere and no water at the roots for the present will be the best plan to adopt; a minimum temperature of about 50° in such a case will be safe. They can, I know, be preserved in a cooler house, but I would not advise recourse to this if it is possible to avoid it. *Gloriosa superba* is a bulb that should be well looked after, especial care being taken to see that a prominent label is in the pot to ensure it from being thrown away, for when dried off there is no trace of stem upon the surface to denote anything below. No water will be needed, there being sufficient stored up in the bulb with what is in the soil surrounding it. The *Curcumas* are a family not often seen in good condition. These will now be dying down or nearly so; a little water occasionally will help to keep them sounder, saving the tubers from shrivelling. The *Hæmanthus* and the *Euryclis* both should be kept fairly warm, but dry at the roots until growth is again apparent, guarding against drip falling upon the bulbs meanwhile, also in other cases as well. *Urceolina aurea* (syn., *pendula*) is for the winter season an exceedingly useful and interesting bulb for the stove. Having cast its leaves some few weeks, the plants should have been kept dry until the flower spikes appear, which they will now or soon be doing; then a little water, but not much, will assist them. This does not appear to be a bulb that requires much moisture when flowering, but takes it readily enough when the leaves are developing.

An intermediate house is, I consider, the safer place for *Clivias* (*Imantophyllums*), just sufficient water being given them to keep the foliage fresh. If in a cooler house even less water will be required. Young plants, either offsets or seedlings, I would keep warm, so as to have them still steadily growing. Tuberous *Begonias* can either be kept as they are in pots or be shaken out. In any case, a cool house will suit them well enough. The *Hedychiums*, although they are by some classed as stove plants, may be safely kept in the greenhouse where an average temperature is maintained. The *Cyrtodeiras* or *Episcias* are not strictly bulbous plants; nor do they always lose all of their foliage, although closely related to the *Gesneras*. They are kept much the best if in steady growth. I have often wondered why these (particularly *C. fulgida*) are not more generally grown in small pots for the margins of beds in the stove, or they

may be planted out like *Selaginella*. Such evergreen bulbs as *Pancratium fragrans* and *Hymenocallis macrostephana* should be kept sufficiently watered to preserve the foliage fresh. *Eucharis amazonica*, where a good growth has been made, should now be showing another crop of spikes; such a stock would be extremely useful at Christmas. Those that have recently flowered should be encouraged to make fresh growth after a short rest has been given them.

J. HUDSON.

#### KITCHEN GARDEN.

##### BRUSSELS SPROUTS.

THE Brussels Sprout is no doubt the best winter green vegetable we have, and I always have a good breadth, one of the best plots in the garden being especially set apart for the purpose. Why people will persist in setting out their Brussels Sprouts between rows of Potatoes I cannot imagine. Planted between rows of Potatoes, the young plants become so weak and attenuated, that they do little good. As a set-off to this, moulding up the stems is resorted to to keep the plants erect, but when planted by themselves and at a fair distance apart the stems stand up erect, and, wholly surrounded with soil, sprouts from base to summit. Of course, moulding up the rows is a good practice in itself, but this will not compensate for other shortcomings. The seasons, again, are so short, that if the plants do not receive rational treatment from start to finish they have not time to do their work, and winter is upon us before they have fully completed their growth. Sowing in the open is of little use except in the milder parts of the country. Recognising the above, I always now take the precaution to sow in a cold frame about the third week in February. I do not believe in sowing in a box and drawing up the seedlings in heat. To get an early supply of plants I have known the seeds to be sown in the autumn, but it is a risky method, as the seedlings are very apt to bolt.

Brussels Sprouts, like other Brassica crops, succeed a deal better on some soils than others. It is quite evident that gravelly soils do not often receive so much manure as they ought, and although on very strong soils this can be over-done, yet with the former it is often the reverse, the stems being stunted and puny, and the foliage taking on that bluish tinge so plainly caused by poverty. Close planting is also a very great evil, 3 feet on strong soils and 30 inches on light soils not being any too far apart. Good Brussels Sprouts can never be secured under the system of close planting. The tops in these cases meet almost together, if not quite; consequently with the loss of light the lower leaves upon the approach of autumn speedily turn yellow and decay, to the detriment of the sprouts. Besides the loss of foliage through the exclusion of light, the sprouts open out and have the appearance of small Coleworts. I like to see the foliage retained until the winter is far advanced, this affording protection largely from frost.

The selections of Brussels Sprouts which are now obtainable from our best seedsmen are excellent, the plants being much smaller and compact. Large sprouts are not cared for, as besides being too large they are strong in flavour. The Aigburth is a step in the wrong direction for private consumption, however well adapted it is for market. This type appears to be favoured by exhibitors. I find Northaw Prize a capital selection, the sprouts being of just the size for table use. This season I am growing Northaw Prize with Veitch's Paragon and also



the Aigburth, but the two former are the best. As far as hardness is concerned, coupled with a dwarf sturdy habit, the Aigburth is quite as good, but on our strong soil the sprouts are too large and also strong in flavour. The Imported grows too tall and not sturdy enough. From a good strain the sprouts are of the right size.

A. Y. A.

#### PROTECTING BROCCOLI.

THE advantage of a good breadth of Broccoli through March, April and May cannot be over-estimated. I always think a small head of this vegetable at that date of more delicate flavour than at any time in the year. If cut small, there is no strong taste or coarseness, and it is much appreciated in the spring when other vegetables are scarce. Of late years in many places we have had severe winters which totally destroyed this vegetable, so that means should be taken to secure the crop against severe frost, as having had a very moist autumn, the growth is very succulent and more liable to injury. If the plants have been early planted or the ground rich, there is but little prospect of saving the crop in severe weather if the stem is not protected during this month. By lifting or heeling over the plants in full vigour, I am well aware there is a considerable decrease in the size of the heads of flower, but this should not deter cultivators from heeling over the plants, as it is better to get small heads than none at all, and the small heads are just the size for the table. Of course, with early kinds such as Veitch's Protecting, it is not necessary to lay the plants. I would advise protecting by removal to a place just free of frost.

In gardens where this vegetable grows very large it soon suffers, as the frost destroys the stem at the part that has been denuded of its early leaves; hence the necessity of covering this exposed part of the plant. I would also advise growing the dwarfier kinds in fully exposed places. From close observation I have found the dwarf kinds planted in firm soil resist severe weather much better than taller kinds. For instance, last season our dwarf Kales were uninjured, whereas the tall variety was ruined early in the year. The same remark applies to the Broccoli. To preserve the crop, it is best not to coddle or treat the plants too well. I have of late years grown the latest lots on various aspects, in all cases giving plenty of room between the plants to get them as hardy as possible. When planted as described, the crop has never failed. I usually sow a good quantity of Model Broccoli the first week in May, and from these plants get nice heads the following April and May, and though they may not be as large as from plants sown earlier, they are always serviceable. One great advantage with this vegetable is the way the season may be prolonged, as if the heads come in too quickly, by lifting with a ball and placing close under a north wall they are retarded. The sun does not discolour the flowers and they last till the early Cauliflowers come in. By heeling over the plants this month, there is no difficulty in getting a good supply in the spring. It is also advisable to grow a few plants on a north border, as these grow sturdily and are often safe when others are killed. Heeling over or laying should be done as early as possible in cold districts, placing the heads to the north, covering the stems with earth well up to the foliage, making the soil firm with the back of the spade after covering the stems so as to throw off rains, and taking care when laying to get well under the roots so as to save them from injury. I have seen good heads cut from under a covering of snow when the plants have been protected in this way, as the foliage preserves the head, which is not the case in an upright position. East winds are also terribly destructive after frost to plants fully exposed.

G. WYTHES.

**Early Seakale.**—I have heard it remarked that plants from seed are preferable for forcing to those raised from root cuttings. Those, however,

who have a good lot of the last named will soon see which forces best. I have also heard that if strong Kale is required, two seasons' growth must be allowed before the crowns are lifted. Such is not the case, as the finest Kale grown may be secured from sets of one year old if the roots are grown in good loamy soil. To get early Seakale much depends upon the ripening of the crowns. It is not necessary to lift great quantities at first, only what is required for forcing first. This should be placed in an exposed place, protecting the roots with soil or litter. I would also point out the advantage of lifting as soon as the foliage is ripe. When placed together thickly in a sheltered corner, it is necessary to save the root cuttings, tying them up neatly in bundles, plunging in light scil and covering over with litter to protect from frost.—G. WYTHES.

#### BEETROOT, EARLY AND LATE.

BEETROOT is so easily grown, that it is surprising anyone should now cultivate inferior kinds, especially coarse varieties, as often the large roots are of bad flavour, deficient in colour, and keep badly. Only medium-sized, or even small roots should be stored if required good in six months' time. At p. 390 a list of reliable kinds was given, and though I do not object to any of the varieties mentioned, I think Nutting's Dwarf Red should have been included; indeed, I would prefer it for colour, quality, and flavour to Pine-apple, that is if the stock of Pine-apple I have grown is true. Pragnell's Exhibition and Dell's Crimson are sterling varieties. Cheltenham Green-top, a variety much grown in some parts by market gardeners, should be added to the list. One occasionally sees some roots anything but perfect in shape when the soil is too rich or sowing takes place too early. In such cases it is not the fault of the variety, but the grower. I do not think any kind can equal Dell's Crimson as far as keeping qualities are concerned. It retains its deep crimson colour and good flavour to the end of May if kept in a cool store with plenty of soil, sand or ashes between the roots. When storing this crop more care is often required when late roots are desired, as if placed on dry shelves the roots shrivel. On the other hand, if kept moist they grow out badly; a cool store just frost-proof is the most suitable place. I do not think the Turnip-rooted kinds should be omitted from any garden where early roots are appreciated, as they are most serviceable, coming into use just as the winter store is exhausted, and filling up a void between those and the spring sown. The last-named roots grown in rich soils at times lack colour. At one time I grew the Eclipse Turnip-rooted, but at times it came of a pale colour, and I find the Egyptian Dark Red superior in every way. If I was confined to two varieties I should give the preference to Dell's Crimson and the Dark Red Turnip-rooted.

By growing a fair quantity of early Turnip-rooted Beet the grower is less dependent upon the main or late spring-sown crop, and in some gardens there is a saving of time, as the early-sown Turnip-rooted comes to maturity in a short time, seldom runs, and may be lifted and laid in the soil on a north or shady border, using it as required. It is not generally known that Beet may be forced, if I may use the term, and for this purpose the Globe or Turnip-rooted section answers admirably. By sowing a few seeds in 3-inch or 4½-inch pots in a temperature of 60°, and when the seeds have germinated, placing in a cooler temperature, thinning the seedlings to one, leaving the strongest, the plants grow rapidly and soon fill the pots with roots, when they may be potted on and transferred to cold frames or planted out and protected for a time till safe from frosts. This system of forcing may not be required often, but in cases where the roots run short it is very useful. At one time I grew some 500 Dell's Crimson in 4½-inch pots for bedding. These I left three in a pot, and having a few left, I planted them out on a warm border. The roots came to maturity very early in the summer. To get Beetroot good all through the year I grow

three kinds—an early medium-sized sort to give the supply from November to March, a smaller or Dell's for the latest (that is, April and May), and the Globe variety for the supply from June.

S. H.

### TREES AND SHRUBS.

#### PLANTING TREES AND SHRUBS.

WITH the fine open weather of October a good deal of planting should have been completed. Heavy soils were, however, a drawback with the rainy weather, but these can be worked later on as opportunity offers. The transplanting of large standard specimen trees and shrubs will be all the more satisfactory if now taken in hand, the work being performed in not too dry weather. There are various reasons why autumn or early winter planting is to be preferred to that performed in spring, not the least important being that watering is not a necessity, as would be the case if the shifting was performed in spring or early summer. It is also well known that large specimens moved in the autumn just at the fall of the leaf get settled down and ready for starting into growth in spring; whereas those left until growth has commenced get a severe check, let the operation be performed ever so carefully. In moving large trees or shrubs from one position to another great care should be taken so that the roots and soil are kept intact, as on this depends to a great extent the success or otherwise of the work. By digging a deep trench around the specimen and just without the range of the roots and carefully undermining it, a mat may be worked backwards and forwards until the ball of earth rests on it. Then by gathering up the corners of the mat and tying them to the stem, the plant may be lifted and conveyed with perfect safety to almost any distance. This is one of the simplest, most inexpensive, and efficient of any method of transplanting large trees and shrubs.

Where gaps in the plantations have been formed by the wind or from other causes, large standard trees may now be planted to take the place of those that were removed. Dig good big pits suitable in size or larger than the roots of the trees to be planted, break up the bottom and undermine the sides, and should the soil be worked out and poor, a cartload of that from the roadside or an old ley field will go a long way in aiding a quick start to growth. Staking to prevent wind-shaking should never be forgotten with large trees in exposed situations. There are several methods of staking, all being more or less successful, but driving a stout sharp-pointed stake into the ground and as near to the tree's stem as possible is about as good a method as has yet been devised. The stem of the tree must be made fast to the stake, and tight binding to prevent chafing of the bark insisted on. Very large specimens, say over 14 feet in height, should be more securely moored by uniting three wires to the stem of the tree equidistant and at 7 feet from the ground, these being made fast to stakes driven firmly into the ground at regular distances around the tree and at, say, 10 feet or 12 feet from the stem. By so doing a safe anchorage against storms from any quarter is guaranteed.

A. D. W.

**Berberis concinna.**—This is one of the smaller growing Barberries, and though by no means new, it is certainly far less common than many of them, probably owing to the fact that it is not nearly so



robust as most members of the genus, and consequently will not hold its own under somewhat adverse conditions. Just now in a sunny spot the principal feature is the light scarlet tints of the old leaves, which are particularly noticeable from the fact that the younger ones towards the points of the shoots retain their green tint, or at all events a good deal of it. Individual plants, however, vary considerably in the autumn tints, and also in the time the foliage is retained, for while some may be looked upon as deciduous, others are quite sub-evergreen in character. These features are, of course, a good deal influenced by the weather experienced during that time. *B. concinna* forms a much-branched bush from a foot to 18 inches high, whose slender shoots are clothed with neat roundish foliage, light green above and of a beautiful silvery glaucous hue underneath. Another noticeable feature is its late season of blooming, as the pale yellow blossoms do not make their appearance till July or August, at which time most Barberries are past. It is a native of the Himalayas, and seems to be quite hardy. —T.

**The Strawberry Tree in flower.**—Of outdoor trees and shrubs there is scarcely anything in bloom except the different forms of the Strawberry Tree. The common Strawberry Tree (*Arbutus Unedo*) is well known as a very beautiful Evergreen, whose dark green glossy foliage serves as an admirable setting to the spikes of waxy blossoms. The Strawberry-like fruits, from whence the popular name is derived, are in many places not freely borne, but when they do occur a very showy feature is thereby added. In the more favoured districts of England and in Ireland, the Strawberry Tree is in stature a real tree, but where less favourably situated it does not attain the same dimensions. In the colour of the blossoms there is a good deal of individual difference to be found, and to some of the most distinct, varietal names are applied. The variety that in colour presents the greatest divergence from the normal form is *Croomei*, in which the flowers are larger and tinged with red. In this too the leaves are larger than in the ordinary form, while the bark of the young shoots is reddish. From a foliage point of view there are some well-marked forms, notably *salicifolia*, with narrow leaves; *quercifolia*, whose leaves are lobed somewhat like those of an Oak; *myrtifolia*, with neat Myrtle-like foliage, and the crimped-leaved *crispa*, which is also a dwarf-growing plant. There are two larger species of *Arbutus*, viz., *A. Andrachne*, from the Levant, and *A. procera*, a native of North America. —T.

**Berberis Thunbergi.**—Now that the flowering season of our hardy shrubs is past, we must look to those for our autumn display that possess at the present time some especially attractive features, either of fruit or leafage. A very noticeable example just now is furnished by *Berberis Thunbergi*, whose decaying leaves are of a rich, fiery crimson colour, while the glowing sealing-wax-like berries, which are retained long after the leaves drop, serve to prolong its season of beauty. The plant, however, in many localities does not berry freely, but even then it is so attractive for such a long period that it must find a place among the best Barberries. It is by no means a large-growing species, but forms a somewhat spreading bush a yard or so high, whose gracefully disposed shoots are very pleasing. They are clothed with small roundish oblong-shaped leaves, that are very pretty in the spring when partially expanded, as they are then disposed in little rosette-like tufts of tender green along the branches. Even before the foliage is fully matured the flowers make their appearance, and though not particularly showy they are still very pleasing. They hang down in considerable numbers from the under-sides of the twigs, and in colour are sulphur-yellow inside, and a sort of brownish-crimson on the exterior. The berries are small, oblong in shape, and, as above mentioned, of a very bright crimson hue. They will often remain attached to the branches nearly throughout the winter, so that when plentiful, the plants are very attractive during the whole of that period. It is, I believe, very popular in the United States, where

the berries are as a rule borne more freely than with us. Like most of the deciduous members of the genus, this Barberry will flourish even in dry sandy soils, and in this way its autumn colouring is more vivid than where liberally treated. It is quite hardy in this country. *B. Thunbergi*, which is also known under the specific name of *sinensis*, was introduced during the early years of the present century, but it is only of late that it has become popular. The greater part of its popularity dates from two years since, when it was awarded a first-class certificate by the Royal Horticultural Society.—H. P.

**Pomegranate in flower.**—Up to the end of October a plant of Pomegranate trained to a south wall has been a very attractive object, by reason of its great profusion of bloom. True, it is, as a rule, late in the season before the flowers make their appearance, and consequently but few of them open; but in the bud state they are very attractive, being like large drops of bright-coloured sealing-wax, which glisten in the sunshine of a clear autumn day. A warm south wall is essential to success in flowering the Pomegranate; otherwise the flower-buds, even if they are formed, do not get sufficiently forward to make an autumn show. In many cases the leaves die off brightly tinged with yellow, but as a rule they quickly drop after changing colour.—T.

**Small conifers for a cold house.**—Will any reader kindly recommend me one or more choice evergreen pot shrubs or small conifers for the following purpose, viz., to place at the end of a low unbeated alpine house, and to aid in concealing its bareness? Normal height should be from 2 feet to 4 feet, as of low-growing subjects (like the New Zealand *Veronicas*) I have plenty for my purpose. It is the top that I find difficult to furnish with Evergreen. If the plant is of a kind to harmonise well with alpine plants, so much the better; that it should do so sufficiently, is essential. The glass protection may enable the use of something choicer than would stand outside, but complete hardiness would be otherwise an advantage. Something tall, even slim, but not broad or bushy is what I seek, for space is limited. I have seen once or twice in London houses a delicately beautiful conifer of the Larch tribe, which, if as hardy as it is said to be, would suit exactly; but I know not its name, nor how therefore to order it, though I believe it is grown not infrequently for Covent Garden. Possibly a reader can oblige me by naming it.—H. S. LEONARD, *Guildford*.

**\*\* Norfolk Island Pine and some of the cool house Araucarias, also many conifers of doubtful hardiness in our country.**—ED.

**Cotoneaster Simonsi.**—This is one of the most effective and charming shrubs. We have some hundreds scattered about in groups on steep banks and other positions. These are growing on the limestone formation, which I think is the best for this class of shrub. The long slender branches are now wreathed with brilliant scarlet berries, the greater part of the foliage also being of a glowing crimson. We use it largely at this season for intermixing with some of the large *Chrysanthemums*, cut with long stems in bold vases in the house. Something of this kind is needed for this class of bloom, especially for the yellows and the deep crimsons with yellow or golden reverse. The combination is very effective. We also use the bronzy sprays of *Berberis Aquifolium*, which also takes on a fine colour in our soil.—A. Y.

**The Sea Buckthorn.**—*Hippophae rhamnoides* is a beautiful native Willow-like shrub, attractive at this season and for several months to come for its wealth of orange-yellow berries, crowded thickly on the slender branches, clothed with rich green leaves, but silvery beneath. In the wind a pretty effect is gained by the leafage showing its silvery under surface, and a large shrub of the Sea Buckthorn by the waterside makes a charming winter picture. Such a shrub as this, beautiful in growth and a mass of orange colour through

the winter months, should be made good note of by all who have bare stream-sides or lake margins at present without vegetation. When once established it grows freely, or if an increase of stock is required, propagation may be done by layers or suckers, the two best methods to follow. Ordinary garden soil suffices, or by the water-side it makes quick growth. It is a native of Europe, Asia, and the Himalayas, and it is interesting to know that the Himalayan form called *H. salicifolia* closely resembles our native species. There are many bare lake and pond sites in English gardens that the Sea Buckthorn or Sallow Thorn might adorn.

**Ornamental Crabs.**—At this season of the year, when many of our outdoor trees and shrubs receive a great addition to their ornamental features in the shape of bright coloured fruits, the different Crabs stand out very conspicuous, for in many cases the branches are quite laden with their cherry-like fruits. The common Siberian Crab is too well known to need more than a passing notice, while one of the finest of all is John Downie, with a great wealth of exceptionally bright fruits. To these may be added the Transparent Crab, with yellowish fruits of a peculiar transparent character, and Dartmouth Crab, with larger Plum-like fruits of a deep purple crimson, though occasionally tinged with gold. There are but few gardens of any extent where a place could not be found for some of these ornamental Crabs; for instance, on small lawns an isolated specimen will display its charms to the best advantage, or on a larger expanse of grass a group of half-a-dozen or so will be an object of beauty for some time. Where a belt of shrubs is planted rather thickly and in a somewhat formal manner to shut out some unsightly object from view, a few of our ornamental trees are often employed to break up the otherwise formal appearance of the shrubs, and for such a purpose the Crabs are well adapted, as, springing from an undergrowth of shrubs, their flowers in spring and fruits in autumn form quite a bright picture in the garden.—T.

**Laurels as undergrowth.**—All the Laurels may be used to form undergrowth beneath trees of large size, but they should be kept low by annual pruning. Where the groups of trees are large, the wide breadths of Laurel are very effective. Specially attractive are the groups of Birch springing out of masses of dark-leaved Laurel. But when Laurels are planted beneath large old trees, the ground should be well broken up, even if a few of the roots of the trees have to be sacrificed, and some old leaf-mould or charred rubbish worked in round the roots to give the plants a start. I think the round-leaved Laurel is better adapted for planting beneath trees than the common variety. It is dwarfer and closer in growth, the leaves are smaller, and the plants will not require so much cutting back. Once set a plantation of Laurels established, and the plants can be kept in good condition for many years by layering a few of the young shoots annually. The shoots layered need not be tongued or cut in any way. All that is required is to bend the shoot to the ground and throw two or three spadefuls of earth upon the branches where they touch the ground. Treated in this way, these wide breadths of Laurels are virtually indestructible, no matter what the weather may be if the annual pruning is not neglected.—E. H.

**Malformation in a Fir.**—The Fir trees are prone to develop strange excrescences or burrs amongst other malformations. The Silver Fir is especially subject to this disease—I suppose I may call it—on the large branches, resulting in great tufts of stunted spray, giving at a distance the impression of a number of large nests. About thirty-five years ago I sent to Professor Lindley, then editor of the *Gardeners' Chronicle*, a drawing of an extraordinary example of it that came under my notice on a Scotch Fir. It was engraved, and a page illustration of it appeared in that paper. I now send to you what seems to me as great a curiosity. I noticed high up in one of the Scotch Firs in the grounds here something which appeared to be a bundle suspended by a piece of twine,



which I thought had been thrown up and had caught in the limb. On ascending to it by means of a long ladder, to my surprise I found it was an abnormal growth. From a large side branch issued a slender twig 18 inches in length and about the size of a pack-thread. At the end of this was a mass of congested, gouty spray starting around it, something resembling the ribs of an inverted open umbrella, then turning up and incurving. It repeatedly branched until it attained a compressed oblong shape, almost the size of a human head, swinging and dangling by the wind. How so slender a twig could sustain and support such a woody mass seems astonishing. What could have conducted to such a result appears a poser. Perhaps some of your readers can enlighten me.—J. M., *Charmouth, Dorset*.

## FERNS.

### SMALL BASKET FERNS.

I AM asked by C. Penfold to name about a dozen small basket Ferns that will succeed and make handsome specimens in a stove, together with some hints as to their management. The baskets must be well drained, and the soil in them must be solid and firm. The plants must never be allowed to become dry at the roots, the heat must never fall below 60°, and there should always be a slight moisture arising from below. This will allow of a neat growth and prevent the pinnæ of the older fronds from becoming browned and disfigured. The baskets may be of galvanised wire, and the soil should be composed of good light, turfy yellow loam and fibrous peat in about equal parts, the whole made sandy. The drainage I should advise to consist of charcoal, because of its lightness. This should be covered with a layer of Sphagnum Moss. The varieties I should recommend are as follows :—

**GYMNOGRAMMA GLORIOSA** is very handsome when grown as a pot specimen, but when seen as a basket plant it is far better. The fronds, which are very finely cut, are of a light green, saving a little white farinose powder at the base of the stem.

**ADIANTUM DOLABRIFORME**.—A plant with thin dark brown or black stems, which throw out young plants from the ends of the fronds. The pinnæ are entire and somewhat in the form of those of *A. lunulatum*. This plant is superior to *lunulatum*, inasmuch as its fronds remain green throughout the year.

**LOPHOLEPIS PILOSELLOIDES**.—This makes two kinds of fronds; both are entire, the fertile ones being linear, pale green on the upper side, below furnished with large reddish-brown sori; the sterile ones much broader, but, like them, pale soft green in colour.

**DRYNARIA MUSEFOLIA**.—This is a somewhat larger grower than the other kinds, with entire fronds, which are so exquisitely beautiful in their venation, that it must perforce find a place. The fronds are pale green with dark green veins.

**ASPLENIUM FLABELLIFOLIUM** (see fig.).—Although this plant is a native of Australia, it will be found to grow well in the stove. It has neat little flabellate fronds, which are dark green and the streaks of sori on the under side render it very handsome.

**NOTHOCLENA TRICHOMANOIDES**.—This plant makes pendent fronds which are each from a foot to 18 inches long. The pinnæ are very deep green on the upper side, below covered with white scales, and have a continuous row of jet black sori round the margin.

**PLEOPELTIS STIGMATICA** depends for its beauty upon its exquisite venation, which is much added to when fertile.

**DAVALLIA TYERMANI**.—A charming plant, making stout rhizomes densely clothed with large

silvery scales and deep green fronds, which are very thick and fleshy.

**GONIOPTERIS GRACILIS**.—A Fern with pendent fronds some 18 inches long, the pinnæ being of a rich deep green.

**DRYMOGLOSSUM PILOSELLOIDES**.—A singular little Fern from Japan and the East Indies, which



*Asplenium flabellifolium*.

is well adapted for this particular purpose. Its fronds are of two kinds, the fertile ones long and narrow.

**HYPOLEPIS DISTANS**.—The fronds of this are each from 6 inches to a foot long. They are finely divided and deep green in colour.

**ASPLENIUM MYRIOPHYLLUM**.—This is a splendid plant for baskets, producing tripinnate fronds some 18 inches or more long. These are prolific at the apex. W. HUGH GOWER.

## ORCHARD AND FRUIT GARDEN.

### FRUIT KEEPING BADLY.

WHAT few Pears were obtained this season have kept or are keeping badly. They ripen out of their natural season and decay quickly afterwards. *Beurré d'Amanlis* was one of the first to behave in this way, the fruit being worthless within a fortnight of gathering. Autumn Bergamot, the next with us to ripen in quantity, ripened in regular succession, or much as the fruit were gathered, none being spoilt; but probably, had all the crop been gathered at one time, a portion would have been spoilt. Only two gatherings were made of *Louise Bonne* of Jersey, the best part of a peck being stored on or about October 1. Of these fully one-half suddenly became rotten, not a sound fruit being left at the present time (November 1); while in other years they have kept good fully a fortnight longer. *Marie Louise* is even more disappointing. One tree trained against a high wall with a north-east aspect produced, for this season, quite a heavy crop; but before these lines are in print, not a sound fruit will be left. Already several have gone off rotten; whereas, in other seasons they have kept good in the same rather cool room till near the end of November. What few fruits of *Conseiller de la Cour*, *Brown Beurré* and *Huyshe's Prince Consort* there were have ripened earlier than usual, and the last-named, instead of doing us good service late in November, will be used during the second week in that month. *Doyenné du Comice*, *Beurré Diel*, *Beurré Clairgeau*, *Easter Beurré*, *Glou Morceau*, *Vicar of Winkfield* and *Huyshe's Victoria* were left on the trees till they were commencing to drop, or as long as it was safe to leave them out, and this appears to have retarded ripening considerably, though it remains to be seen whether or not it has injuriously affected the quality. Not unfrequently delaying gathering till the fruit drops off into the hand when touched ends in the quality being inferior, the Pears when ripe being too dry or mealy.

Apples are more disappointing even than Pears. The crops in very many instances were far better than anticipated, the size and general appearance of the fruit being also decidedly above the average. *Duchess of Oldenburg* first gave us a taste of what to expect, the fruit of this variety keeping very badly indeed. Early dessert varieties did not get a chance to spoil, though what few fruits of *Irish Peach* were stored, quickly went wrong. *Lord Suffield*, before it had been a week in the fruit room, gave signs of keeping badly, what might be termed disease spots showing both outside and inside the skins of some of the fruit. *Keswick Codlin* was scarce, but a capital lot of *Manks Codlin* was stored. During some seasons this variety has kept good till December, but already a considerable number of fruit has become spotted after the prevailing fashion. *Ecklinville* is supposed to be available from October to mid-winter; but, unless I am greatly deceived, not a sound fruit of it will be seen in our fruit room by the end of November. *Warner's King Essex* growers usually try to keep for the markets late in December, this being the favourite sauce Apple of those living in the east end of London, and also much liked for mixing with other mince-meat ingredients. Already the dreaded spots are showing on the



earliest gathered fruits in this neighbourhood, some of the best samples being spoilt. Nor is Lord Derby behaving much better, though a fine lot of fruit of Tower of Glamis appears to be all right. King of Pippins, the best dessert Apple available in quantity at the present time, will have to be used soon or not at all, yet it ought to last well into December.

Naturally, fruit growers, or those interested in the great fruit question, discuss the subject of why fruit is keeping so badly when they meet and converse, and the theory most often propounded is that the short spell of very tropical-like weather experienced during the summer hastened maturation considerably, being, in fact, the sole cause of the premature ripening. Personally, I am of opinion that this was not the sole cause, but contributed to it. If the weather had remained comparatively dry for another fortnight or three weeks longer, the fruit would have kept better, even if it did mature earlier on the trees than usual. It was the change to cold wet weather late in August and early in September that did the mischief. Soaking rains had the effect in many cases of swelling out the fruit to a much larger size than at one time thought possible, and the excess of moisture in the fruit has most injuriously affected it, the chemical changes not getting rid of it sufficiently. There is too little sugar formed in the fruit and too little water evaporated, hence the bad keeping properties of Apples and Pears. If this is not the correct solution of the difficulty, what is?

In the meantime, or while experts are deciding the cause of these two popular fruits keeping so badly, it will not be out of place to ask what steps have or are being taken to aid fruit growers in getting rid of their very perishable produce at remunerative prices. Although presumably a very bad year as far as Pears are concerned, and below the average in the case of Apples, comparatively poor prices have been offered for orchard-grown fruit of the former, while Apples will scarcely sell, hereabouts at any rate, at any price. This being so, what is to become of all the abundance of fruit that will be forthcoming in years of plenty? An enormous number of trees have been planted and well cared for during the past ten years, and these will soon be either at their best or in a fairly productive state. Now the planters in very many instances did not stop to take into consideration whether or not the orchards were located in districts favourable to getting rid of the crops to the best advantage, and not a few of them have already realised the mistake they made. Were I to send samples of King of the Pippins to the nearest town the price offered would be 3s. 6d. the basket of 3 pecks. More might be obtained at Covent Garden or elsewhere, but owing to the short-sighted policy of railway directors, fully 2s. 6d. per cwt. would be charged for carriage, and in addition there would be market tolls, commission and other charges to meet, so that it would pay best to accept the offer of the provincial fruiterer. Railway companies when competing with one and another, can or do afford to carry goods very much cheaper. Thus if I ordered a few dozen hot-water pipes from Stourbridge or elsewhere in that direction, these would be charged for at the rate of 14s. 6d. per ton, and yet be brought much farther than the Apples could be sent at the rate of £2 10s. per ton. What can be more unfair than this? Or, again, what more can be done to handicap the poor British farmer and fruit grower? The latter must, according to present circumstances, sell much of his fast-spoiling fruit locally and at any price he can

get, or convert it into cider. Why, even good Blenheim are being sold at the rate of 16s. to 18s. per sack simply because the growers are afraid to keep them any longer, and yet very few really good Apples are to be seen in London or the larger towns whenever I happen to pass through them. The best Apples on offer in numerous west-end shops late last August were the Duchess of Oldenburg, which by no stretch of imagination can be rightly termed a good-class dessert variety.

Let the would-be benefactors take active steps to bring producers and consumers into closer contact and also agitate for a readjustment of railway charges, leaving the more showy and ambitious schemes till the fruit-growing public are better prepared for them, and they will then deserve all the honour that will fall to their lot. Fruit growers are too widely separated, and, if the truth must be told, are not the class of men to form associations or take steps to protect and promote their own interests, but it might well be done for them. Remember it is not the growers alone that would be benefited by a good scheme of distribution, but the great fruit-eating community—notably, the industrial classes—would be the greatest gainers. W. IGGULDEN.

*Somerset.*

**A seedling Apple.**—Last year you asked me for fresh samples of my seedling Apple, which I was unable to send, but I now forward two, one for immediate trial and one for keeping a few days—say a week or ten days. This is the only Apple in my walled-in garden, an acre in extent, which has anything like a crop, and I can well conceive that, with the wretched seasons we have had for the last two years and the steep declination of the garden, exposing it to all winds except the north, these Apples are but shadows of what they would be under more favourable circumstances. These Apples fall before they are ripe. The Ribston has been good once in thirty years, and during the last two years have rotted on the trees. British Queen, Prince Albert, and Bergamote d'Espérance Pears fall off when the size of marbles, and a large portion of the Pear trees had their young shoots killed by cold wind in July. Under such circumstances I feel proud of my seedling Apple, and believe that when fine seasons come it will be a gem of the first water. I meet with none here so full of flavour nor such sure bearers. The first year it had only one flower, but that made an Apple. The next year it had twelve bunches of bloom, producing twenty Apples. This year, when all others failed, it had twenty-two bunches of bloom, producing forty-three Apples. Another seedling has produced one Apple, beautiful both in form and colour (which cannot be said of those sent), but not yet ripe. It had five blooms last year and no Apples. This year it had a dozen bunches of bloom, most of which set, but all were destroyed except one by the subsequent frosts.—EDWARD WILLIAMSON, *Congleton.*

\* \* The Apples were not in good condition, and one of them was very much shrivelled. The other was fresh and sharp, but we should not call it good in flavour.—ED.

**Damsons.**—Through the kindness of Mr. Smith, of Mentmore Gardens, I was some time ago favoured with samples of the varieties of Damsons he is growing there largely, for there are at Mentmore some twenty-seven acres of land under Plum and Damson culture, and on such a scale it is possible not only to grow many varieties, but also each one in considerable quantity. One variety without name more resembles a small purple Plum than a true Damson. It is an excellent variety for market, as it is an abundant bearer. It is roundish rather than oval, of purplish-red colour, and a freestone, the flesh soft and sweet, but with little flavour. The best true Damson is the Shropshire, which differs appreciably from what is grown at Ment-

more as the Prune. This Shropshire variety is quite oval, almost longish oval, stem half an inch long, the fruits for a Damson rather large, quite black when ripe, and carrying a dense bluish-white bloom. It is a partial, but not a firm clingstone, flesh soft and of the true Damson flavour. Smaller and distinctly rounder and of the same colour is the popular Farleigh Prolific. This variety undoubtedly hits the public taste by far the best, because, although not so highly flavoured as the old or common Damson, it comes nearest to it. This variety needs no recommendation as to cropping. The Worcester Damson is less oval than is the Shropshire and later. It is also rather larger, blackish-purple, and carries a good bloom. It has some of the old Damson flavour and is a freestone. This is an excellent variety for orchard culture, especially for successional purposes. Lastly comes the Prune Damson. This is about the size of the Worcester and has its blunted oval shape, but is redder in colour. None of the fruits of the Prune Damson were ripe enough to test the quality, but the variety is specially valuable for its late keeping qualities.—A. D.

#### NECTARINES AND PEACHES ON WALLS.

I AM aware that it is not always possible to give the trees the attention necessary for their future welfare, but it is time well repaid. As soon as the crop is cleared it is essential to go over the trained trees and remove the superfluous shoots, also those that have borne fruit may in many cases be removed, thus giving the remaining branches more light to mature the wood. I am aware some good cultivators object to severe cutting at this season, as if a hard winter follows, some of the wood dies back and pruning is again necessary in the early spring. From close observation I find the best results are obtained by thinning out the gross or useless shoots and old fruiting wood as soon as the crop is secured. I have practised the early autumn pruning for some years and find it advantageous in many ways, as the trees may be left much later before being nailed up in the early spring.

Peach and Nectarine trees are often grown too thickly. Some varieties do badly in wet seasons, suffering much from mildew, Royal George being one of the worst in this respect, but by early removal of useless branches there is a better chance of destroying the mildew. By cutting out the useless wood, any lifting or rearranging may readily be undertaken, as often young trees planted in new or rich soils grow too strongly. To cut the gross wood hard back means canker in a few years' time. I much prefer lifting early, keeping the trees in a growing state.

Many good growers keep a stock of young trees coming on to fill up gaps and to replace old and worn-out trees, so that planting early is readily accomplished and a fresh supply of young trees may be obtained later to take their places. Where the ground can be prepared and the trees planted quickly I believe there is much gain the following season. Trees having a mass of fibrous roots in a young state lift readily, soon take to their new quarters, and with due attention to thinning of the crop good fruit may be gathered the first season after planting. When replanting young trees it is advisable to leave the small shoots unnailed, merely supporting the main branches. Of course, it is not the neatest system, but I have found the longer the trees can be kept from the wall the later the bloom and less damage from frost. In the case of small trees it is best not to fasten to the wall for a short time, even the larger branches, as this allows of the ground settling. In places where Peaches and Nectarines do badly much may be done by having raised borders.

Other trees, such as Cherries, Plums, and stone fruits, may be lifted and replanted with equal success provided the trees get the necessary attention afterwards to prevent the leaves dropping prematurely and the bark shrivelling. The cleaning of old walls that have been covered with dirty



tees should be attended to before replanting, as the work can be done more readily when the walls are clear and a stronger insecticide used. In repointing old walls care should be taken not to use cement in large proportions, as I find it injurious to the trees, causing them to blister. No time should be lost in selecting the young trees of the various kinds so as to get strong clean healthy stock for growing on. Maiden trees may often be secured at little cost and grown on for the purpose; by this means a stock of good material is always ready to hand.

G. WYTHES.

### EARLY FORCED VINES.

THOSE who have to force hard will know the difficulties experienced in getting the Vines to start if not well ripened. Those who are fortunate enough to live where fogs are not prevalent will perhaps think I am looking on the dark side. I do not think any Vine can equal the Black Hamburgh for early forcing. Foster's Seedling for a white is also one of the best. Those who have these two for early use, either for pot culture or planted out, will find them most reliable. With pot Vines more care is required than is the case where planted out. As the weekly calendar deals with the question of forcing and temperatures, I do not intend to go into cultural notes, but to point out the advantages of forcing in small houses and the superiority of growing Vines in a small border or limited space to having them in larger houses requiring more heat. I do not advise pot culture where a small house can be planted, especially if the roots can get a little warmth. It must not be inferred I dislike pot culture, but I think the best results are often secured from planted-out canes, and I advise it in cases where the space or appliances for forcing are limited. I use pots and plant out yearly for this early forcing. The latter give double the weight of the pot Vines, larger bunches and berries, but are ten days to a fortnight later when forced the first year than those in pots. Vines planted out have advantages over pot Vines, as they pay for forcing a second year, and there is not the constant watering required in the growing season, and when started the second year they are quite as early as pot Vines, and often bear very heavy crops. Vines that have been forced in previous years start more readily than young canes, they break more regularly, and the berries colour well if the crop is not too heavy. The best system is to plant out a few strong canes yearly, and after the second season's fruit is cleared to destroy and replant. This is not a costly process, as the pit can be devoted to other uses, such as forcing vegetables and flowers. For instance, we place well-prepared forcing plants in the pit when started, and they get the treatment desired, as the syringing necessary for the Vines starts the plants. A much higher temperature is required to start Vines in October or November, and this is more necessary in districts with smoke or little sunshine. Though I am not an advocate of high temperatures to excite Vines at the season of going to rest, it is necessary. Another point must be taken into consideration, and that is the outside temperature. I have also noticed that the planted-out canes ripen earlier than those in pots, and there is less trouble in securing a regular break. This, no doubt, is owing to the roots being in a warm border. I am aware that this system of ripening Vines is often objected to, but in the case of such short-lived canes the objection is not so serious, and any method which secures an early well-ripened cane in places deficient in sunshine must not be judged too harshly by those in more favoured situations. This note would be incomplete without a few words as to the borders for early Vines, and here I may remark very little space is allowed in comparison to that for permanent Vines. Ours are 2 feet wide and 2 feet deep, even 6 inches less in some instances. I do not think it necessary to give a wide root-run, the above being ample if the Vines are renewed every two years. The borders I write of are over a single flow and return 4-inch pipe, the depth of the bed or border is 3 feet, and in

some cases only 2½ feet. I usually place thick sods on 3 inches of rubble and fill up with a well-prepared mixture, using coarse bone-meal in preference to bones, as the meal is more rapid in its action. The advantage of these shallow borders is that the roots can be kept on the surface, and in light soils a liberal top-dressing of cow manure at the final swelling does much good and prevents dryness, the roots go into it splendidly, the manure becoming a mass of fibres. It is surprising what a great weight of well-finished fruit can be cut from such Vines. Of course, the Vines must not be overdone, next season having to be taken into account. If houses are plentiful, they may carry one heavy crop and then be removed, others being planted. Planting the canes should be done as early in the year as possible to secure a long season of growth and to rest the canes for early forcing. I prefer to plant early in January if dormant canes are planted, but with a warm border there is no check by starting the canes at that period and planting the following month. A strong growth from the base may be secured by cutting down the planting canes early in the autumn, or by planting the cane full length and disbudding to the break required to furnish the new cane. I like the cutting down. If done early there is little bleeding, as is the case with disbudded canes. Firm planting is essential to short-jointed growth, avoiding crowding and giving abundance of moisture and liquid manure during the growing season.

S. H.

**The fruit crop in Wales.**—It may interest some of your readers to know that this district—that of Gower, Glamorganshire—where I am now staying for a short time, forms a notable exception to the major part of the country in that there is an excellent crop of Apples, though comparatively few Pears. I was quite surprised to see the trees, many of which are old and have been sadly neglected, quite heavily laden, and in some cases breaking down with the weight of fruit. It is much the same with both early and late varieties, but Lord Suffield, Cox's Orange Pippin, a Pearmain (Mannington's, I think), and several other kinds, some of which are local and unknown to me, have produced or are now carrying very heavy crops indeed. Much the same state of things exists in many other places in this and the neighbouring districts, and the Swansea market has been abundantly supplied with Apples, though consignments are now falling off considerably. The trees also appear very healthy. Pears are not much grown about here. Plums, I should say, were about half a crop, and bush fruits below the average. The Gooseberry caterpillar has been busy in some gardens, and there is some Orange fungus as well. Potatoes are generally sound and a fair crop.—B. C. R.

**Mulching outside Vine borders.**—Very often serious injury is inflicted on Vines growing in outside borders by the surface roots being frozen. Therefore no time should be lost in laying on a covering of short manure to the thickness of 3 inches or 4 inches, following this, in the event of severe frost setting in, with a light covering of long stable manure; a foot deep of dry leaves, these being covered with long manure to prevent them being blown about, will answer the same purpose.—H. W. W.

**Cold positions for Plums.**—In the gardens here all kinds of fruit trees bloomed most abundantly, and this in all kinds of situations, but the frost in April destroyed the major portion of the bloom, and this on walls especially with warm aspects. In fact, on west, east and south walls we had scarcely a Plum. From trees on north walls and in the open we, however, gathered a good supply. The kinds on north walls were Orleans, Victoria, and Magnum Bonum. In the orchard, which is close to the river, there are a few trees of such kinds as Orleans, Jefferson, and Victoria. All of these gave us a good supply. I quite agree with "A. Y. H." in THE GARDEN for the 24th of September regarding Jefferson, where

he says this kind is much harder than is generally supposed. This Plum has during the past season quite maintained this character, as formerly I thought it a tender thing.—J. C., Forde Abbey.

**Pears at the shows.**—Because there were but two collections of six dishes of Pears staged at the Royal Aquarium show it was said at once that Pears were scarce. Compared with Apples, that is so. Still, in some of the smaller shows there has been very good competition, showing that there are more Pears about than is ordinarily admitted. At King-ton there were numerous lots of four dishes, the best of which were Doyenné du Comice, Chaumontel, Easter Beurré, Beurré Superfin, Brown Beurré, Beurré Diel, &c. Still, the first prize collection comprised beyond Doyenné du Comice, Pitmaston Duchess, now getting past its best, Durondeau, and Beurré Clairgeau. At the Aquarium such sorts as General Toddleben, Beurré Diel, and Pitmaston Duchess were in the first prize lots, neither showing first-class quality, but probably more regarded for size than for flavour. It seems a pity in these competitions for Pears that more stress was not laid upon flavour. It does seem generally in relation to eating or dessert Apples that flavour and quality are regarded as of the first importance. It appears to be more than ever needful that such considerations should weigh with Pears, especially as these are mostly valued for dessert. Exhibitors do not like to have any of their fruits cut and tasted, but if in relation to Pears the practice were general, without doubt it would result in the prizes at exhibitions going to very diverse fruits than some which now carry off the honours. A good dish of Doyenné du Comice is worth in points any two of Pitmaston Duchess or Beurré Diel so far as flavour is concerned, yet, as a rule, it gets no higher consideration than does the poorest variety if the fruits be large and handsome. If judges would even point Pears with regard to known flavour without tasting them, better results would often follow. Still, the best solution would be found in tasting, and that should be the universal rule where dessert Pears are concerned.—A. D.

### DRAINING LAND FOR FRUIT GROWING.

EVERY year adds to the acreage of land devoted to fruit culture. In very many instances the trees are not properly planted, as merely digging holes and thrusting in the roots can hardly be called good work. One of the most important of what may be called preliminary operations is draining. Where any extent of land is laid down for fruit trees, if the soil is of an adhesive character, it would pay to put in good drains 3 feet deep and not more than 18 feet apart. After the drains are in, if the steam cultivator could go over the land two or three times so as to break it up thoroughly the work would be expensively and economically done. This breaking up would be of the greatest possible benefit, the water would pass away freely to the drains, the air would follow, and the whole mass of moved and aerated soil would soon be in splendid condition for the roots to work in. This of course could only be done where the planting was on a fairly large scale. But many of the present orchards would be improved by a few drains being dug through them to carry off the surplus water. Where Moss forms in the branches of fruit trees, the land will be benefited by draining, the trees afterwards receiving a good top dressing of manure. Bone-meal used freely over the roots of Apple, Pear, Plum, and Cherry trees will be a great advantage, and where orchards are laid down in Grass the character of the herbage will improve, and it is probable that the improved value of the Grass would go a good way towards paying for the bone manure, and the benefit to the trees would be very considerable. Foreign Apples are now being offered for sale in almost every village shop. I have purchased samples on several occasions, and in nearly every instance when asked they have been inferior to good English grown fruit. That in time the situation will be fairly grappled with I have no doubt. It is useless making excuses; bad culti-



vation and a faulty selection of varieties are the main causes of the small and inferior forms which the English orchardist produces. There are far too many old useless trees, and the thinning and pruning are much neglected. What can be expected from worn out and Moss-covered trees?

E. H.

#### AUTUMN PRUNING AND THINNING OF APPLE AND PEAR TREES.

I AM inclined to think that this is a far more important item of fruit culture than some at least amongst us are disposed to give credit to. One thing at least is quite certain: the work needful among orchard trees can be done more expeditiously now and for a few weeks than it can be later on. Whilst there is still a little foliage left upon the trees, a better idea is afforded as to their density. Some produce larger leaves than others, Blenheim Orange and Golden Noble Apples to wit; these should therefore be kept somewhat thinner than most kinds. By doing what is needful now, the wounds will have time to heal over, to some degree at least, before sharp frosts set in. This is no slight consideration where much has to be done. In the case of thinning out the larger branches, I prefer to use a little green paint to cover over the wounds. It should be the aim of the operator to take out cross branches where they too much intersect the main branches, thinning these latter of the spray-like wood at the same time. Some kinds are apt to extend themselves too much over surrounding ground, this, if it be cropped, being thereby too much shaded. In these cases fore-shortening so as to induce back-breaks should be the rule. When treating orchard trees, there will often be found too much inner wood, which rarely gets sufficiently ripened to produce fruit of good quality. This should be removed for the future well-being of the trees: In large orchard trees there is frequently from year to year some dead wood which requires removal.

At no time can this work be seen to with greater facility than the present; in fact, it may be done in about half the time that it would take to do it later on and in colder, less congenial weather. It has become, I consider, far too much the practice to defer pruning, thinning out, and other requisite attention to our fruit trees till too late in the autumn. I well remember my own experience under a well-known gardener many years back, being almost half frozen, so to speak. This need not be the case by good management; there are other kinds of work that can be seen to with greater profit in the colder weather than that of pruning, &c. Furthermore, as soon as the wood is well ripened I cannot see what advantage there is to be gained by deferring the work. In reality I think the advantage is on the other side, if at all, in the better developing of the fruit buds for another season, wall trees included. Even in the case of Peaches and Nectarines I prefer thinning out the wood in the autumn rather than the spring; this leaves but little in this way to be done save nailing or tying as the case may be. I am quite certain that this method is preferable to spring pruning for these fruits, as it is also for Apricots and Plums. We should also, I think, have some little consideration for those who do the work, as by studying their comfort we serve in a large measure our own ends.

A.

**Autumn Apples.**—There are no three varieties of dessert Apples which are more generally found in all collections at autumn shows than Cox's Orange Pippin, Blenheim Pippin, and King of the Pippins. Next these comes Ribston Pippin, never, as a rule, found in such good form as are the preceding ones, and after these there are infinite variety and no reliable kinds. Thus at the recent Royal Aquarium show Mr. Turton had in his six dishes the above four with Northern Spy and Baumann's Red Reinette. In the second prize lot were Mabbot's Pearmain, Fearn's Pippin, American Mother, and Worcester Pearmain, the latter quite

out of season. At Kingston, where Apples were exceptionally good, the four first-named were generally found with the addition of Claygate Pearmain, Gravenstein, and Golden Russet. Thus it is seen that our selection of choice dessert Apples seems to be a limited one for show, as colour and brightness of skin seem to be indispensable. However, we have in the thirteen varieties named a dozen at least that are first-rate, though some are not at all reliable croppers. As to kitchen Apples, there are not to be found in any competitions for six dishes such constant repetition of certain sorts as is found in the dessert class. At the Aquarium in the first and second prize lots were Mère de Ménage, Waltham Abbey Seedling, and Peasgood's Nonsuch, but in none other of the collections was there the same uniformity so far.—A. D.

#### THE ORANGE AND CITRUS FAMILY.

THESE are not apparently nearly so much grown now as they used to be for large plant houses and conservatories. The time was when they were frequently to be met with in gardens both large and small. Palms of large growth and Tree Ferns also must be credited with elbowing these plants out of their accustomed places. These latter are of much nobler growth it is true, as far as growth goes, but when the Oranges, Lemons, and others of the tribe are bearing good crops of their luscious-looking, deep golden or pale yellow fruits, they are worthy rivals to even these other princes of the vegetable kingdom. Oranges and other fruits of the same class have, I know, in some instances—in others in all probability—become unpopular through the plants for some reason or other failing to bear good crops of fruit. This may be caused through the plants having remained far too long without any attention being given them at the roots. They do not, it is true, require repotting or retubbing so often as many plants do, but attention should be given every year to top-dressing the plants with good loam and some fine lime rubble; whilst in the summer, if there is a crop of fruit which requires extra assistance, the plants may be mulched with cow manure. When it is seen that a change of soil would be beneficial, it should be done thoroughly. This work where necessary might be done at once, for none of this family take much of a rest, particularly where the trees are bearing fruit in their various stages of development, some ripening, others half grown, and others quite small. The greatest care should be taken at such times with the roots; they should be treated as carefully as those of orchard house trees when these are repotted, merely removing the soil around the sides by pricking it out, saving the roots as much as possible. The very best loam obtainable should be given them, adding thereto some fine lime rubble and road-scrappings if found necessary, as in the case of rather close loam. Firm potting should be insisted upon. The common enemy of this class of plants is the scale, one kind of which seems almost peculiar to them. A thorough cleaning should be given the plants where the scale is present; if there are not many, the advice holds good all the same as if the plants are badly infested. Labour spent in clearing off the few is a decided gain. Any ordinary, but well-proven insecticide will answer for this purpose, taking care not to injure the fruit where there are any. Plants that are bearing heavy crops not yet matured should still have a little warmth given them, say 55° at night with a corresponding rise during the day. The dessert kinds are well worth growing for fruiting as small plants. In one place where I once served, the Orange marmalade was made from home-grown pro-

duce, whilst the Lemons frequently came in very useful when foreign-grown ones were scarce or the stock run out. These were very fine old plants growing in square wooden tubs and bearing heavy crops of fruit, although they were annually stood out of doors in the summer, and wintered in a greenhouse heated by the old-fashioned flues. I have noted that the florists cannot always find a supply of Orange blossom so easily as they used to do. I have been asked several times where it could be obtained, old sources having run out. There may be in time a return to older tastes again, Oranges, &c., coming once more to the fore and finding favour. I hope this may be so, for finely grown plants of these are splendid objects for our terraces, infinitely better than many of the more weedy plants so frequently used. It takes many years, I know, to work up a good stock of large plants, but methinks it would pay to do so as a change to the present order of things. What is wanted in the case of these fruits is more careful attention.

H. G.

#### STRAWBERRIES IN POTS, RESTING AND PROTECTING.

THE growth of these will soon be complete, but they are best left in the open as long as possible, so as to thoroughly mature the crowns. The plants when standing on a hard, well drained coal ash bed will take no harm. It is when they stand in places flooded with water and worms are allowed to get inside the pots that the mischief is caused. In wet seasons, such as the present autumn, there is more difficulty with worms, but if the drainage is good and the pots stood as advised, there is little danger. I do not like the system of placing the plants along the sides of walks, as often they get more water than is good; the sides of walks being the lowest, the water is slower to run off and the plant is soddened. I would advise the use of strips of rough wood or racks when in such positions, as then feeding can be better attended to. Worms do less mischief and the walks are not disfigured. The resting or protection of these fruits when in large numbers is often a difficult matter. There is no better position for them than cold frames, plunging the pots in ashes or leaves, as in such places the lights can be removed in suitable weather and extra covering given if necessary. There is also another advantage—the plants, when required for forcing, may readily be transferred to the houses, which is not always possible with the roots and protecting material in a frozen state. It often happens that when plants are wanted, if stored in the open, they cannot be removed without much damage. I do not like storing in fruit houses if at all dry or warm, as the plants do not get the rest necessary in such places. They have to be watered to keep them in condition, and they start into a weakly growth and do not throw up their flower-spikes strongly. I prefer stacking in the open, as there is less danger provided plenty of packing material is employed. Many plunge the pots in cocoa fibre or ashes up to the rim in an open place, but I do not recommend it, as the heavy winter rains are often very injurious, washing the nutriment out of the soil and rendering it sodden. Many good cultivators think the loss of foliage by frost does not injure the plants, but I like to retain it. The plants if stacked should face south, so as to escape east winds, which do more injury after severe frost than at any other time. Stacking at the foot of a south wall is a good system, provided the plants are not allowed to dry too much. Early kinds need not be stacked, as these will throw up stronger flower-spikes if left to harden. A few degrees of frost do no harm provided the roots are not injured.—G. WYTHES.

—The time of year has arrived for putting Strawberry plants in pots in their winter quarters. At one time the pots were placed on their side in rows, two or three deep, in cold pits and frames, out of the reach not only of frost, but of moisture



also, removing the plants thence to the forcing house as required. Other growers, having plenty of cold pits and frames at command, were wont to fill them to within a foot of the sashes, and then plunge their pots to the rims therein. Both these practices were inconsistent with the natural conditions and requirements of the plants during the winter months. Forcing the plants so as to obtain ripe fruit from them in February, March, and April is, we may be told, also inconsistent with the natural habit and fruiting season of the Strawberry. This is true so far as it refers to the time of ripening the fruit, but the ripe fruit is obtained under conditions, artificially supplied, as near as possible to those under which the plants naturally ripen their crop out of doors. But in the matter of wintering the plants, the most natural as well as the most economical and safe way of wintering Strawberry plants in pots is to plunge them below the rim in sifted coal ashes in a dry, sunny situation, where water is not at any time likely to accumulate. Here we have spaces set apart for this purpose, and which, when not so occupied, are used for other purposes. The ground is divided into several beds about 8 feet wide each and 15 inches to 18 inches deep, with a 2-feet space between for getting at the plants. The depth is obtained by driving the necessary number of short piles with the smooth side outward, and to which 1-inch boards are nailed closely together to prevent the ashes falling. A layer of coal-ashes is placed on the gravel bottom (clinkers would answer the purpose quite as well); the pots are then stood thereon in rows, working the coal-ashes in between and 1 inch over the rims of the pots as the work goes on, thereby making the plants quite secure from harm by frost. In severe weather they are, however, afforded a slight covering of fern, which is removed and replaced, according to circumstances, morning and evening when considered necessary. H. W. WARD.

**Apple Cox's Orange.**—That circumstances do affect certain sorts of Apples, I think no one will dispute. My experience with this Apple is vastly different to that of "J. C. F.," both in the matter of the tenderness of its flowers and its cropping quality in a young state. I have trees of this and King of Pippins growing side by side, both in the garden and in an open field; but I have not noticed any difference in the hardness of the blossom of one over the other, although they were subjected to 5° of frost when in flower last spring. Both kinds bore full crops—a proof that the blooms were unburt. I attribute my annual success with this variety partly to the fact of having its branches quite thin, so that a free circulation of air at all times is available for ripening the wood. During November, 1890, I planted several trees of this variety in an open field. All bloom buds were picked off last season, but this year I allowed the trees to bear, which they did abundantly, so much so that more than a reasonable crop was taken from the trees directly the Apples were about to take their second swelling. In spite of the crop of fruit obtained from these young trees, the growth in the majority of instances has been all that could be desired, and so is the prospect for next year's crop, judging from the quantity of fruit buds.—E. M.

**Pears on cold soils.**—What a difference there is between the growth and the cropping quality of Pears in the open on cold soils as compared with Apples. Here but few sorts of Pears will give us even part of a crop, while from trees of the same sorts growing against walls we annually get a fairly good crop, in some seasons a heavy one, thus proving the advantage of a wall over the open in Pear culture. In many gardens, trees of Williams' Bon Chrétien grow to a large size and nearly every year produce abundant crops of clean, well-coloured fruit of excellent flavour. Here we never get a fruit devoid of scab or crack from the open, but from cordons on a west wall we never miss a crop of clean, desirable fruit. Jargonelle, Marie Louise, Louise Bonne of Jersey, Winter Nelis and Glou Morceau are all alike in this respect. Duchesse

d'Angoulême, although it bears freely, is considerably below the average in point of quality, being decidedly gritty. When two or three sorts can be relied upon to give a fair crop of fruit in the open on a cold, heavy soil, it is well that these should be known more fully, as I am certain it is more of a question as to how far the soil is chemically adapted to certain sorts than it is a matter of cultivation. Doyenné du Comice, Comte de Lamy and Conseiller de la Cour are the only sorts we can get to succeed out of twenty of the leading kinds tried at various times.—E. M., *Swanmore*.

## NOTES OF THE WEEK.

**Chrysanthemum Beauty of Exmouth.**—We have seen this variety in fine form several times during the past few weeks, and from close observation consider it a valuable addition to our list of good valuable kinds. The flower of this, though not quite so pure white as some varieties, is very full, with curled incurved florets of great substance. As an exhibition variety it will certainly be a favourite flower. It is a seedling from Avalanche, one of our best Japanese types, and promises to be as great an acquisition as that variety.

**Late-flowering Achimenes.**—What an acquisition to our autumn-flowering plants these are! I have now flowering beautifully about thirty plants. These commenced blooming early in October and will continue into December. The tubers were started in May and have been grown on all summer in an intermediate house near the glass. They were moved into a house with a little fire-heat towards the end of September, where they soon commenced flowering. Achimenes are certainly worth special culture to flower at this late season. The varieties are grandiflora, Mauve Queen and Verschaffelti, of which I send you a few sprays. The earlier batch flowered equally as well, and were most useful for conservatory, also for house and table decoration; but the late-flowering ones seem much more choice and effective in the dull, dark days of November.—G. W. E., *Henham*.

**Two good Melons.**—Amongst several varieties of Melons grown here during the past season I have had the best results from a green-fleshed kind named The Countess, a photograph of which I send you. It is a vigorous grower and a free setter, producing beautifully netted, medium-sized fruits of excellent flavour. Best of All, an older and better-known kind, has also given good returns this season. It comes to maturity about a week earlier than The Countess, but does not keep long after it is ripe, unlike The Countess, which keeps sound and retains much of its good flavour for a considerable time after it has been cut from the plant. From these two kinds I have had fruit almost continuously since the middle of May last till now (November 16)—a fairly long season for home-grown Melons. Growers who have not already done so should give these two kinds a trial, as Melons that do well in a late locality like this and in a cold, moist and almost sunless season like the past can be thoroughly relied upon.—LANARK-SHIRE.

**Apple Dr. Harvey.**—This fine Apple is not grown so much as it deserves to be, probably because it is not well known. At the recent fruit show at Earl's Court I only noticed two dishes of it, though much worse Apples were well represented. In this district it is rather largely grown, and more of it is sold in the local markets at this time of the year than of any other kind. It is in season from mid-September to the end of November and sometimes later than this. Good samples are about the size of well-grown Wellingtons, rather more conical in shape and with a smaller eye; one side is generally higher and rounder than the other, the flat side is often russety and sometimes slightly cracked, but this latter defect rarely interferes with its keeping qualities. The fruit is heavy, average specimens weighing about half a pound; the colour is bright yellow with a crimson flush, and the skin is sometimes spotted; flavour

sharp and brisk, and the fruit contains plenty of juice. It may be used for dessert, and for this purpose many folks like it, but it is chiefly used for cooking and bakes well. The tree is a good bearer and seldom fails to give a crop.—J. C. TALLACK, *Livermere Park, Bury St. Edmunds*.

**Notes from Almondsbury.**—Have any of your readers noticed that a Chrysanthemum known to me by the name of Dornmulle produces exquisitely coloured leaves? I send a few specimens. No other of my Chrysanthemums have coloured leaves, and they all have had the same treatment. I have recently acquired seventy Calochorti in nine sorts. I should be gratified if any reader would say whether I had better keep them out of the ground until January or plant now. I am taking very great pains about the soil and bed (raised) where they will stand, and I cannot, I suppose, do better than follow instructions given by Van Tubergen; but there must be some difference between his winters and mine. Have any rosarians turned their attention to the green Rose of Teneriffe? It is very ugly, but it blooms so freely and each bloom remains *in situ* so long, that it has virtues which might be considered worthy of transmitting to *pulchriori filia*. Here we have had a dry year and a dry October. Never have the leaves been to my knowledge more gorgeous, and we have had of late many bright sunny days following foggy mornings and frosty nights.—C. O. MILES.

## SOCIETIES AND EXHIBITIONS.

### ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 15.

#### Orchid Committee.

THE meeting on this date was one of the smallest held this season. This and the previous meeting have undoubtedly suffered from the great number of Chrysanthemum shows all over the country, which attract both competing exhibitors and those who stage miscellaneous productions. The smallness of the meeting this month must not on any account be taken as an indication of declining interest, for as a whole the meetings at the Drill Hall, at Chiswick and the Temple have been fully maintained with marked increase in many ways. Chrysanthemums of course were shown in considerable numbers, chiefly new varieties, whilst a few good Orchids principally from trade growers were also staged. The display of fruit was smaller than usual; this may also be attributed to counter-attractions at the Chrysanthemum shows.

First-class certificates were awarded to the following:—

**CYPRIPEDIUM MORGANIE BURFORDIENSE.**—A remarkably fine form of this, one of the best of all the hybrids in cultivation. The specimen shown was a vigorous plant bearing two strong spikes, each with two flowers; the colouring throughout is deeper and richer than in the type, the petals being more densely studded with dark spots of a rich claret shade; the lip is also of the two finer. From Sir Trevor Lawrence's collection.

**CYPRIPEDIUM TITYUS** (C. *oenanthum* *superbum* × C. *Spicerianum*).—This hybrid is extremely interesting, inasmuch as four distinct species are concerned in its ancestry. The seed parent is C. *Spicerianum*; C. *oenanthum* *superbum* was obtained from C. *insigne* var. *Maulei* and C. *Harrisianum* *superbum*; and C. *Harrisianum* *superbum* was obtained from C. *barbatum* and C. *villosum*. In C. *Tityus* the growth is compact the dorsal sepal white, with a few dark spots up the centre, and green at the base; the petals are greenish and the lip also, showing traces of C. *insigne* and C. *Spicerianum* more than any other parentage. From Messrs. Veitch and Sons.

Awards of merit were made to

**CATLEYA LABIATA ALBANENSIS**, of which an excellent example was shown. It is best described as a somewhat pale form of C. *labiata*, the lip



large and finely fringed and of a dark velvety crimson, with lighter blotches in the throat. From Messrs. Sander and Co.

**CATASETUM TUBULARE VAR.**, with flowers of a chocolate shade and freely spotted, more interesting than beautiful, the sepals and petals reflexing so much as to detract from the beauty of the flower. From Mr. Wellbore Ellis, Dorking.

**CYPRIPEDIUM PERSEUS** (C. Sedeni porphyreum × C. Lindleyanum).—The growth is very vigorous, more so than in C. Sedeni, which it also greatly resembles in the flowers and general habit; but the colours are much richer, with more of a crimson shading, the lip very prettily spotted on the inside on a light ground. From Messrs. Veitch and Sons.

**LELIO-CATTLEYA AURORA** (Cattleya Loddigesi × Lælia pumila Dayana), in which the growth and habit are that of the latter parent, whilst the colour of the sepals and petals is a pale rosy lilac, the lip much after L. pumila Dayana. It is an acquisition to the dwarf hybrids. From Messrs. Veitch and Sons.

Of other Orchid exhibits there were a few groups of small plants, Messrs. Sander and Co. showing amongst other things a remarkably fine *Cypripedium Leeanum* superbum, finer probably than it has been seen before. The plant bore some eight or nine flowers of extra size and vigour, the dorsal sepal in each being unusually large, and the colour mainly a pure white; the lip and petals were also finely developed. C. Leeanum excellens was also shown. This has more colour, but not nearly so large as the first named. C. G. S. Ball (C. Spicerianum × C. Lawrenceanum) has pale greenish yellow flowers with chocolate markings; the dorsal sepal resembles that of the first named parent, with traces of the colour of the latter at the edges. *Aerides Balfouri*, a small-growing species with greenish white flowers; *Odontoglossum Rossi* albens, a white variety with very pale green spots; *Oncidium pretextum*, a brownish-coloured species after O. crispum in this respect, but with yellow in its flowers, and O. pretextum pratorum, which is best described as having flowers much darker in colour—a rich bronze—were also sent.

Messrs. B. S. Williams and Son showed a few good *Cypripediums*, amongst which C. Pitcherianum (Williams' var.), with extra large and fine flowers, C. Adonis superbum, a distinct hybrid, with traces of C. Spicerianum, and C. Wallaertianum, which comes close to C. Harrisianum, were noteworthy. Here was also a fine variety of *Cymbidium giganteum*, the colouring richer than usual. Messrs. H. Low and Co. showed *Vanda Amesiana*, several plants of *Oncidium tigrinum* (a fine autumn-flowering Orchid), *Cypripedium Harrisianum* superbum and C. H. nigrum, the former a splendid variety, the latter a darker form; C. Chamberlainianum, C. Bella, C. Haynaldianum, and C. callosum.

Messrs. Veitch and Sons also had cut blooms of C. macrochilum (C. caudatum Lindleyanum × C. longiflorum), partaking much of the caudatum type; also C. Leeanum superbum and a nice plant of C. Niobe, one of the finest of the later acquisitions, being also quite distinct; the upper edges of the petals being undulated give the flowers additional attraction. Mr. Fitt, Panshanger Gardens, Hertford, showed four well-grown plants of *Cypripedium insigne*; whilst from Sir Trevor Lawrence came *Cypripedium pavonium* (C. Boxalli × C. venustum), a distinct and promising hybrid with brownish flowers, very glossy in appearance, and a cut spike of *Calanthe sanguinaria*, with dark crimson flowers. From Mr. Statter, Stand Hall, Manchester, came *Cattleya Harrisii* (C. guttata Leopoldi × C. Mendeli), the flowers having the form and substance of the first-named parent, but quite destitute of the spots upon the sepals and petals, the colour of which is best described as that of C. guttata suffused with pale pink, the lip a pale crimson colour. From Mr. Lucas, Warnham Court, Horsham (Mr. Duncan, gardener), came a very fine variety of *Cattleya* in C. Massaiana, a rich form of C. aurea, with the lip of an intense rich velvety crimson, veined with orange in the throat, and two plants in good flower of *Angraecum bilobum*.

### Floral Committee.

A first-class certificate was awarded to

**BEGONIA DECORA**.—A dwarf-growing species from Malaysia, with light bronzy foliage and pale green venations. As a dwarf decorative plant it is an acquisition, being decidedly distinct. From Messrs. Veitch and Sons.

Awards of merit were made to the following:—

**CHRYSANTHEMUM MR. C. BLICK**.—A rich yellow Japanese, which should be a marked improvement on W. H. Lincoln, being intermediate between that variety and Mr. H. Cannell in character, the flowers of extra size. Shown by Mr. Martin Smith.

**CHRYSANTHEMUM MRS. DOROTHEA SHEA**, which has much of the character of Val d'Andorre, but paler, a fine flower. Shown by Mr. Shea, Foot's Cray.

**CHRYSANTHEMUM LORD BROOKE**.—One of best incurved Japanese yet shown, and, no doubt, the finest new kind seen this year; the colour a bright golden shade, with rich crimson veinings, petals broad and flowers full. From Messrs. H. Cannell and Sons.

**CHRYSANTHEMUM AIDA**.—A very pretty reflexed Japanese, of medium size and beautiful shape, the petals tipped with straw colour, the inner portions more of a pale bronzy crimson. From Messrs. H. Cannell and Sons.

**CHRYSANTHEMUM PRINCESS VICTORIA**.—A full deep flower of the Japanese section; in colour not a pure white, there being a faint trace of yellow, evidently a vigorous variety. From Mr. Seward.

**CHRYSANTHEMUM MRS. NEEDS**.—Another Japanese with much of the character of Belle Paule, but decidedly brighter in colour, the white also quite pure, a delicately beautiful flower. From Messrs. J. R. Pearson and Sons, Chilwell.

**CHRYSANTHEMUM ROBERT FLOWERDAY**.—An incurved Japanese, the reverse of the petals silvery, the inner side deeper in colour than in N. W. Coles, whilst the build of the flower is much better. From Messrs. Pearson.

In the class for a group of *Chrysanthemums*, distinct, each plant to carry not less than twenty-four flowers, no artificial training allowed other than simply staking out the branches to avoid crowding, pinching or cutting back, the plants in a young stage optional, Mr. G. Wythes, Syon House Gardens, was the only competitor, being awarded the first prize and silver-gilt Flora medal for well-grown plants, carrying good flowers in a fresh condition—Val d'Andorre, Elaine, Edwin Molyneux, Etoile de Lyon, Mrs. Dixon, and Cullingford being the best plants. From the same source also came a good bank of cut blooms backed by fine-foliaged plants, the blooms being inserted in flower-pots with from a foot to 18 inches of stem, a very good way of showing them, the front being finished off with dwarf Maiden-hair Fern. A silver Banksian medal was awarded.

Mr. H. B. May had a most extensive display of well-grown Ferns of small and medium size, suited either to the greenhouse or the stove, either in pots or for baskets, the whole of the plants being characterised by a hardy growth, denoting endurance under exposure. *Gymnogrammas* were represented by the best kinds, as G. peruviana argyrophylla, G. Mayi, a sulphury variety, very distinct; G. Alstoni, G. schizophylla gloriosa, G. grandiceps superba, a deep golden crested form, and others, also the best of the *Adiantums*, the new variegated forms of *Pteris*, P. tremula variegata being conspicuous, with several good healthy examples of *Platycerium grande*, just the plants to start with; *Lastrea lepida* and L. patens, two of the most beautiful of the genus, and the seldom seen *Marattia Cooperi* and *Aglaomorpha Meyeniana* (silver-gilt Flora medal). Messrs. H. Cannell and Sons, Swanley, had a beautiful display of winter-flowering zonal *Pelargoniums* in large bunches, the best being Mme. Melba, a white suffused with pale pink; Maud of Wales, deep pink; Mme. de Bondeville, recently certificated; Beauty of Kent, Swanley White, and W. P. Wright, a brilliant scarlet (silver Banksian medal). From Mr. Miller, Ruxley Lodge Gardens, Esher, came a charming basketful of 'double Violets, quite refreshing. Messrs. H. Cannell and Sons also

had several other good and promising *Chrysanthemums* in Kentish Yellow, Lillian Russell, and others, with older kinds, as Louis Boehler and F. W. Flight. Messrs. Veitch and Sons also showed some very fine blooms of Japanese, Robert Cannell, Mrs. Falconer Jameson, R. C. Kingston, Violet Rose, and Vivian Morel being particularly noteworthy.

### Fruit Committee.

The exhibits before this committee were not numerous, Apples to name and seedlings, with some Melons and Tomatoes being the chief exhibits. Mr. Wythes sent from Syon House a good collection of Melons—some two dozen fruits—well finished and of high colour (bronze Banksian medal). Mr. Miller, Ruxley Lodge, Esher, sent a seedling Melon named Golden Ball, a white-fleshed variety. This the committee requested to see earlier in the year. The same exhibitor staged a nice dish of Brown Turkey Figs of good flavour. Messrs. R. Veitch and Son, Exeter, sent a new Pear, but too much resembling Pitmaston Duchess to merit a distinct award. Seedling Apples were sent by Mr. W. M. Rose, Ilfracombe; Mr. McDonald, Totteridge; Mr. Carol, Edgware, and others. Plums in a dried state were sent by Mr. P. Crowley, Waddon House, Croydon, the variety being Rivers' Early Prolific. They had been dried in an ordinary kitchen oven, the fruit being then placed in jars with a little sugar or syrup, the result being very satisfactory. A Tomato named Satisfaction was sent by Mr. Gilbert, Burghley. As it was said to be a good variety for forcing, the committee desired fruit to be sent in March. A very fine dish of Potatoes named Colossal was sent by Mr. Fidler, Reading. They were of great weight, good shape, and had few eyes. The flesh is yellow. Mr. Barron was requested to have samples cooked and submitted to the next meeting.

Mr. C. Pearson, in the course of his remarks on zonal *Pelargoniums*, said that these did not receive the attention they deserved, as he considered there were no more useful plants for winter decoration. Many people considered the flowers too fragile and of short duration in a cut state, but with careful gumming and packing, the blooms lasted longer than might be expected. Gumming required care to prevent the petals being spoiled. Another objection was the use of inferior gum; this should be good, and it could readily be made at home if required. Only the smallest quantity should be applied to the centre of each bloom. He had prepared a list of the best kinds for winter blooming, which will be found in the society's journal. He thought a mistake was often made in growing too many of H. Jacoby, as often the colour failed quickly under glass. He preferred Charles Smith. The old Vesuvius was often grown in quantity when there were others far better and with larger flowers. For table decoration in a small state, Vesuvius, when struck late and grown in small pots with two or three spikes of bloom, was very useful. Having decided on the varieties to grow, the number much depended upon the size of plant required. He preferred to strike the cuttings in the August of the previous year, but plants rooted in April and potted on would give good results. No stimulant was required during the growing season, as a hard, short growth was essential to get good winter blooms. Cuttings struck late would require to be in 5-inch pots for blooming, and to be grown chiefly under glass at the start, finally placing them in the open on a bed of ashes to mature and harden the growths. The larger plants would be placed in the open earlier, keeping them as sturdy as possible. In all cases the plants should get a covering in the autumn to throw off heavy rains and prevent water-logging, as the tender roots decay if too wet. Cold frames are useful for this purpose, as the plants can be freely ventilated and kept cool till placed in their winter quarters. The best form of house for these winter-flowering *Pelargoniums* was a low span-roof running north-east to south-west, thus giving all the sunshine possible. It should also be free from drip, but with ample ventilation and proper heating appliances; indeed without the last and the



glass kept scrupulously clean to admit all the light possible, it was useless to attempt the growth of these plants. A warm, dry atmosphere is also necessary in dull weather, with a temperature of 50° to 55° by night and 10° higher by day, water being sparingly applied in dull weather, care also being taken not to spill it over the floors and to maintain a buoyant atmosphere. Pinching or stopping during growth was necessary to get large trusses of bloom in winter. The soil for the plants is one of the first requirements, and should consist of good turf of a light texture, stacked some months before, mixing with it some cow manure, and sharp sand. Leaf-mould, which is often employed, should not be used, being too light and porous. Pelargoniums for winter flowering must get special attention, with abundance of light and sun. Mr. Cannell said Mr. Pearson had thoroughly gone into the matter, but there were a few points he would like to call attention to, viz., the necessity of getting the flower-spikes in advance of the foliage, the proper amount of leaves to each variety, and a suitable temperature, without which it was impossible to get good trusses. The plants must be close to the light and get good culture. Mr. Bunyard said Mr. Pearson had omitted from his list West Brighton Gem, one of the very best winter bloomers, but no doubt there was more success when special attention was paid to culture than to mere varieties.

#### NATIONAL CHRYSANTHEMUM SOCIETY.

NOVEMBER 8.

##### Floral Committee.

THE floral committee meeting of the above society, held on the first day of the great November show, is always the most interesting of the series on account of the large number of the exhibits which comprise the best new seedlings and sports of the season. That held on the above date was no exception to the rule. The following varieties were awarded first-class certificates:—

**EDWIN LONSDALE.**—A Japanese variety of American introduction; a large bloom of bright pale red with a silvery reverse. Shown by Messrs. Pearson.

**PRINCESS VICTORIA.**—A large full flower of the Japanese type, colour creamy blush. This was staged by Mr. Wm. Seward.

**CHARLES SHRIMPTON.**—A reflexed form of Japanese flower, very large in size, of a pale chestnut-crimson. Also exhibited by Mr. Wm. Seward.

**LE DEUIL.**—A good Anemone flower of large size, deep purple-crimson with full high disc of same shade, belonging to the Japanese Anemone section. Staged by Mr. Ives, gardener to Mr. E. C. Jukes.

**BROOKLEIGH GEM.**—An incurved sport from an old favourite (Jeanne d'Arc), pure white, and identical with the parent form in other respects. Sent by Mr. R. Cawte.

**MISS DOROTHEA SHEA.**—A grand bloom of pure Japanese build. The florets are deep and spreading, the colour rich crimson-cinnamon or buff, with reverse of old gold. Shown by Mr. C. E. Shea.

**ROSY MORN.**—A reflexed Japanese, deep full bloom of good size, colour soft shade of pinkish rose. This variety was staged by Messrs. J. Carter and Co., of Holborn.

**LUCY KENDALL.**—A fine deeply built incurved variety of crimson-purple colour, but rather narrow florets. Shown by Mr. R. Owen.

**ROBERT PETFIELD.**—This is another incurved seedling from the Maidenhead nursery. The form is good, and the florets broad and of good texture; colour deep rose, being somewhat darker on the outer florets. This, too, was shown by Mr. Owen.

**C. BLICK.**—A large incurved Japanese, with very long florets of deep golden yellow. This is an English seedling, raised by Mr. Jones, of Lewisham. The certificated bloom, however, was submitted to the committee by Mr. Blick.

Among other promising sorts staged at the same meeting we noticed James Easton, an incurved Japanese, colour light yellow, shaded rose; Duke of York, a flower of the same type, with broad, deeply coloured amaranth petals and a silvery reverse; Miss Nathalie Brun, an Anemone

with quilled ray florets of blush white, and a high disc shaded yellow; Van der Heede, a Japanese with flat, stiffish florets, light crimson-buff.

#### THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

THE annual dinner of this charity was held on Tuesday, November 15, in the Whitehall Rooms of the Hotel Metropole, the Rt. Hon. Lord Brassey in the chair. The postponement of this gathering from June to the above date was caused through the death of Lady Goldsmid occurring in May last, thus preventing Sir Julian Goldsmid from presiding. The dinner was remarkably well attended, his lordship being supported by Lord Addington, Sir Trevor Lawrence, Rev. W. Wilks, Mr. H. J. Veitch (treasurer), Mr. H. E. Milner, Mr. Philip Crowley, Mr. N. Sherwood, Mr. G. F. Wilson, and other well-known patrons of horticulture, including prominent nurserymen and gardeners. The noble chairman strongly urged the claims of the institution, alluding to the fact that "many of our most pleasing recollections are those in association with the garden"; also that the well-kept garden bears the mark of care and skill throughout its length and breadth.

His lordship alluded to the fact that there are now 156 pensioners on the funds, the oldest being 91 years of age. At the last election, there were 19 unsuccessful candidates; whilst this year there are already 32 candidates who are seeking election, three-fourths of which number cannot possibly be elected if there be not a liberal response to the claims of the institution by its supporters and others who have not hitherto assisted it. Lord Addington and Sir Trevor Lawrence also spoke on behalf of the institution. Rev. W. Wilks also in his remarks threw out an excellent suggestion when he urged that the collections at harvest thanksgiving services might be occasionally devoted to its support. The rev. gentleman in his own parish this year acted thus, the result being that a sum of £30 was handed over to the institution. Mr. H. E. Milner announced that the sum of £250 would be handed over from the International Horticultural Exhibition for the Gardeners' Royal Benevolent Institution.

The secretary (Mr. Geo. J. Ingram) announced the welcome fact that he had received the names of 53 new annual subscribers, whilst the response to the appeals for donations had been most generous, including £50 from the Rt. Hon. Chairman, £100 from Messrs. De Rothschild; these and other amounts, including the noble gift of £500 from Mr. and Mrs. H. J. Veitch on the occasion of their silver wedding, making up the handsome sum of more than £2100. This will, there is good reason to believe, be further augmented. The subscriptions and donations should really reach £2500 to enable the committee to deal with the most urgent cases that will be certain to come before them at the next election. The appeals made to them are in many cases of a piteous nature, yet their hands are in a measure tied for want of more funds.

**The park at Lyons.**—We have lately visited, by the advice of a French friend, this park, and were pleased at the bold, true way in which it is laid out. Gentlemen who say there is no "design" in landscape would probably have cause to reflect if they saw its fine broad water, handsome lawns, and picturesque and varied groups of trees. We have rarely seen anything so good in its way, although the necessity in such public places of accommodating monkeys, tiger cats, and other creatures, living very artificial lives, often strains the resources of the landscape gardener. It would probably be better to put these and like animals always by themselves in a special garden, and leave the park with a simpler motive than is usual in such places on the Continent. The multiplicity of structures, and not pleasant ones, is a great drawback. The same remark applies to complicated bits of botanic garden; but even these things have been very well done, i.e., the place has been spoiled as little as need be by them. We have never, however, seen anything uglier than what is

called "mosaic culture" in this park—enormous raised masses of ridiculous floral design, as if the pastrycooks of the city had done their best to make a show, and each had been allowed to place his pie on a wide and pretty lawn. Nearly every one of the fine lawns in the central part was spoiled by these excrescences, so that repose was impossible. If the people of Lyons like these things—which is doubtful—surely the best way would be to put them in a place apart, and not to spoil a fine park with them. The idea that you must put showy and inartistic things of this kind to give colour in a public park has not any truth in it, because it is just as easy to have splendid colour in an artistic way. For instance, there is the lovely colour given in autumn by the Tritomas, Asters, and many other autumn flowers of which we saw few or none in the place. There are various ways of giving fine colour of beautiful plants without resorting to the pastrycook's idea of a flower bed.—*Field.*

#### PUBLIC GARDENS.

**Finsbury Park Chrysanthemums.**—Finsbury Park was the first park under the control of the council at which there was an autumn exhibition of Chrysanthemums; but since the first exhibition, which was held in a wooden shed many years ago, no suitable provision has been made for the show. The Parks Committee have, therefore, considered it desirable to erect a Chrysanthemum house, and the council so far approved of the idea as to sanction an expenditure for that purpose in the estimates for this year. They recommended that the council do authorise the committee to incur an expenditure of £1000 on capital account for the erection of a Chrysanthemum house in Finsbury Park, in accordance with plans prepared by the architect. This was agreed to.

**An East London recreation ground.**—In Shandy Street, Mile End, a recreation ground was some time ago laid out by Captain Beaumont's trustees on the site of the East London Cemetery, which has long ceased to be used for interments. As, however, no funds are forthcoming for the maintenance of the ground, it has been offered to the council at a nominal rent. The Parks Committee have visited the place and find that it would be a valuable addition to the open spaces of London, and that Captain Beaumont is prepared to let it to the council at a nominal rent of 5s. per annum, provided the council will maintain it for the recreation of the public. The number of men required would be two, at an annual cost of £145 12s., and with stores and material the maintenance would probably cost about £200 a year. They recommended that the council do open and maintain Shandy Street recreation ground and pay a rent of 5s. per annum for the same, subject to an estimate for £200 being submitted to it by the Finance Committee as required by the statute, and to the form of agreement being settled by the solicitor. This was agreed to.

**Rose Princess Clementine.**—Can any of your readers tell me where I could buy the above? I have written to several well-known rose growers, but without success.—H. E. G.

**Pruning the Pine tribe.**—M. Louis Kropatsch, head gardener to the Emperor of Austria, writes to us on the note on this subject in THE GARDEN. "Referring to the note on pruning the Pine tribe (p. 419), allow me to state that in the Imperial Gardens at Laxenburg are extensive young and old plantations of *Abies excelsa*, *Pinus austriaca*, *P. sylvestris*, and *Juniperus virginiana* which are never pruned."

**Names of plants.**—J. J. S.—Please send better specimens.—W. Morris.—The Spindle Tree (*Eucynurus europæus*).—A. M'Lennan, *Portobello*.—1, *Asplenium* sp.; 2, *Doodia aspera*; 3, *Adiantum macrophyllum*; 4, *Heterotoma lobelioides*; 5, *Aster sikimensis*; 6, *Atractylis lancea*.—C. B. B.—1, *Agathaea cœlestis*; 2, *Veronica virginica*; 3, cannot name from such scraps.—J. Riddell.—*Platanus acerifolia*.

**Names of fruit.**—J. W. S.—The Pears sent are quite rotten. The black spots on your Pears are caused by the fungus *Cladisporium pyrorum*.



## WOODS AND FORESTS.

## QUERCUS DENSIFLORA.

THE Tan Bark Oak, as *Quercus densiflora* is usually called in California, is morphologically the most remarkable of all the North American Oaks, and in some respects is almost as much of a Chestnut as it is of an Oak, although its fruit is a true acorn. The inflorescence resembles that of the Chestnut. From those of the Chestnut, however, the female flowers differ in being solitary. This tree is particularly interesting, therefore, as showing the near relationship between the Oak and the Chestnut. The Tan Bark Oak is one of the handsomest and most useful Oaks of North America. Large specimens, which are sometimes 100 feet high, develop a broadly conical to oblong head of unusual regularity and beauty. Under the shadow or on the borders of the forests of Redwood, the favourite situation of this tree, it is forced upward in search of light, and then forms a more or less spire-like top, but in open situations where light and space abound, the branches spread out horizontally and form the broad head which makes some specimens of this tree as handsome and symmetrical almost as it is possible for any Oak tree to become. The leaves are persistent through the year, large, leathery, and lustrous, in shape and size not inferior to those of a vigorous Chestnut tree, but much thicker, and while young covered on the lower surface with pale tomentum, which, in disappearing, leaves them pale and smooth. Like all California Oaks, individuals of *Quercus densiflora* differ remarkably when subjected to different conditions of climate and soil. Sometimes they are tall and stately trees, and sometimes little bushes with slender stems only a few feet high. Sometimes the leaves are 6 inches or 7 inches long, sharply and boldly toothed, and very thick; on other individuals they are thin, entire or nearly so, and barely  $1\frac{1}{2}$  inches long. The fruit, however, does not vary except in size, so that when the trees are in flower or are bearing fruit, it is easy to distinguish them in spite of the uncertain characters afforded by the foliage.

The wood of the Tan Bark Oak is hard and heavy; it is too porous, however, for casks, and, like that of all the California Oaks, is too brittle to be of much use for the purposes for which Oak timber is mostly esteemed, although it makes good fuel. The great value of the tree is in the character of its bark, which is extremely rich in tannin. The bark of no other tree of the Pacific coast is so esteemed by tanners, and for years its systematic destruction has been going on in all the region it inhabits. This, fortunately, is of considerable extent, as the Tan Bark Oak is scattered over the coast-ranges from the valley of the Yumqua River, in Oregon, to the Santa Lucia Mountains, in Southern California. Unlike some of our eastern Oaks, however, it never forms a large part of the forest, and although it was by no means a rare tree thirty years ago, it was nowhere very abundant. Like other Oaks, it reproduces itself freely if fire and browsing animals do not destroy the young plants too often, but natural reproduction is not keeping pace with the annual destruction of the old trees, and unless conditions of forest-management in California are radically changed, in the course of a few years the Tan Bark Oak, like several other California trees, must become extremely rare, and California tanners will have to depend on the Hemlock forests of the far

north, or on the bark of Australian *Acacia* trees, raised in the south, to supply their vats. This is a state of affairs which they should not contemplate with equanimity, as it will mean that they will not be able to compete advantageously with the product of eastern tanneries.—*Garden and Forest*.

## THE WOODLAND IN AUTUMN.

IN the dull days of late autumn when flowers which adorned our hedgerows and copses earlier in the year have, as a rule, disappeared, the lack of floral beauty is supplied by the gorgeous and varied hues of autumnal foliage or by the berries which take the place of flowers. The sun now only shines fitfully and hardy flowers are gone, but Nature, ever loving to adorn herself, is fain to make sunshine and colour in the rich golden, red, and russet hues which she substitutes for the earlier tints of green. What the heat of midsummer sunshine has failed to effect the gradually lessening flow of sap accomplishes, and the glossy green disappears from the leaves, giving way to brilliant tints which, though very lovely while they last, are yet sure signs of decay, as but a few weeks at most elapse after leaves have changed colour ere they fade and fall to the ground. In the dark crimson of the Bramble leaf we find the nearest approach to the gorgeous tint of the clinging variety of the Virginian Creeper, a lovely autumnal plant, but the Bramble has a great advantage over its rival in colour in the fact that it also has lovely scarlet and purplish black berries. The wild Rose also now carries berries of a deep scarlet hue, and with the Bramble and Thorn, whose hips are now abundant, give a lovely tinge of colour to our country hedges.

Especially beautiful amongst the trees growing in our woods is the Beech with its far-spreading branches drooping gracefully almost to the ground, its tints in autumn varying from pale gold to dark chestnut-red, and when its leaves fall in woods, as in Knole Park, famous for its Beech trees, they form a most beautiful natural carpet, taking the place of Grass, to which the Beech seems inimical. The Mountain Ash or Rowan Tree is another lovely tree in autumn, easily distinguished at this time of year by its pinnate leaves and bright red berries, which grow in handsome bunches and ripen early in October. Birds much appreciate these attractive berries, and eat them with avidity. Contrasting with the darker reds and browns of other trees are the pale golden hues of the Elm and Poplar, their leaves seldom assuming deeper tones than pale orange, although they sometimes have a ruddier tint. Being tall and stately, they appear to advantage in woodland scenery. As a contrast to these deciduous trees arrayed in their autumnal splendour and adding a sobering grandeur to the picture, the beauty being thereby somewhat enhanced, we find the various kinds of Pine, Cedar, and other trees of the Fir tribe, their blue-green colours acting as a foil to the surrounding reds and yellows of their more gorgeous neighbours.

The "Lady of the Woods," with her glistening white and gently bending stem, is also a refining element in the general tone of autumn woodland colouring, the slender branches and pendulous, delicate, yet most graceful shape assumed by the weeping variety of the Birch being especially beautiful.

These are but a few of the lovely trees to be seen in our woods, and which at present are lighting up the country-side with their final and expiring glow.

C. J. GRAHAME.

*Croydon.*

**Forestry notes.**—Transplanting in the nursery will now be well in hand, but too young and small seedlings should not be lined out till spring, the frost having an injurious tendency by lifting the plants wholesale from the soil. Seed-beds may be prepared and sown, but the bulk of such work will be all the better if left over till early spring. Meantime the seeds of our various forest trees may be well dried and stored away in a cool, dry and airy

place, but not in too great bulk together, till wanted for sowing. A few acorns, Horse and Spanish Chestnut and such-like large hardy seed may be sown at once. Pulp fruit, Holly, Hawthorn, &c., should be mixed up with sand and left till the beginning of the year before being sown. Roads and walks will require extra attention during the present wet weather, while ditches, gratings, and culverts should be kept free of debris, so as not to prevent the flow of water.—A. D. W.

**Spruce Fir timber.**—The Norway Spruce will thrive and produce useful timber on boggy ground, where few other trees will succeed. In Scotland and in Ireland the thinnings of Spruce sell as readily as those of Larch for fencing and for pit props. For roofing farm buildings Spruce has long been used in Scotland.

**Transplanting Oaks.**—Differences of opinion prevail respecting the advantages to be derived from Oaks raised direct from the acorns in the woods as compared with those which are transplanted from the nursery; but there is every reason to believe that as good timber can be obtained by the one method as by the other. Where the young plants are undercut in the nursery they generally flourish more vigorously after removal, and the process of heading down bark-bound and unhealthy-looking plants often in a few years gives them the lead of the uncut ones. Too much importance is attached to an undisturbed tap-root by those who forget that its main functions are lessened, or cease altogether, when the tree gets well established in the soil. Thus, when the top of an Oak assumes a rounded form, the tap-root ceases to descend, even though the lateral roots may still continue active.—X.

**The Elder as a nurse tree.**—It is somewhat remarkable that the common Elder is not oftener used as a nurse. In places where the strong west wind blows for several months in the year, and where even common Gorse looks as if it were rolled, the Elder will grow and thrive, and anybody about to start a plantation in such places would do well, as a preparatory step, to plant the ground in the interior thinly over with Elder bushes, but as thickly as possible along the margin, especially on the windward side. This skeleton plantation of Elder, filled in with timber trees, will have a massive and telling effect. Elder will also withstand sea breezes as well, and perhaps better, than any other shrub or tree. No other tree or shrub will grow in the shade or stand the drip of trees better than the Elder. In woods, the darkest and gloomiest spots may be made cheerful and lively by means of the Elder planted freely. As cover in woods and plantations, where little else would live, the Elder is valuable. Lastly, the Elder makes a good plant for filling up gaps in hedges, especially where they pass under trees, and for boundary fences, where nothing else will grow. It will preserve the continuity of a hedge right up to the trunks or stems of even Beech and Horse Chestnut. Moreover, a well-developed, full-grown Elder tree in full bloom when seen at a distance is a noble object.

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No. 1097. SATURDAY, November 26, 1892. Vol. XLII.

"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—*Shakespeare.*

## CHRYSANTHEMUMS.

### THE CUT CHRYSANTHEMUM IN EXHIBITIONS.

WE have now reached the end of another Chrysanthemum season, and nine-tenths of the exhibitors who compete for prizes still hold the same conservative ideas of arrangement upon flat boards. It is only when now and then an exhibitor stages "not for competition" that any fresh idea in arrangement is to be seen. Before going any further it is only just to add that those who draw up the schedules of prizes are nearly all to be found adhering to old lines. They seem in many instances to be incapable of adopting any new departure; thus they are even more conservative in their way than those who compete for the prizes offered. If an exhibitor were to adopt a fresh system of staging his flowers, he would probably suffer for his temerity and be pronounced eccentric. At most shows the exhibitors are bound to certain sizes for their boards so as to secure uniformity, just as if uniformity, forsooth, added to the attractiveness or natural beauties of the flowers. Against this it may be urged, I am fully aware, that if no such rules as to sizes were laid down, the exhibitors would probably occupy more space than was needful. This might be so, but to obviate any failure in this way, the largest classes might easily be reduced in numbers. In fact, as regards the number of blooms, I think a reduction might be made, for unless the collection be a very large one, the cutting of a quantity makes a considerable hole in the numbers grown. As compared with the ordinary show board for Chrysanthemums, I am inclined to favour the boxes as used for Roses with Moss (fresh and green) as a groundwork. For instance, contrast two boxes of Roses in the summer-time, one staged in the usual manner upon green Moss and another upon a board as used for Chrysanthemums. Which, may I ask, looks the better of the two? Is it not the box with Moss upon it for the simple reason that the Moss itself adds to the effect as a whole? Transfer the comparison to this the Chrysanthemum season, and I maintain that the same argument holds good, more particularly when the stems of the Chrysanthemums are not denuded of their foliage.

Only recently I saw a lot of this the queen of autumn flowers exhibited upon a Rose box with Moss, the upper leaves being left on, and the effect was in its way all that one could wish. If the question were asked regarding the retention of the upper foliage, the answer in most cases would be that it detracts from the appearance of the flowers. If this be the case, how is that it does not do so in the case of the Rose? In one competing stand only have I noted the foliage allowed to remain, and there it decidedly added to, rather than deprived the blooms of any effect. The stripping away of the leaves of the Chrysanthemum facilitates the "cupping" of the blooms, so as to make them appear upon the exhibition board what they are not in reality when upon the plant in a natural state. This no doubt is the real reason why the foliage is stripped off, the means adopted and the ends arrived at both being in themselves absurd. We hear now-a-days of "patent" and "improved" tubes for the flowers, ingenious

inventions reflecting credit upon the designers as far as their construction goes. But instead of using them, more particularly for the Japanese section, a simple piece of wire turned at the top in the form of a circle and fixed to the stem at the base would answer all purposes, the stem being blocked for security in transit to hold the flower firmly in its position. By this arrangement the foliage can be retained. Or such a tube as Beckett's could be used without making actual use of the cup portion or top, merely blocking the stem at the lower end, where it enters the outer cup or water retainer. In the majority of cases, it is the usual practice to pull down the front row of flowers too close upon the board. They are not thus seen to the best advantage; nor is the middle one in proportion to it. I have noted with pleasure in more than one instance the beautiful effect produced by staging the flowers with from 1 ft. to 18 ins. of stem and the foliage intact, the blooms being inserted into Hyacinth glasses, which with the water they contain are a sufficient balance to hold them erect. This is not an altogether new mode of arrangement, but it is one which all the Chrysanthemum societies might advantageously adopt. Let those who have not given it a trial do so another season and estimate the value thereof by the additional attraction, the public being no mean judges of the better effect produced.

The system adopted in most cases now for the pompon section and the singles also of allowing the flowers to stand well above the boards is in every way commendable. If anyone doubts this, let him contrast it with an exhibit on short stems. The classes for one variety, six blooms, are now much adopted, and rightly so; they are evidently popular classes by the keen competition they create, but they do not go far enough. Instead of one or two, there should be at least half-a-dozen. For instance, the whites as represented by Avalanche, the yellows by Sunflower, the crimsons by Edwin Molyneux, the mauves by Vivand Morel, the lilac-coloured by Etoile de Lyon, and the reds by Val d'Andorre, could all have classes to themselves. Of course, in each colour other kinds could be admitted as well. This would be infinitely better than lumping them all into one class. I would almost guarantee such classes would become popular. Another capital system is that of showing three blooms of a kind in four, six or more varieties. This latter method is being taken up I note by some societies, and a very pretty display it makes. Such classes as these would widen the field of competition and add keener interest thereto. The decorative varieties of the Japanese Chrysanthemums as distinguished from what are known as show varieties hardly ever find a place upon an exhibition table. This results probably from the flowers not being sufficiently large for the usual stands of Japanese as now shown. For instance, such beautiful varieties as Roseum Superbum, Source d'Or, M. Garnier, Sunbeam, Elaine or Triomphe du Nord are rarely seen in any show, unless it be in vase arrangements and bouquets. Why not give this section a class to themselves and let them be shown in trebles similar to Roses? They would tend no doubt to a more lively interest being taken in them. That they are popular no one can dispute, for is it not such as these that are seen in quantity in our florists' shops, the colour, it is true for the time, being regulated in some measure by that fickle goddess "Fashion?" Because the flowers are not large enough ought not to constitute a valid reason for their rejection. One object surely of an exhibition is that of showing to the

public at large what are the most suitable kinds to grow. If this educating factor be absent, one of the advantages to be derived from visiting these and other exhibitions is consequently lost to the supporters. The uses of the Chrysanthemum in a cut state for personal and otherwise artistic decorations have made most praiseworthy advancements during the past few seasons. These examples without doubt enhance the popularity of the flower as much as anything in the average run of our exhibitions in that the Japanese section lends itself so fittingly to this kind of work.

Personally I have my doubts as to the advisability of continuing the bracketing together of the Japanese and incurved sections, and I have noted that others with whom I have conversed on the subject are of the same opinion. It taxes many a grower, even if he be one who cultivates a large number, to make up both sections as he would like to see them. It would be better to split them and the prizes as well. As regards prizes also, I think that a modification might well be made. The first prize is often too much in comparison with what the second and third ones are. This should be altered so as to give a more equal distribution of the prize money. What is wanted is not that a fortunate few should sweep the boards, but that the majority should have a fair proportion as their share. I should like to see the Japanese Anemones and the other Anemone-flowered varieties better represented than they usually are. If the numbers were restricted to a dozen with trios of each as the pompons are now shown, I consider that the attractiveness of this section would be much further enhanced.

FORWARD.

**Reflexed Chrysanthemums.**—If there is one section of the Chrysanthemum that seems to be less understood than another it is the reflexed. Cases are constantly being brought to notice of dispute and disqualification, the chief offender, perhaps, being Amy Furze, about which variety more has been written than almost any other. Until the Japanese varieties were subdivided into the three groups of Japanese, Japanese incurved, and Japanese reflexed, there did not appear much to complain of, but to my mind it seems so simple to decide to what group a flower should belong, that the constant references in the press to the subject cause me much wonder. All Japanese incurved and all Japanese reflexed flowers are merely subdivisions of the great Japanese group. They can all be shown as Japanese, unless specially exempted by the wording of the schedule. No one has yet tried to my knowledge to show Japanese incurved in the old-fashioned incurved classes, and there is just as much ground for doing so as in showing Japanese reflexed in the ordinary reflexed class. As I understand the Chrysanthemum, there are three great families, viz., the Chinese, the Japanese and the Indian. The first family includes the florist's incurved, the old reflexed, and the old type of Anemone; the second family consists of Japanese proper, Japanese reflexed, Japanese incurved, and Japanese Anemone; the third family comprises all the pompons and pompon Anemones. Why some people will insist in staging Japanese flowers in the classes for Chinese varieties I never could quite understand; but they will, and so long as they do so their exhibits must be disqualified.—CHRYSANTH.

**American Chrysanthemums.**—The way in which American Chrysanthemums are pushing ahead is one of the most remarkable developments of this famous flower. Three years ago if the leading prize-winning stands had been examined all over the country, there would not have been found half-a-dozen Chrysanthemums of American origin among them. The best and most frequently exhibited of them were no doubt Gloriosum, Mrs. F. Thompson, Mrs. C. W. Wheeler, Florence Percy,



Moonlight, Mrs. W. K. Harris, and Volunteer. Today, how different is the case. In the leading collections at the Crystal Palace, at Portsmouth, and at the Aquarium were found Miss Anna Hartshorn, Puritan, Louis Boehmer, W. H. Lincoln, Lord Brooke, Miss F. Spaulding, W. Tricker, Gladys Spaulding, Mrs. Judge Benedict, Mrs. E. W. Clarke, Violet Rose, Coronet, Ruth Cleveland, Col. W. B. Smith, W. W. Coles, Lilian Bird, Mrs. E. D. Adams, Delaware, and several others, besides some of those mentioned as being of older introduction. Some of these American sorts have massive incurved blooms of great size and substance, and are almost indispensable in the big classes. The contest between the French and American raisers will be very keen, for with flowers like Etoile de Lyon, Mlle. Marie Hoste, Viviani Morel, Bouquet des Dames, M. E. A. Carrière, the French still have a claim upon our attention for valuable exhibition blooms.—C. H. P.

#### MESSRS. VEITCH AND SONS' CHRYSANTHEMUMS.

At the Royal Exotic Nurseries, Chelsea, for many years past the popular autumn flower has received a large share of attention, and some of our older readers will remember that it was from thence that the seedlings of Mr. Alfred Salter used at one time to be distributed. All the last and present season's novelties are in the Chelsea collection, and at the time of our visit there were more of the incurved blooms open than at any other place we have been to this season. Dealing first with the more popular section, the Japanese, we found the hairy type well represented. Some large blooms of Louis Boehmer were noteworthy for their size, although this variety is in our opinion a long way from being the prettiest of the set. H. Ballantine, a companion flower, is a light lemon-yellow hairy sort, and W. A. Manda has a deeper tone of yellow, although a looser flower. Very attractive are the blooms of Mrs. Falconer Jameson, the colour being bright and clear. Mlle. Marie Hoste, a fine white Japanese, was in good form, and Viviani Morel, although, as usual, very variable in colour, was large and of good substance, and evinced signs of careful cultivation. Sokoto, a deep yellow Japanese raised in America a few years ago, was promising, and near at hand we observed some capital blooms of Robert Cannell, whose richness of colour is remarkably telling when surrounded by flowers of a more sober hue. Florence Davis, the greenish white Japanese, was in fair average condition, and Etoile de Lyon varies at Chelsea, as elsewhere, from a pure white to its orthodox deep rosy mauve. W. K. Woodcock, a semi-globular crimson Japanese, is a promising sort. Violet Rose is another of large size belonging to the Japanese incurved section, the colour being a very rich shade of violet-rose with a lighter reverse. Several plants of Colonel W. B. Smith show here, as we noticed at other places, that it has come to stay for a time at least, and its beautiful shade of golden-bronzy buff is very attractive and striking. Condor for an older variety is rather largely grown, but its centre is always a weak point in this once promising white, large continental Japanese flower. Avalanche, Stanstead White, and Edwin Molyneux need no description, and were all well done. Mr. D. H. Neve, a reflexed Japanese with a pretty shade of purple-blush, looks a promising flower, and the deep crimson-purple of R. C. Kingston was showing its colour well in its early stages. George Atkinson, a large pure white bloom, was slightly shaded with cream towards the centre. The deep crimson-coloured flowers of Mrs. C. W. Wheeler, one of the earliest incurved Japanese of the Molyneux type, raised in America, were particularly good.

The incurved comprised some good examples of Mrs. Robinson King, Mrs. S. Coleman, Bronze Queen of England, Alfred Salter, Lord Alcester, Queen of England, John Lambert, &c. Among Anemones, La Marguerite, a small, but deeply coloured purple self, shows how constant it is, and Mrs. George Benedict with flat ray florets and light yellow disc

was in good form. Two of our old favourites, King of Crimsons and that valuable old variety Julie Lagravère, still retain a place in Messrs. Veitch's collection.

#### NOVELTIES AT THE AQUARIUM.

ALTHOUGH the trade exhibitions offer a wide field for the grower on the look-out for new Chrysanthemums, nobody can fail to have noticed the enormous numbers of quite new flowers that have been staged at the N.C.S. November shows of the past few years, and a visit to one of them is almost as prolific of good results as three or four journeys to the nurseries of the firms who annually import the new seedlings into this country. Last year, and this year too, there was so much to see, that I could find no time to look how the older varieties were done by the prominent prize-winners, but passed by everything except the current novelties of each season. There is so much to learn from them, that anyone whose time is limited cannot afford to devote his attention to the others, and it is almost impossible after a little experience to predict in what way the Chrysanthemum is likely to run for a year or so to come. Out of the new introductions of last year and this the following appear to be a few of the most striking and promising that were staged at the recent Aquarium show:—

MISS DOROTHEA SHEA.—Large Japanese with spreading florets, deep crimson-chestnut and golden reverse.

CHARLES BLICK.—Japanese incurved, colour deep golden yellow, petals very long.

CHARLES SHRIMPTON.—Large Japanese, chestnut-crimson.

MME. LAWTON.—A Japanese Anemone, with flat guard petals, a good disc, white shaded rose.

RODOLPHO RAGIONIERI.—A light blush self-coloured Anemone, flat guard florets.

LORD BROOKE.—Very grand incurved Japanese of crimson-bronze colour.

LE DENE.—Large purplish-rose Anemone of Japanese form with a high well-formed disc.

BEAUTE TOULOUSAIN.—A Japanese incurved of large size, colour very deep crimson with a golden reverse.

MOHAWK.—A very large crimson buff-coloured Japanese incurved.

VICE-PRESIDENT CALVAT.—A bloom of the same type with short, stiff, incurved petals, inside of petals crimson, reverse dull crimson gold.

INTERNATIONAL.—A whorl-petalled Japanese; the petals are very long and pointed, colour pinkish rose.

CHARLES BONSTEDT.—A whorl-petalled incurved Japanese; colour deep rosy mauve.

CONTE OTTAVIANO DA PORTO is very globular in shape, pure white with the faintest blush shade; some of the lower petals were rather loose.

MRS. J. EYERMAN.—A Japanese incurved of a deep rose colour and a silvery reverse.

MRS. J. S. FOGG.—A Japanese flower with narrow petals; colour deep golden yellow.

Mlle. MARIE HOSTE.—A fine large white long-petalled Japanese.

MRS. G. W. GOULDING.—A very broad-petalled incurved of a delicate shade of blush.

GEORGE SAVAGE, a fine white Japanese, was one of the best.

PEARL BEAUTY.—An incurved Japanese of capital form and of an attractive blush tint was good; and so, too, was Miss M. Colgate, a white Japanese incurved. Mrs. C. Harman Payne was one of the best of this variety we have seen this season.

THOMAS HEWITT.—A large blush-coloured Japanese with incurved florets, the outer ones of a deeper shade and a peculiar wax-like appearance on the reverse.

LUCY KENDALL and Robert Petfield, described in our report of the floral committee meeting are useful additions to the incurved section.

BARON HIRSCH also maintained its newly-won reputation.

CHRYSANTH.

**Chrysanthemum groups.**—At most of the autumn shows there are good prizes for groups, but how often are they badly finished. At the recent show at South Shields liberal prizes were offered for groups. The competitors were allowed a free hand, that is, they could use whatever decorative plants they liked, provided the chief factor was Chrysanthemums.

The best group at the northern show was composed as follows: A few tall graceful Palms, each some 7 feet to 9 feet high, made up the background, with Crotons and Ferns freely intermixed at the sides, the base of Maiden-hair. Indeed, so good was the group, that the judges awarded it a silver medal in addition to the first prize. I think it would be of great assistance to exhibitors if the use of other plants, in addition to Chrysanthemums, were allowed, and committees in compiling next year's schedules should encourage this.—G. W.

**Chrysanthemum Miss Rose.**—This is one of the best of all the single Chrysanthemums for growing in small pots, as it forms neat little bushes very freely branched, and produces a great profusion of pretty blossoms of a blush-pink tint. In this the petals, which stand out straight or nearly so, are quite pointed, thus imparting to it a different appearance from many single Chrysanthemums. If the cuttings are struck about May and shifted on as they require it into pots 5 inches or 6 inches in diameter, they will be found very useful for many purposes at this season of the year. It is by no means a novelty, having been certificated by the National Chrysanthemum Society in 1884 and distributed by Mr. Cannell a year later.—T.

Whilst in the exhibition room the single-flowered varieties of Chrysanthemums have to occupy a very subordinate position, their value as decorative plants is every year becoming more appreciated in the greenhouse. In the conservatory at Kew there is an entire shelf occupied by plants of Miss Rose grown in 7-inch pots, which make a really charming display of delicate colour. They form little bushes about 15 inches or so in height, quite covered with the small delicately rose-coloured flowers. Most of the flowers are under 2 inches in diameter, but considering their number and the size of the plants, they are quite large enough. For flowering in 7-inch pots—a convenient size for the shelves—cuttings may be put in in March. The variety, however, may be easily grown to fill 10-inch pots when an earlier start is preferable, or old stools may be used. The shoots should be frequently pinched to obtain a bushy habit, and the outside growths staked well over the pot.—B.

#### SHORT NOTES.—CHRYSANTHEMUMS.

**Chrysanthemum Violet Rose.**—This variety has been shown at Wimbledon, Leatherhead, and elsewhere in remarkably good form. It is one of the broad Japanese incurved varieties, of a distinct rosy purplish hue. It makes a capital second row flower. This will no doubt be seen in greater force another year.—D.

**Single Chrysanthemums for vases.**—For cutting or vase decoration single Chrysanthemums are most useful, and last much longer than the larger blooms. At the recent Palace show they were staged very effectively in groups, and a vase filled lightly with flowers of one distinct colour with ample foliage is very beautiful.

**Chrysanthemum Mme. Darier.**—This variety should be spelt as above, and appears so in the new N.C.S. supplement recently issued. It is gratifying to find that "E. M." is so satisfied with his prediction of last year, because it shows that the floral committee in granting a certificate to it knew what they were about.—C. H. P.

**New Chrysanthemums at Ealing.**—At the Ealing show Mr. W. Seward, The Firs, Hanwell, exhibited two new varieties of exceptional merit. Princess Victoria is a Japanese flower of large size, creamy blush, and should make a fine exhibition variety. Wm. Seward is also of great merit, possessing the fine shape and deep colour of Cullingfordi, with broader petals, the back of the florets being golden.

**A crimson Louis Boehmer.**—A Belgian amateur Chrysanthemum grower has written to me to say that among his new varieties raised from seed sent to him from the collection grown in the gardens of the Emperor of Japan he has obtained a dark carmine-red hairy variety of the Louis Boehmer type. It is as yet unnamed, and will probably not be seen even in the trade collections till next year or the autumn of 1894.—C. H. P.



## HOGARTH HOUSE, CHISWICK.

WILLIAM HOGARTH'S house is one of the many good examples of domestic architecture scattered over the home counties, particularly in South Middlesex, through the old suburbs of Fulham, Hammersmith, Chiswick, Brentford, and Isleworth. They date from the end of the 17th century. Some say that Hogarth never owned the house, but the Prebendal Court Rolls show that he acquired the copyhold on September 13, 1749, while he was living in Leicester Square or Fields.

It was then that the Earl of Burlington built old Chiswick House. Hogarth House was also planted in the fields about a quarter of a mile northward, and midway stood Turret House, long since pulled down. In Burlington Lane stood The Cedars, Fairfax House and Boston House, and between these and the Thames, Cor-

a young plant with untimely blooms, but bold pieces each nearly as big as a man's hat. The garden is situated very near the seashore, but in the genial climate of the Kyles of Bute. From what I have also seen of plants from the west of Ireland and not far from the sea, I imagine that this mountain plant appreciates a lowland home, where it will get plenty of sea air, and possibly spray. The plants referred to above as being in flower now show their vigour also in the very large foliage and thick underground stems. There can be little doubt that most of the Gentians, though requiring perhaps one or two essentials, can be easily accommodated under cultivation. —J. W.

## KITCHEN GARDEN.

## FORCING ASPARAGUS.

THROUGHOUT the winter months Asparagus is looked upon as a luxury amongst vegetables,

belief that expensive preparations are needed, such as raised beds and so forth. This is a very erroneous opinion, as good roots suitable for forcing may be produced with no more trouble than is bestowed upon Potatoes. Some people break up an old bed annually and prepare a new one, but this, I think, is not a very economic method. On heavy, wet land a raised bed would have to be made if the roots are to thrive as they should do, but on light land this is quite unnecessary.

Asparagus roots may be either forced on hotbeds or by the aid of hot water, or the two combined. Where forcing has to take place entirely on hotbeds, a well-made hotbed is of the first importance, as a steady and lasting heat is what is necessary. At this season of the year tree leaves are abundant, and these mixed with the same bulk of stable litter and formed into a bed will retain the heat much better than when only manure is used. A bed at the least 4 feet in depth should be formed quite 6 inches larger all round than the frame when placed in position, so that a lining may be given to keep up the temperature. After being made up and any violent heat expended, a layer of light soil should be first placed over the manure, afterwards packing in the roots closely together. A covering of light soil sufficient to cover the crowns to the depth of 2 inches must also be put on. To think that a heavy dressing of soil is needed to cause blanching is an erroneous opinion. If blanched produce is needed, cover up the top of the frame so as to exclude light. I think blanching is quite an unnecessary proceeding, but if so desired it must be done. After the roots are packed in, a good watering with tepid water will be all that is necessary. A little ventilation at the back of the frame will be needed on all favourable occasions, and the frames should be closely matted up during frosty nights.

Heated pits where the body of the pit can be filled up with fermenting material are the most suitable. Many such pits are used for growing Cucumbers and Melons during the summer months. Such pits generally allow of a depth of 2 feet of well-worked fermenting material being placed firmly in the bottom. Even where bottom-heat pipes are provided, it is better for the well-being of the roots to have a layer of litter spread over the brick rubble which is generally placed in heated pits where the bottom-heat is derived from hot water. In these heated pits a top temperature of 55° to 60° is ample, with a bottom-heat of 80°. A succession of roots put in about every three weeks would keep up the demand.

At the turn of the year, or from about the middle of February, forcing permanent beds has much to recommend it. This is by no means a new system, as I remember it being done quite twenty years ago by the late Mr. James when at Redlees, Isleworth. Each bed is 4 feet in width, with an alley between of 3 feet or 4 feet in depth and the same in width, the sides being bricked up and pigeon-holed. This space is for the reception of fermenting material, the top of the bed being covered with a length of low span-lights. The heat from the fermenting material raises the temperature of the bed and growth soon takes place, the lights being further covered with mats or litter at night, so as to assist in the retention of the heat. Where blanched produce is needed, the beds are kept closely covered up. A flow 3-inch pipe all around the bed also assists in keeping up the heat. It does not do to force these permanent beds too hard, or there would be danger of their being worn out. By careful forcing the beds will remain productive for



Hogarth House, Chiswick. Engraved for THE GARDEN from a photograph sent by Mr. A. Dawson.

ney House, now pulled down, and which gave its name to that part of the river. Like nearly all that class of house, 9 feet high walls were built round the grounds, which were and still are very tasteful and dignified old gardens. In these places fine trees were much patronised, Cedars of Lebanon and Mulberry trees being favourites, and the fine effect of these old specimens is well seen at the present time. The well-known Mulberry tree here shown from which William Hogarth doubtless often plucked fruit is one of them, and with the necessary bit of lawn underneath it forms the best possible set-off for such a house.

The place has been recently acquired by Mr. Alfred Dawson, who has carefully restored it and repaired the injuries done to it during the last twenty years of neglect.

*Gentiana verna*.—I have just seen this in flower (so late as the first week in November), not

and where a supply of this can be maintained in conjunction with other choice vegetables, the grower has little to fear as regards the supply of winter vegetables being appreciated. Rarely, however, is this the case, as a sufficiency of Asparagus roots suitable for forcing throughout the winter is more the exception than the rule. Some soils are naturally adapted to the growth of Asparagus, being of a well-drained, sandy or gravelly description, a heavy manuring previous to sowing and planting and a top-dressing of the same annually being all that is needed to bring the crowns to a condition suitable for forcing. It takes from three to four years to secure roots strong enough for forcing, and if more time was allowed it would be all the better. Sometimes I have forced younger roots, but these had been grown well on good soil. The reason, I believe, why this method of securing good roots of Asparagus for forcing is not generally carried out is the old-fashioned



many years, the aim being to encourage a strong early growth by surface feeding and the application of liquid manure. If it could be managed, a portion should be forced in alternate seasons. As the season advances little forcing is needed, the pits being filled up with leaves and the beds covered with a span-frame, so as to conserve the natural warmth and as a protection from late frosts. A. Y. A.

### GOOD-FLAVOURED POTATOES.

WITHOUT suggesting that it may be possible eventually to dispense with our present race of field Potatoes as grown for market, yet it will prove disappointing should the recent discovery of the value of the Bouillie Bordelaise as protection to the Potato plant from disease prove unable to protect high-class varieties from disease as well as inferior, but more robust sorts. It cannot be said that any of our so-called disease-resisters give to us that delicious flavour and quality which marked Potatoes many years ago. We have very few sorts that at all compare with the Regents and Victorias of other days, and all admit and lament it. It is not that there has not been plenty of good sorts raised; that point never has been in question. What we have had to deplore is the fact that we have not been able to retain them when we have had them for any appreciable time because of the destructive effects of the disease. Let any variety be ever so good, it would not be retained if found very liable to disease attacks, and therefore it had to go. Now it would seem as if the better the quality of the Potato tuber, that is to say, the higher its flavour, the greater its flakiness and more starchy its nature, the more liable is it to disease attacks. We found that to be so much the case in years past in regard to our best varieties, that they nearly became exterminated. Now if this Bouillie Bordelaise mixture be unable to preserve for us this high-class section of Potatoes, it will not be of very much value. So far as relates to the general bulk of field Potatoes, we have now so considerable a quantity, that there is enough and to spare. Potatoes are as cheap as they are plentiful. Why it is that a variety that exhibits the finest edible qualities should also be the more tender in relation to disease attacks never has been fully explained; indeed, I think it is rather beyond the power of the scientists to tell why. Presumably it is because the cellular tissue of these high-class sorts, both in tuber and in stem growth, is tenderer than is either in the assumed disease-resisting varieties. Whatsoever may be the determining causes, the fact has been so conclusively proved that it is beyond the pale of argument. I may be told that it is not merely the disease that is to be credited with this misfortune. Something, it will be said, is due to the great craving for size that has grown up since the introduction of American varieties, for most of these gave very large tubers. Mr. Fenn holds that opinion strongly, and no one has raised so many varieties which had, or still possess, the highest table quality. Mr. Fenn, however, knows and has fully realised the hopelessness of putting into commerce these high-class sorts, because large tubers which soon fill the bushel and are fairly disease-resisting seem to be the fancy. Now it is hardly to be expected that we shall ever find our vast Potato breadths in fields just under the influence of Bouillie Bordelaise. The labour would be too considerable, and the gain in relation to the common field varieties much too trifling. It is not for these so much that the aid of this discovery is invoked. It is for the benefit of the very finest sorts, that is, varieties that give to us the highest flavour and the most floury texture. Could we resuscitate the Regents, Victorias, Fortifolds and many others of the old sort, or of Woodstock, Early White Kidney, Woodstock Kilney and some others of Mr. Fenn's productions, with many others not easily remembered, plant them in good breadths

and experiment with them, some good might be done. The old Lapstone seems practically to have disappeared. I hear of it in some form in a place here and there, but in how few. All the above were regarded as garden Potatoes, and garden culture has helped the disease to do much to exterminate them. Nearly all garden soil is too rich in nitrates or ammonia for Potatoes; too deficient in phosphates and potash for the production of good ones. These rich soils, so admirable for leaf or pulse crops, do but induce coarse succulent top growth and the production of tubers that are of watery texture. Potatoes are always better if grown in an open field that is deeply worked and has carried a crop of corn. Then with the aid of some phosphates far better and healthier tubers result than can ever be found in garden soil. However, in myriads of gardens growers have to make the most of their ground, and therefore grow Potatoes as best they can. If they would avoid fresh manures, plant more widely, and then when the proper season comes use the Bordeaux mixture to save their Potato breadths for a few weeks' longer growth than results when disease prevails, they might do wonders in the way of preserving their Potato crops. Of course I am referring to the choicer varieties. Why is it that all our best Potatoes have in them a tinge of yellow? That is another important feature in flavour production. What connection there is between this colour and flavour cannot well be described, but it exists. A stone-white Potato is, when cooked, almost always flat and flavourless. It is so with most, if not all, of our large disease-resisters. Possibly the perpetuation of their leafage may help to enable tubers to manufacture higher quality and some flavour, but the gain probably would be lost in the greater size of the tubers. If the Bordeaux mixture will not save to us the choicer Potatoes, it will prove of very little service after all, I fear. A. D.

**Improving the Jerusalem Artichoke.**—I confess to regarding the Jerusalem Artichoke as an unduly neglected and badly used vegetable. Even Cobbett, whose writings were generally characterised by sound common sense and a sort of innate knowledge of right principles, recommends his readers, if they have a relish for what he terms a "poor insipid vegetable," to throw some roots into the corner of a field or worthless meadow, where, he says, they will keep on bearing for ever, in spite of Grass and weeds, the difficulty being, not to get the plant to grow, but to get rid of it when once it has taken to growing. It is needless to say that Artichokes grown in this manner would hardly be worth collecting. The tubers would become small in size and irregular in shape, so that they would take much trouble in peeling and cooking, and consequently be rejected by the cook or kitchen maid, and that very delightful *purée* known as Palestine soup would be much rarer on English tables than it ought to be. For some two or three years I have been making experiments on the improvement of the character of this vegetable. The process I have adopted is very simple. In place of planting the tubers indiscriminately, I have selected those which have been regular and globular in character, planted them in fair soil about 18 inches apart in single rows, and I have found that the tubers, instead of being in irregular masses, have greatly improved in shape and size under this practice. I have no doubt that a few years' more careful selection will result in the production of tubers nearly the whole of which are as globular or as smooth-skinned as a Potato. When in this form they do not give rise to any discontent in the kitchen; they are readily peeled without trouble or waste, and can either be utilised in the same manner as mashed Turnips, or they can be made into that very pleasant Palestine soup.—W. B. TEGETMEIER, in *Field*.

**Time for timber-felling.**—Often the inferiority of timber, such as its tendency to decay and dry-rot, are wholly due to the trees having been felled at improper seasons, and to subsequent inju-

dicious treatment. To fell trees in March, April, and even May, as is now often done, is absolutely folly. Timber intended for builders, or for the use of coopers and wheelwrights, should never be cut except in December or January, when the circulation of the sap is arrested. November, even, is too early, and February too late to ensure its durability. Its subsequent treatment, too, greatly influences the quality of the wood. The tree should be freed from all branches and shoots immediately it is cut down, and sawn into planks as soon as possible, so that these may at once be seasoned by exposure to the air. In this way alone can we obtain wood that will keep well, and every purchaser of timber should insist upon its being prepared in accordance with these directions.

**Filling up plantations.**—Upon exposed sites much loss is occasioned and unnecessary expense incurred by using trees too large in size. The wind-waving to which these are exposed prevents the formation of new roots. Plants from 3 feet to 5 feet in height have here a much better chance of success than larger ones. Firs under 2½ feet, seedling Larches which have been two or three years transplanted, two years' seedling Scotch Spruce and Silver Firs which have had ample room in the nursery, Ash, Birch, Sycamore and Elm, two years' seedlings, two years transplanted, and Oak, Horse and Spanish Chestnuts, and Beech of the same age are to be preferred to larger plants. All tap-rooted trees should be continually transplanted or undercut in the nursery until the time of their final removal. Such trees as are intended either for the park or avenue, and are to be placed in well-prepared ground and to receive all the care in staking, fencing, mulching and watering, which larger plants require, may be removed of any size, provided the operation be performed with due care.

## FLOWER GARDEN.

### DR. WALLACE ON JAPANESE LILIES.

#### THE SPECIOSUM GROUP.

My observations during this summer on the speciosum group of Lilies confirm in the main those made in 1891, and described in your columns about this time last year. In differentiating their forms, I am guided by the colour of the early shoots when just above ground; by the tint and bloom of the stem; the length, thickness and tint of the pedicels; the shape of the bracts; the colour, size, shape and frequency of the foliage; the substance, shape and colour of the flowers; lastly, by the dates of their opening. There are four principal types in the speciosum group, or five if we may include the orange-tinted new L. Henryi.

1. The pure white forms *Kratzeri* and *album novum*, the former with rich brown-tinted anthers, the latter with yellow anthers, bearing a finer, stouter flower than that of *Kratzeri*, both very valuable forms (I prefer the latter), especially for forcing and cultivation under glass. I can add nothing to my remarks of last year on these two varieties, both universal favourites.

2. The light pink-spotted early form *punctatum*, which as yet I have never seen in flower, coming direct from Japan.

3. The roseum group, early and late forms, which are at once distinguished by (1) their green stems, (2) when in flower by the pale-tinted central zone of the flower immediately adjacent to the green axis, (3) by a well-coloured zone of rose colour suffusing the middle third of the flower with a pale tip; so that as regards colour, the flower may be divided into three zones; the inner one has its ground colour and processes nearly white, with a few rose spots only; the middle one well suffused with rose, the outer three zones again coloured white. The flowers in the *rubrum* group, on the contrary,



are suffused with deep rose right up to the green rays, with a white tip and more or less white margins.

4. The rubrum group. (1) Here the stems and pedicels are coloured with a rich chocolate bloom or tint more or less all the way up; (2) the flowers are more or less suffused with a rich rose colour from the centre almost to the tip. In this group are found the richest coloured forms, viz., Melpomene, macranthum, cruentum, &c. I have this year had some remarkably fine well-coloured flowers of macranthum measuring  $8\frac{1}{2}$  inches from tip to tip of the petals, which were  $2\frac{1}{2}$  inches broad. The forms of Melpomene have also done very well, and have been full of colour. These appear to flower later than macranthum, while the variety described last year as Melpomene var. (which I now propose to call cruentum) is much later in opening, quite distinct in habit, foliage and flower, and valuable as a richly-coloured, late variety, in flower under glass during the months of November and December.

There is yet another variety observed this year which I will term provisionally nanum (?), a rather dwarf-growing plant 24 inches to 30 inches high, now just coming into flower, foliage dark green and fresh when macranthum and Melpomene have gone off; stem dark, chocolate-tinted, with purple bloom; pedicels somewhat short, but not so stout as in cruentum, highly coloured; bracts narrow, pointed; foliage seven-nerved, narrow, crowded, dark green, stout, acuminate,  $5\frac{1}{2}$  inches to 6 inches long,  $1\frac{1}{2}$  inches to  $1\frac{3}{4}$  inches wide; bud small, very richly coloured outside with red; flower small, richly coloured in the centre. Owing to the early frosts, I have not seen these flowers in good condition out of doors. I have this day (November 7) seen this variety in bloom under glass. The flower is much reflexed, very symmetrical, about the same size and shape as that of cruentum; petals broad and coloured very much like those of macranthum, but a little paler. It is evidently a very valuable late variety, and being dwarf and of a very symmetrical habit, makes a handsome pot plant for late decorative indoor purposes right up to Christmas. The form described by me last year as a late variety (? rubrum) is, I think, the true rubrum. As regards the third group described in my paper last year under the title of (var. ?) roseum, observation has convinced me of the correctness of this name also.

I have noticed this year besides the early form already described a very fine late form which I propose to call provisionally roseum superbum. This is a tall-growing plant, 3 feet 6 inches to 4 feet high, with strong, stout spike, green or almost entirely green up to its summit, with broad, dark green foliage, 6 inches to 7 inches long,  $1\frac{1}{2}$  inches to 2 inches broad, five-nerved; upper foliage shorter and somewhat spoon-shaped; bracts broad and rounded as in Melpomene; pedicels long, stout, scarcely at all coloured and wide apart; flower-bud highly coloured outside, very long and very slow in opening; flower large, of great substance, lasts very long, reflexes very slowly, 7 inches from tip to tip, edges of petals straight, not wavy as in macranthum, breadth of petals  $1\frac{1}{2}$  inches, centre pale, processes hardly coloured, central axes of a very deep green, middle zone of flower suffused with a deep rosy blush, which is continued down the petal nearly to the tip, which is pure white. This is by far the finest form in the roseum group, and valuable alike for the substance of the flower, its size, pure colour, and the lateness of its opening—later even than Melpomene. Owing to their great substance and straight outlines, these flowers stand out perhaps more boldly than those of any other form in this group.

There is yet another form, very late in opening with a touch of rubrum blood in it, which I have noticed this year in which the stem, green below, with much bloom on it, is chocolate-tinted above, with pedicels of medium thickness, also coloured; lower foliage narrow, crowded, channelled, acuminate, dark green; upper foliage shorter, broader, dark green and somewhat spoon-shaped; bracts of medium size. This is also a very late bloomer, with a well-shaped flower of much substance and greatly

resembling that of the former variety, only with a broader white tip and white margin.

The cold, frosty nights of October and its excessive rainfall have not been favourable to the development of the out-of-door late flowers in this group; foliage has died down much earlier than usual, and the bloom suffered in consequence.

ALEXANDER WALLACE.

Colchester, October 22, 1892.

#### TROPEOLUM SPECIOSUM.

I HAVE been much interested in the various notes on the cultivation of this plant, which is so lovely on an old grey wall or clinging to the bare bottom branches of a tree or shrub. Some of your correspondents have planted it north and west, and been successful with it. I have planted it east and south, and have also been successful after a failure or two. I have therefore come to the conclusion that aspect has little or nothing to do with success or the reverse. The first plant I bought has lived through two winters at the base of a wall in the open ground—aspect east.

The other plants I have were sent to me from Scotland last autumn, and have lived through one winter and grew and flowered wonderfully this year, but it is a fact, and perhaps a curious one, that they flowered earlier and died down earlier on an east aspect than they did on a south one. I have arrived at the conclusion that the one thing necessary for success with this plant is simply suitable soil. It wants something light that will retain moisture. It requires to drink freely and to be able to run. I got this lesson from my two-year-old plant in this wise. My soil here is stiff retentive loam, not guiltless of yellow clay—as unsuitable a soil for the Flame Flower as could well be found. I should think at any rate it objects to it. Last winter I put a quantity of cocoa-nut fibre round my Rose trees at the foot of the wall, and in the spring this fibre was incorporated with the soil, and the Tropæolum moved into the cocoa-nut fibre, and from a wretched specimen grew and prospered. I put light potting soil and fibre to the other plants and they did likewise.

I fancy that in a light sandy, peaty soil this plant would grow like a weed. At Birnam, in Scotland, it does so, and I understand covers the cottages and often becomes a nuisance in the borders. What is the nature of the soil at Birnam? There it seems to flourish in perfection, and, provided we can get the proper soil, I cannot see why a Chilean plant should flourish better in Scotland than in the south of England. I am open to conviction, but I do not think anyone can do any good with it in stiff, tenacious soil. I am now trying some experiments with the seed, which I have an idea ought to be sown as soon as ripe.

Lingfield, Surrey.

J. WHITWORTH SHAW.

**Polygonum sachalinense for colour.**—This stately perennial, the English name of which is Japanese Knotweed, is very fine in the colour of its leaves in autumn. We planted early in the spring a group of it beside a lake, with its feet, so to say, in the water, and it is now a picture of soft brown-yellow. Another group was planted in a wooded valley, which was also very rough, cold soil, where nothing else would grow. It showed rich and splendid colour early in the autumn. As a herbaceous plant of fine colour it is one of the very best we have. Its true use, however, is in rough places without the garden proper. The very popular species which comes next to this in stature, *P. cuspidatum*, is not nearly so fine in colour.—*Field.*

**Variegated Lilium candidum.**—Very few Lilies are ever regarded from a foliage point of view, but this is one of the limited number, and a bright little object it is in the garden during the autumn and winter months if the weather is not too severe. It is the large radical leaves that are produced soon after the flower-stems die down which show the variegation in the most marked

manner, and a clump of about a dozen bulbs will form an effective-sized mass. The only other species of Lilium that I am acquainted with of which there is a variegated form is the Japanese *L. longiflorum*, and of this there are two different varieties with variegated leaves. The best is that known as variegatum, in which every leaf is deeply edged with white, and very pretty it is, while the other, *roseo-marginatum*, has a much narrower edging of rose, which becomes even less pronounced as the season advances. The foliage of *L. longiflorum* is, of course, limited to the flower-stem, and consequently it is not developed till the summer. A limited number of these variegated forms of *L. longiflorum* frequently make their appearance among the importations from Japan.—H. P.

#### MICHAELMAS DAISIES.

IT is true that there are more varieties of these than have ever been counted, and though many plants may hitherto have gone under several names, it can just as truly be said that the one and the same name has often been applied to various plants. It only need be mentioned that where these Asters are cultivated and their seed allowed to fall naturally on ground that is not too much dug or dressed, that garden will soon possess a number of seedlings more or less differing from anything previously existent. It is all very well for a person to say what he will or will not grow, but under the above conditions he will often find himself growing other than those he planted, and sometimes even if he would pick out the chance kinds he cannot do it. This alone constitutes a flood-gate that will let in a deal to cause bother both as regards purity of selection and maintenance of correct nomenclature, even supposing such was the case. The natural changes owing to the habits of Asters in this way and from variations of weather and soil are so extreme and rapid, that you cannot, only with very persistent care, keep pace with them, and there is another trying fact, the more a grower knows about the habits of the better coloured kinds the more doubt he will sometimes feel as to what he should or should not do by way of keeping his selection pure and up to a high standard. It can occur in this way, to give just one instance. Imagine a border of varieties; if that border has long been so occupied, there will be seedlings either in the very heart of the old plants or close around. The season may be late and muggy, like the present, when the old plants will be bearing heads of but indifferent colour, much below their known qualities; the seedlings may or may not be known as such, but they, owing to the usual rule of youthfulness and vigour, may sometimes outdo their parents or neighbours for size and colour of head, and so tempt us to take the seedling as an improved form; whereas the only safe plan would be to divide, transplant, grow on the seedling, and then compare. This shows how a careful person can get wrong, and how careless persons must go wrong with their plant identity and consequently names. It is just as easy to get wrong on the score of soil, at least with such sorts whose identity chiefly has to be decided by size and colour of heads, by misjudging such stocks as have been grown, or are growing in widely varying qualities of land. "Is it not so with all flowers?" has been asked. I think not, and certainly in nothing like the same degree as with Asters. Those who have observed most can confirm this, I believe. As regards a selection of the best from a florist's point of view, numerous as the Michaelmas Daisies are, they could be very considerably reduced in number to advantage, in regard to date of flowering, habit, colour and size qualities, say, to twenty-four or thirty kinds, and did you raise the standard to its highest, you might not exceed a round dozen, and then safely assert that you had all the known kinds that were fairly distinct and good. Where gardens are not very large, a dozen sorts will doubtless be found ample, and of course those should be of the best and most distinct. It should be kept in mind that many of the strong growers are vastly better for annual or biennial



division and transplanting; but it is not so with all, notably the *Amellus*, *acris* and *ericoides* groups, as these only show their capabilities when left in good soil for three or four years, or even longer. In all cases, however, it will be found an advantage to mulch heavily in spring with good leaf-mould or rotten stable manure.

J. WOOD.

Woodville, Kirkstall.

#### NOTES ON LILIES IN 1892.

THE Lily season commenced as usual with *L. Harrisii* and *L. candidum* under glass, and of those in the open ground the first to unfold its blossoms was *L. pyrenaicum* (often spoken of as the yellow Martagon), whose blooms are of a greenish yellow colour and among the least showy of the entire genus, and though the individual blooms are pretty when closely examined, they possess a heavy disagreeable smell that detracts from their value in this respect. Several of the Martagon group are unpleasantly scented, notably the common Martagon and its very dark variety *dalmaticum*, *L. Szovitzianum* and the bright red *L. pomponium*. Following closely on the heels of *L. pyrenaicum* came the various forms of *L. davuricum*, or, as our Dutch friends always call it, *L. umbellatum*. There is not a very wide range of colour in the different varieties of *L. davuricum*, the best perhaps being *grandiflorum*, orange-red; incomparable, deep crimson; and *erectum*, the flowers of which are more upright than the others, larger and more decidedly cup-shaped. Another of these upright-flowered Lilies, rather later in blooming than the preceding, is *L. elegans* or *Thunbergianum*, among the different forms of which there is a good deal more variety than in the case of *L. davuricum*. Two well-marked forms were illustrated by a coloured plate in THE GARDEN, November 8, 1890. They were *Alice Wilson*, bright yellow, and *Van Houttei*, bright crimson; while other notable varieties are *alutaceum*, which, in common with *Prince of Orange*, grows but a few inches high. The first of these has buff-yellow flowers, while in *Prince of Orange* they are brighter coloured. In *fulgens* the flowers are deep crimson; *pictum*, yellow splashed with red; *biligulatum*, reddish brown; and *venustum*, bright apricot. The individual flowers of this last are a good deal like those of the Japanese *L. Batemannæ*; but though the variety *venustum* is later in flowering than any other member of the *elegans* group, its Japanese relative is later still. No mention of these upright-flowered Lilies would be complete without the old Orange Lily (*L. croceum*), which is a thorough good garden Lily with a very distinct and pleasing colour. In speaking of the Martagon group, especial mention must be made of *Hansonii*, a Japanese species, whose orange-coloured flowers, though small, have petals of unusual thickness. This Lily is one of the first to appear above ground in the spring, and even if the frost is severe afterwards, the tender unfolding leaves are seldom affected thereby. The bright sealing-wax-red-coloured *L. chalcedonicum*, known as the scarlet Turk's-cap, makes a grand show in some old-fashioned cottage gardens, and that, too, in July, at which time many of our Lilies are past their best. A supposed hybrid between this last-named and the Madonna Lily (*L. candidum*) is *L. testaceum*, a grand garden Lily and one of the most distinct we have. The blooms of this are of a beautiful nankeen tint. A very noticeable difference between these two groups of Lilies just mentioned, viz. the erect cup-shaped section corresponding with the *Iolirion* of Mr. Baker and the Martagon or Turk's-cap group, is that whereas the first-mentioned can all be thoroughly depended upon to flower well the first season after planting, the reverse holds good with regard to the Turk's-caps, which in many cases flower very little if at all the first season after removal, and are not seen at their best for two or three years. Of this group one of the least affected by removal is the Japanese *L. Hansonii* just mentioned. In many places this year the Golden-rayed Lily (*L. auratum*) has scarcely been up to its usual standard. It is one

still largely grown in pots, though the perfume is too powerful for a confined space. There are several distinct forms among the ordinary *L. auratum*, while of those to which varietal names are applied may be especially mentioned *platyphyllum*, whose huge blooms are more saucer-shaped than in the common kind; *rubro-vittatum*, in which the golden band down the centre of each petal is replaced by a deep crimson one; and *virginale* or *Wittet*, a flower of spotless purity, relieved only by a golden stripe on each petal. The allied *L. speciosum* has in many cases flowered beautifully out of doors, while in others it was so late in blooming, that many of the flowers perished in the bud state from the cold, wet weather we experienced in September. This happened, I noticed, among other places at Kew, where outdoor Lilies are as a rule well done. Though later than usual in flowering out of doors, this Lily may now be seen in pots in full bloom much earlier in the season than was formerly the case. Splendid examples of it were shown at the horticultural exhibition at Earl's Court as early as the first week in July, when they furnished a surprise to many



*Iberis sempervirens*.

people. The plants shown were not drawn up in any way, but were only from 3 feet to 4 feet high, clothed to the base with good foliage, and bearing each a large number of flowers.

The varieties obtained thus early were the forms sent here from Holland and not the Japanese ones, which reach this country in such large numbers every year. The pink-coloured roseum and the white album were the two varieties shown at Earl's Court. With regard to album, there is often a certain amount of confusion, as the variety to which this name belongs has the exterior of the blooms, stems, and leaf-stalks tinged with chocolate, while the inside of the flower is pure white, becoming slightly suffused with pink before the petals drop. The Japanese *Kratzeri*, a totally different form, is, however, usually sold under the name of album; hence the confusion. In *Kratzeri* the prettily reflexed blossoms are white, with a greenish stripe extending half-way down the centre of each petal. Later on, the Japanese forms of *L. speciosum* made their appearance at the horticultural exhibition, being largely used for various decorative purposes. Conspicuous among the coloured kinds was *Melpomene*, the richest

tinted of all, with a clearly-defined margin of white to each petal. This is a grand Lily, and much greater numbers of it are sent here from Japan than was formerly the case. The different Tiger Lilies have been very fine, especially the variety *splendens* or *Leopoldi*, certainly the finest of them all. The double-flowered form of the Tiger Lily is admired by some, to whom double flowers are always considered superior to single ones, but to my mind it is certainly far less pleasing than the single-flowered kinds. Last winter considerable numbers of very large bulbs of the Tiger Lily section were sold at the London auction rooms with the other Japanese Lilies, and they have flowered magnificently. They turned out to be the variety *Fortunei*, characterised by a very woolly stem and the blossoms arranged in a large pyramidal head. The individual blooms are rather pale in colour, but its tall stately habit and profusion of bloom give to this Lily a very imposing appearance.

The *Eulirion*, that is the tube or funnel-flowered group of Lilies, is for flowering in pots grown to a much greater extent than any other, and the most numerous of all is undoubtedly *Lilium longiflorum* and its varieties. We get them now from several quarters of the globe; thus, the typical *L. longiflorum* reaches here principally from Holland, the Bermuda Lily (*Harrisii*) from Bermuda, well preserved bulbs of the same section from Japan, while lastly, during the present year some of the finest bulbs ever seen were consigned to the London auction rooms from South Africa. They flowered magnificently, and as they represented a grand form of *L. longiflorum*, we shall no doubt receive them in greater quantities from the same region. The bulbs imported from Japan flower finely in the open ground, and the past summer being a fairly dry one, was very favourable to the retention of the blossoms, as long-continued rains alternated by hot suns cause many of the tubes to split, and a good deal of the beauty of the flower is thereby lost. Though at one time *L. Harrisii* was regarded as if not exactly a distinct species, yet a strongly marked variety of *L. longiflorum*, it is now considered only as a geographical form, for grown out of doors under the same conditions as the others, its early flowering qualities disappear. There is no Lily so liable to the attacks of aphides as *L. longiflorum*, and where grown under glass this must be especially guarded against, as they soon cripple the young flower-buds. Next to this, the Lily most in demand for forcing is the Madonna Lily (*Lilium candidum*), which in some places behaves in a rather erratic manner out of doors, falling, as it does, a prey to some mysterious fungoid disease. Even when this does not occur, the Lily in question often fails to flower in a satisfactory manner the first season after removal. This I am convinced is to a great extent owing to the fact that lifting is carried out too late in the season, for it is practically an Evergreen, and should be moved if required directly the flower-stems die down. Pretty funnel-shaped Lilies are *L. Krameri*, *L. odorum*, and *L. Browni*, of which the last-named is the greatest favourite. This is a shorter and more open flower than *L. longiflorum*, with the interior of the blooms ivory white, and the exterior heavily suffused with chocolate. This possesses a good constitution, and in a sandy loam will do well. *L. Parryi*, whose rhizomatous-like bulbs suggest an affinity to some of the North American species of the Martagon group, is regarded as one of the tube-flowered section, and from the golden yellow of its flowers a most distinct one. *L. neilgherrense*, which is sent here in considerable numbers from its Indian home, is remarkable as being the latest flowering of all the Lilies, for blooms of it may often be had till nearly Christmas. This is a very long tube-shaped flower, usually more or less of a primrose tint, though occasionally blossoms will be met with both lighter and deeper in colour than the average. This Lily can seldom be induced to flower many years in succession, and the display of it as a rule depends upon annual importations.

NEWER LILIES.—That Lilies are as a class popular is shown by the fact that during the pre-



sent year no less than four species have been figured in the *Botanical Magazine*. They are *L. sulphureum*, *Lowi*, *primulinum*, and *Grayi*, while last year the beautiful *L. Henryi* was figured both in the *Botanical Magazine* and in THE GARDEN. Taking these newer forms a little more in detail, *L. sulphureum* will be remembered as a most beautiful Lily, introduced by Messrs. Low from Upper Burmah, and shown by them in flower in 1889 under the name of *L. Wallichianum superbum*. The fact of this Lily being only regarded as a variety of *L. Wallichianum* aroused a good deal of controversy, and during the present year the position of a distinct species, which should have been at first bestowed, was accorded it under the name of *L. sulphureum*. *L. Lowi* is another of Messrs. Low's introductions from the same region, but it is not nearly so good a garden plant as the preceding. The blooms of this are drooping, bell-shaped, somewhat expanded at the mouth, about 3 inches or so in length, and much the same across. The colour is white, slightly tinged with green, while the basal half of the three inner segments is densely spotted with claret. The expanding mouth of the flower is whiter than the rest. The leaves of this are narrow, about 4 inches or 5 inches long, and of a glaucous green hue. The third of Messrs.

### PERENNIAL CANDYTUFTS.

This is a beautiful and useful group of hardy plants, both annual and perennial, and it is with the latter as rock and spring border plants that we are now dealing. Evergreen plants, such as the *Iberises*, dwarf *Vacciniums*, and the like, are indispensable to a rockery; they should be planted as much with an eye to effect in the dead of winter as when they are in full flower in spring. The hardy species are all evergreen, and as they mostly form dense, healthy green cushions, these take the bareness off the rockery in the dull months as well as contribute to its beauty in spring and early summer. They are, however, most effective where they can hang over ledges, such as down the face of old walls, rocky banks, &c., and here, too, the more tender sorts would be much safer than if planted in the ordinary way or on the border. As spring bedding plants they are extremely useful, and they may be increased from cuttings in any quantity.

**IBERIS GIBALTARICA.**—This, here figured, is a native of Gibraltar, and was introduced to

the rockery or border. It is little inferior indeed to *I. gibraltarica*, with the advantage of standing our severest winter. The flowers of a pure ivory-white are produced in abundance in compact corymbs, and continue from early May until July. The stems are shrubby at the base, much branched and rarely exceeding 9 inches in height. It is nearest to *I. Tenoreana*, but the leaves are smooth, not ciliated, and the flowers pure white, not purplish, as in that species. It is a really useful species for the rockery, where it should be planted in gritty soil and facing east.

**I. SAXATILIS**, widely distributed in Southern Europe, is the dwarfest of all the species in cultivation. The stems are procumbent or trailing not ascending, as stated in many books. It forms dense tufts of very dark green, narrow leaves, quite entire with somewhat ciliated margins. It is very free blooming, producing small bunches of pure white flowers from early April until June. It was introduced about 1740.

**I. s. VAR. CORREIFOLIA** is supposed to be a hybrid between *I. saxatilis* and *sempervirens* or *Garrexiana*. It is a very neat shrubby plant, taller and not so densely matted as the above, and producing its flat heads of white flowers from May to June. It is very easily propagated from cuttings or layers, and is often used as an edging for walks, &c. It is very neat and effective when in flower.

**I. SEMPERFLORENS** is an autumn and winter flowering species, and unless in southern counties is not of much use as a hardy plant. The flower-heads are large, the flowers pure white and sweetly-scented; the leaves quite entire, smooth, and dark green. It is a native of Sicily and Italy. *I. humilis* is a synonym.

**I. SEMPERVIRENS.**—This fine species is the common perennial Candytuft of our gardens, and with its variety *Garrexiana* is the species commonly met with in small places. It is quite as popular as the yellow *Alyssum*, and deservedly so, as it requires little attention and is attractive in winter as well as summer. It is evergreen, half shrubby, spreading, and will be found useful for old walls and such-like places where plants can get a foothold. It grows about a foot high, and seems to flower more freely in a gritty soil than in any other. There are several garden forms, the best of which is *superba*, a really charming variety, free and effective. Greece, &c.

**I. s. GARREXIANA** is a much dwarfer plant than the above, with smaller heads of white flowers, and a very useful rock plant. It flowers from April to June, and is a native of the Pyrenees, &c.

**I. TENOREANA.**—A common species in Italy, Spain, and Portugal, and known in some gardens under the name of *I. petraea*. It differs from all the other species excepting *gibraltarica* in the colour of its flowers, which it produces in profusion throughout the summer months. Like *I. gibraltarica*, it is not to be depended upon as a perfectly hardy plant, and when left out some little protection should be given to it. In a well-sheltered nook and in free well-drained soil it does well in the south, where its mass of purple flowers is always welcome, but in any case it can be easily treated as a biennial or even as an annual by striking cuttings in late summer and planting out in spring. It is well worth the trouble and is really effective when grown well. D. K.

**Saxifraga Fortunei.**—This is perhaps the latest species to come into bloom, but so beautiful in both foliage and flower as to worthily claim the special care it needs by way of protection from the early frosts. It is no uncommon thing to see this cut down in its beauty when grown in the open garden, and for this reason, together with the fact that the plant enjoys division every two years, a stock might be grown in pots which would be available for use in a cool greenhouse in November. I have seen plants so treated keep on flowering for at least a month. The reason why so many of these plants suddenly collapse may often be found at the root, where the big white grub of the coal-black weevil eats its way up and scoops out the vital part of the crown. The best remedy for



*Iberis gibraltarica*.

Low's Lilies, figured [this year in the *Botanical Magazine*, is *L. primulinum*, which I have not seen since it was shown by that firm last autumn at one of the meetings of the Royal Horticultural Society under the name of *L. claptonense*. This Lily, which is a native of the Shan States of Upper Burmah, is in shape about midway between *L. neilgherrense* and *L. nepalense*, while the colour is a clear, pale, unspotted yellow. The last of the four, *L. Grayi*, was described in 1891 in THE GARDEN when it flowered at Kew. This is a North American species, with rhizomatous bulbs much in the way of *L. canadense*, from which it differs in the flowers being smaller, less pendulous, and more open at the base, while the segments recurve very little, and are narrowed more suddenly at the apex. Other newer Lilies are *L. nepalense*, now pretty generally known, but a difficult one to cultivate, and *L. Henryi*, which appears likely to turn out a most decided acquisition, for it has done well during the last two years planted out in the open ground at Kew. This Lily shows an affinity to both *L. speciosum* and *L. tigrinum*, while its colour, a warm orange, is quite distinct from that of any other Lily. I am not aware of its being at present in the trade, though one firm I see announces that they hope to be able to offer a few bulbs during the present season. *L. Henryi* is a native of China, and first flowered at Kew in August, 1889. H. P.

this country about 1732. It is one of the most popular of the genus, and with its variety *hybrida* is in great demand for winter flowering. It grows about a foot or so high, closely branched and tufted, with leaves and flowers much larger and more ornamental than those of any other species. It is, unfortunately, not perfectly hardy, unless the plants when young are established in an old brick or stone wall, and even here they are apt to suffer, especially in wet seasons. It may, however, be easily kept in a cold frame or greenhouse, where it will continue in flower throughout the winter. As greenhouse subjects both the species and variety are invaluable, their compact habit, fresh green leaves, and abundance of lilac and creamy white flower-heads come at a time when most required; indeed they may be utilised at almost any time, as they are rarely out of bloom. Plants well hardened might be tried in warm nooks of the rockery, and with a small piece of glass to ward off excessive moisture they might do well. It is as a cool greenhouse or summer plant, however, that this species proves most useful, and as it is increased from cuttings or layers with the greatest facility, no fear of losing it need arise. The variety is more compact in habit than the type, with larger bunches of creamy white or rosy purple flowers. The type is figured in the *Botanical Magazine*, t. 124.

**I. PRUITI** is a native of Sicily, and one of the most beautiful and useful of the hardy kinds for



this is to repot or transplant a portion of the stock annually, preferably about the month of August, when, after the roots have been thoroughly shaken out, they are not only cleared of the pest, but they have time to become established again before winter.

## THE WEEK'S WORK.

### PLANT HOUSES.

**THE PROPAGATING PIT.**—In well-ordered establishments with a good command of bottom-heat, this highly essential adjunct to the production of a plentiful supply of young plants for decoration should always be kept going. It may seem perhaps to some an unsuitable time for propagation when yet there are several weeks of the dreariest and coldest weather before us, but it is not so. In many instances when treating with evergreen stove plants I would prefer to strike a young stock about now. Crotons, for instance, strike easily enough with a brisk bottom-heat. We are now striking them in a pit in a house where the night temperature ranges from 60° to 65°; to this temperature 5° may be added for the close pit. We never trouble about rooting them off (*i.e.*, the tops) by first binding a little Moss around the stem, finding they strike freely enough without this performance. Each cutting is chosen for its symmetry as far as possible and inserted into a 2½-inch pot by itself. As soon as rooted well enough (some roots possibly showing through the bottom of the pot), each cutting is given a shift either into a 3-inch or 4½-inch pot, according to the size of the plant, and then plunged in the open house in a gentle bottom-heat, from which in a few weeks it can be lifted for ordinary treatment to make room for more. This use of bottom-heat being continued prevents the young plant from receiving a check by its removal from a close pit. Those cuttings should be selected which are the best coloured, particularly when the chief aim is that of a decorative stock rather than for growing it to specimens. In selecting cuttings for specimens, I would take a branch that has several shoots upon it, severing it from the parent stem just below the point where these side shoots have pushed forth. Thus you have the groundwork of a specimen laid at once. When dealing with this description of cutting I have successfully struck them in 4½-inch and 6-inch pots, according to their size. The cuttings in any case should be examined for thrips or scale before insertion, for afterwards for a time it is not possible to clean them for fear of disturbing the young roots. Another accessory to propagation is casting the cuttings for two or three hours in the water-tank before insertion in pots.

This same course of treatment will hold good with Ixoras, which as decorative plants do not receive by any means that amount of attention which they deserve. Give them warmth and they will grow as freely as a Geranium. These we are now striking in sufficient numbers to keep up the stock specially grown for cutting. Allamandas, Bougainvilleas, Clerodendrons, and such like plants can also be raised from cuttings at this season. Where these plants have not yet cast their leaves or been foreshortened to admit more light, there will be some short stubby wood which can be taken off with a heel. These pieces will make capital cuttings, and be a decided gain upon waiting until next March or April for the young wood. By that time these would be well rooted and in 3-inch pots if well looked after. Gardenias are another class of plants which are propagated now easily enough in bottom-heat. There is one especial advantage which I have noted in striking Gardenias at this season. The wood now is in most instances fairly well matured with the earliest flower-buds in an embryo state. By selecting suitable shoots with several offsets to them—little branches, in fact—it is possible to strike them without the loss of a leaf, so as to save these first buds. In this way I have flowered them with four or five blooms whilst still in 2½-inch or 3-inch pots. Where Gardenias are in favour, these small plants would be

an additional attraction; whilst afterwards they will be found useful, perhaps, to take the place of other and older plants that have, so to speak, run nearly the length of their tether. Instead of keeping old, bare-looking stools of *Dracænas* until the spring, it is much better to at once cut them up for further increase, merely plunging the eyes and succulent roots in cocoa fibre, where, if they be kept moist, they will soon show signs of starting into growth. In the case of *Pandanus Veitchii* the small grassy growth should be pulled or cut off. These little bits will be found clustering around the base, amongst the roots sometimes, and make the best of plants for use whilst still of small size. Larger and stronger cuttings are never so good; they make plants quicker, it is true, but are never so well developed, the growth being more erect as compared with that of the smaller cuttings or suckers, which in their earliest stages assume a pendulous habit. A mistake is frequently made in over-potting this *Pandanus*; the plants will not hurt so long as the roots do not push out of the pots in the course of their downward growth. Guard against drip in this plant now; I have known plants to be killed by it in the winter. Other kinds of propagation should be looked after also. For instance, instead of keeping old tufts of *Panicum variegatum*, the tips should be taken for a young stock, the older ones, where room is short and the plants shabby, being put on the rubbish heap. *Tradescantias* should be similarly treated; old plants of these frequently harbour the black thrips. *Selaginellas* for decorative use, as in the case of *S. denticulata*, should also be looked after to keep up a good stock in small pots, the winter and early spring being a time when these are very useful. *S. apoda* does not often winter in a satisfactory manner if allowed to remain in dense tufts, being oftentimes carried off by damp. Little tufts of this variety if dotted over small pots or pans in a sandy soil will be found to keep better where any trouble has hitherto been experienced in keeping it. It will now be much safer also in a warm house than a temperate one. J. HUDSON.

### THE KITCHEN GARDEN.

**SALADING.**—Up till now we have been able to cut quite full-hearted Lettuce from the open, and if the weather keeps favourable, will be able to do so for some time longer. Lettuces growing in frames must have free ventilation, and those which are now full grown, especially if they have been lifted and planted in frames, must be protected from rains, however mild the weather may be, or rapid decay will set in. Smaller plants of the Cabbage varieties which may be growing in frames should be watered if the soil should be approaching the dry side, but not otherwise. The lights should be kept over them, when the growth made will be clean and almost every leaf fit for use. If the supply is likely to be short, small plants of Early Paris Market may be lifted carefully and planted on a gentle hotbed. Endive is now in fine condition, the Round-leaved Batavian when well grown requiring but very little blanching. Endive which has been lifted with a good ball of soil and planted in frames will not need any water at the roots, as the soil will be sufficiently moist. That, however, which is being wintered on the floors of vineries or Peach houses may need watering, as Endive cannot be expected to turn out of good quality with the roots in a dry state. Mustard and Cress should be sown at weekly intervals. Use fresh and sweet soil, as old potting soil is apt to engender mould. Witloof must be forced similar to Seakale.

**SOWING PEAS.**—Whether Peas will succeed when sown at this season of the year will depend upon circumstances, such as a sandy or gravelly soil and whether the site is well open to the sun. Now that the practice of sowing under glass at the turn of the day is generally adopted, this old method has to a great extent been given up. If the soil is in a fertile state, a dressing of burned refuse should be given, but if poor, some rotted manure may be applied. Steamed bone-meal is also an excellent ma-

nure for those soils where the haulm does not grow strongly. Draw out rather wide drills 4 feet apart and scatter the seeds rather thickly, having previously coated them with red lead or petroleum as an antidote against mice. After covering over the seed spread over the surface a thin layer of sawdust (which I consider better than ashes) as a safeguard against slugs. Directly the young points appear keep a sharp look-out against injury from birds. Wire Pea guards are the surest safeguard, but lengths of black thread stretched along the rows, say three lengths to a row, will keep them off. For sowing in November the early rounds of the William I. type must be selected. The dwarf earlies are not so well adapted for open-quarter sowing, but will succeed on a raised and sunny border.

**BROAD BEANS.**—Where early Beans are looked for, a sowing of Beck's Dwarf Green Gem should now be made, this variety being much in advance of the old *Mazagan*. An extra row or two may well be sown to fill up any gaps in the spring, as Broad Beans transplant readily if taken up carefully with a trowel.

**CARDOONS AND CHARDS.**—Where these are plentiful the forwardest should now be taken up and stored, as by leaving them in the soil after being fully blanched, decay is apt to set in rapidly. After being taken up, carefully remove the hay-bands with which they were bound up for blanching, also clearing away any decayed portions. They should be stood upright with a little sand packed against the roots. If the later lot is not sufficiently blanched, allow them to remain a little longer, protecting the tops in case of frost.

A. YOUNG.

### HARDY FRUITS.

**FIGS.**—In very many localities and positions these are far from being hardy, and unless roughly protected most of the points of the young or fruit-producing wood may be killed by frosts. The hardiest trees are those that form the sturdiest short-jointed wood, any that are of a rank habit of growth, and in particular those trees that were badly crippled last winter standing in much the greatest need of protection. Any trained against walls can be both cheaply and effectively protected by either mats, branches of Evergreens, or Firs, or even Bracken. They ought to be loosened from the walls, the branches bundled together and supported by means of strong stakes and tar twine, covering them with protecting material being then a simple proceeding. Those who intend planting Figs should defer this work till next spring, when they will be able to obtain strong pot plants from the nurseries, this obviating the necessity for protecting.

**PLANTING TREES ON HEAVY LAND.**—More than ordinary pains ought to be taken in planting fruit trees on heavy ground. The roots do not readily take possession of cold, lumpy soil, and later on they are liable to strike down into the clayey subsoil. For a few years they may grow very strongly, too much so probably for the trees to be productive, and even when the most fruitful age is reached, the fruit is apt to be disappointing, nor are trees with their roots principally in a clayey subsoil long-lived. Everything, therefore, should be done to obviate these difficulties. Planting rather above instead of on the level, which in very many cases means really planting below the level, sinking of the ground not being allowed for, is most advisable. When any kind of fruit tree is planted rather high, or, say, not more than 6 inches above the level, flat mounds 3 feet to 4 feet across being formed, the roots get the full benefit of warmth and air, and when they strike out further they ramble into good surface soil, abundance of root fibres and a sturdy, productive habit of top-growth being the outcome. Planted low these advantages are missed, and nothing short of occasional lifting and root-pruning will bring the trees into a productive state and keep them so. These high-planted trees do not suffer from drought any more, if so much as do others planted low, especially if they are given a mulch of



straw manure when first put out. If the ordinary soil cannot be got into a finely divided state, then ought some fresh fine compost from the frame ground to be freely used, the roots being completely surrounded by this. Where old mortar rubbish or chalk is available in sufficiently large quantities, a thick layer of this disposed just above the clay subsoil will greatly check deep root-action and otherwise benefit the trees. Paving tiles or even broken bricks or rough stones do not long act as a preventive of deep root-action, nor do they serve to keep the sites drier unless connected with the main drains by means of smaller pipe drains. High planting is recommended in preference to this extra preparation of sites, though fruit quarters ought always to be well, but not excessively drained. In each and every case avoid the use of solid or animal manures, but half-inch bones freely distributed through the soil would act beneficially.

**PLANTING ON LIGHT SOILS.**—Where the subsoil is of a gravelly or chalky nature, the depth of surface soil should be increased as much as possible, or the chances are very hot and dry seasons will quickly cause the trees to become stunted and unprofitable. In many instances much might be done by means of bastard trenching, all sorts of decaying material, including road trimmings, sweepings, and such like being freely forked into and mixed with the bottom spit. In this instance good rather than harm may result from the roots being enticed downwards, and if the depth can further be increased with the help of clayey loam or a sprinkling of pulverised clay, this should be done. Raised mounds are not advisable, but the collars of the trees must be kept just above the ordinary level, and the soil also made quite firm underneath so as to guard against the trees sinking. A tree ought never to be planted so deep as not to require a stake to steady it, and it will be found that many of the most productive trees have some of the uppermost roots quite bare at the point of union of the stem.

**PLANTING ORCHARD TREES.**—All the while mild open weather lasts the work of tree-planting should be proceeded with, always provided the ground is not in a badly saturated state. If the trees cannot be planted properly, owing to either frosts or heavy rainfall, they ought to be carefully laid in by the heels and kept where they are till a better state of affairs prevails. The advice to soak the roots, if received in a very dry state, for several hours in a tank or pond of water is decidedly to be recommended. In some extreme cases exposing the trees with their roots bare for days in a dry shed or cold winds causes the wood to shrivel, and the surest way to recover these somewhat is to bodily immerse them in water. These remarks apply to all kinds of trees, or whether they are intended for garden or orchard planting. If an orchard is to be planted with bush as well as standard trees, then the whole of the ground ought to be either double dug or broken up to a good depth by means of a subsoil plough following close upon an ordinary plough, the surface of the ground being subsequently cultivated and not grassed over. The usual practice is to plant standard trees of Apples, Pears, Plums, and Cherries 24 feet apart each way, filling in the spaces between them either with Currant or Gooseberry bushes disposed 4 feet apart. If preferred, dwarf or bush Apples, Pears and Plums can be grown between the standards, locating them 6 feet apart each way. Filberts also succeed well on some soils, and these may be planted midway between the standards each way, those in the clear lines being 12 feet apart. Where the soil is naturally poor in character, it is advisable to give the trees the benefit of a little manure and also to allow rather less distance between them. If standards only are to be grown and the orchard kept grassed over, the latter should if possible be deferred for five or six years and the surface cultivated. The least that can be done in the case of trees planted on grass land is to open holes from 4 feet to 6 feet across, well preparing these, as advised in other paragraphs, and to further keep the surface free of weeds or grass for several years,

or say till the trees have attained a profitable size. Dispose Apples, Pears and Plums not less than 21 feet apart, an extra 3 feet being desirable if the ground is strong. Cherries should be nearer 30 feet apart. In all cases cut over the roots, clean cuts healing more surely than any broken, and above all things avoid cramping them in small deep holes. Spread them out flatly and very much as they spring from the underground stems. Stake strongly and carefully at once, the trees also being well protected from animals of all kinds.

W. IGGULDEN.

### ORCHIDS.

As I write there is a steady downpour of rain, and it has been much the same for the last forty-eight hours. The Orchid flowers keep very well, as we have a moderate heat in the hot-water pipes even in the cool Orchid house; the temperature is kept down by ventilation; the west wind has scarcely been felt, so that we have been able to ventilate freely by night as well as in the daytime, and the outer air being so excessively moist, but little water has been needed in the cool house. We have up till now continued to surface-dress the cool house Orchids, repotting some of them that needed it, and in some instances the entire mass of potting soil has been removed, the roots washed, and the plants given a fresh start in quite new material and in smaller pots. When Orchids of any kind go wrong at the roots, the reason is usually to be found in unsuitable potting soil or overpotting. In either case the greater proportion of the roots will be dead or in a dying condition, and when repotted the plants should be put into as small pots as possible. As a rule, it is better not to repot Orchids at this season, for we are just entering into the period when root-action is at its lowest ebb, and by repotting now the roots would certainly be injured and would not recover very readily. Some Orchids, of course, should be repotted now, because this is the right season of the year to do it. The Pleiones I have already alluded to, and advised repotting them as soon as the flowers have been removed. I saw some recently flowering admirably in small shallow pans from 6 inches to 10 inches in diameter. These would contain from nine to eighteen bulbs in each. These pans, of the usual material flower-pots are made of, are very light, and have each three holes through the rims to suspend them with copper wire, which is better than galvanised wire for the purpose. Being light they can be easily suspended from the glass roof, and have a better effect than flower-pots put into teak baskets and hung up. Some persons repot *Disa grandiflora* at this season, and the best plants of this I have yet seen were also grown in pans. Many are the failures to grow this plant well. In some gardens it may be seen growing with great freedom; in others it refuses to make a healthy growth and seldom flowers well. I believe a great deal depends upon the time and manner of potting the plants; the roots are very brittle and liable to injury from carelessness in parting out the plants and removing the offsets from them. This should be done with the greatest care, and the plants when parted out should be sorted, keeping the largest ones together, the medium sized by themselves, and also the small ones, repotting them into pans of varying sizes according to the strength of the plants. If there is a good stock of plants, those of the largest size may be planted, a dozen or more in 12-inch or 15-inch pans. They must be well drained, for *Disas* need a deal of water, and unless it runs freely away the substance in which the plants are growing will become sour. Peat with a little Sphagnum and coarse sand should be used as potting material, and pieces of clean potsherds may be mixed with it. Like most other plants, water should be applied cautiously at first, but it may be administered more freely afterwards. These plants, when well established and doing well, may be improved by having the pans watered with clear liquid manure water; I fancy cow manure is the best for the purpose.

I remarked on the treatment of *Cymbidiums* last week, and gave instructions as to their cultivation; allusion ought to have been made to *C. giganteum*. This is an old inhabitant of our gardens, having been discovered in Nepal by Dr. Wallich so long ago as 1821. Mr. Gibson, when collecting plants in India for the Duke of Sutherland, met with it in great abundance in the thick umbrageous forests at the foot of the Khasya Hills, growing on the trunks of trees, especially on those which had begun to evince tokens of decay, the specimens which occupied the hollows of old trees partially filled up with decomposing vegetable matter always presenting the most luxuriant and healthy appearance. Gibson's plants were received at Chatsworth in 1837 and flowered in 1844, the spikes producing sixteen or eighteen blossoms. The plant which flowered at Chatsworth is well figured in Paxton's "Magazine of Botany," vol. xii., p. 241. I had a bloom sent this week by an Orchid amateur exactly like the variety figured; it had been imported and sold as *Cymbidium* species. It is not so well nor truly figured in *Botanical Magazine*, t. 4844. Dr. Lindley's figure in the "Sertum Orchidaceum" is from a drawing by Dr. Wallich's draughtsman, and does not give the true character of the plant. *C. Hookerianum* was described by Reichenbach in January, 1866, and dedicated to Dr. Hooker "with his best wishes" and as a congratulation for the first New Year's day of his Kew directorship. This plant was found by Dr. Hooker on the Sikkim Himalayas, and also by Mr. Lobb when collecting for Messrs. Veitch. Dr. Hooker believed this to be a mere form of *C. giganteum* with flowers of large size. As figured in *Botanical Magazine*, t. 5574, the flowers are twice as large as those of that species; the sepals and petals 4 inches to 5 inches across, of a uniform green colour; the lip yellowish white, spotted round the margin with deep red; whereas the lip of *C. giganteum* is deep yellow spotted on the margin, the sepals and petals yellowish-green streaked with dull red lines. *C. Lowianum* and *C. Hookerianum* are probably both geographical forms of *C. giganteum*. I have described them as above in case some readers may have obtained one or the other as *Cymbidium* species. They are easily recognised, and both are quite distinct from the better-known *C. Lowianum*. I find they all do better planted in a staple material of good yellow, fibrous loam. Look well after the *Dendrobiums* to see that none of them are injured by being in too cold a place. As the nodes swell give water gradually, place the plants in a warmer house, and when they have advanced a little more, place them in a warmer house still. The flowers will open more freely and be of better quality if the plants are not subjected to an extreme of heat or cold. Those plants that made up their growths later should be kept in a cool house to flower in succession to those which have flower-buds in course of development. At this season *Dendrobiums* and *Cattleyas* may be occasionally fumigated to destroy thrips or green-fly. Watch the atmospheric conditions, for as the wind changes from west to east, or *vice versa*, so will the changes be felt in the atmosphere. A cold, drying east wind necessitates of course a much greater heat in the pipes; this again requires more water sprinkled about on the paths and on the stages underneath the plants. I would warn cultivators against over-heating the pipes at this season, as it might cause some of the plants, especially *Cattleyas*, to start prematurely into growth.

J. DOUGLAS.

**The Cockspur Thorn as a fence plant.**—We saw with pleasure *Cratægus crus-galli* used in France as an effective hedge. Its strong growth fits it well for this purpose. A hedge made of it would be nearly impossible for man or beast to break through. A strong Thorn like this is well worth a trial. The best fence is a live one on a good bank, and we can imagine nothing better than a fence formed of this, either alone or with wild Rose and Briers, and perhaps with Holly where an Evergreen here and there was liked.



This Thorn is well known in England, and is easily raised from seed. The increase of the iron fence is one of the ugliest features of the times, and all who care about the beauty of our country would do well to get rid of it and to make always the more beautiful, and in the end more economical and naturally armed bank fence. — *Field*.

## ORCHIDS.

### CYMBIDIUMS.

THESE plants have come into great favour since the advent of the fine species *C. Traceyanum* from amongst an imported batch of *C. Lowianum* and the yellow-flowered *C. Mandaianum*. It is too soon to see any members of the *C. Lowianum* section flowering, but I have several consignments of *C. giganteum*, one in particular, a very dark and richly-coloured form from Mr. Seeger, of Dulwich, who tells me he has had spikes bearing seventeen flowers. Another remarkable variety from Mr. Howe has very large flowers, which more resemble those of the ordinary form, with a great deal of green in the sepals and petals. I also have flowers of the same species from Mr. Brockhurst. These represent a good ordinary form of the plant. In addition, I have some flowers of the beautiful *C. Mastersi* from "C. T. K.," and of *C. affine* from Mr. Ransom. These belong to quite another section of the genus, but all are beautiful. The flowers continue in full beauty for a very long time, some of the species some months even. It is not well to allow the spike to remain on the plant for too great a length of time. I have grown Cymbidiums for forty years, but the finest plants I have ever seen are those of Baron Schroeder at The Dell, and Mr. Measures at The Woodlands, Streatham. Cymbidiums should not be elevated above the rim of the pot. The drainage, which must be well attended to, should be placed in the bottom of the pot in a permanent manner, as these plants do not like being shifted or disturbed. The soil for them should consist of about two parts of good and rich turfy loam mixed with fibrous peat and sharp sand. In potting the plants in this mixture, some pieces of broken pots should be mixed with the soil to keep it in an open condition. The soil must be pressed down firmly, and during the growing season the plants should have an abundant supply of water to their roots and also overhead, but avoid getting the soil soured.

During their growing season, which is the summer months, they enjoy strong heat, plenty of air at all times, and good exposure to the sun and light, with a slight shading during the hottest part of the day, and when the autumn comes round and one has to depend upon the fire for warmth, a temperature of from 50° to 55° will be quite sufficient. During this time the plants should have sufficient moisture given them from time to time to preserve the leaves in a healthy condition. I give below the names of most of the species and varieties in cultivation, but it must be remembered the thin-leaved section must be treated to more shade than the others. In every other respect they will thrive together, and they will not require any more heat, for I am told by those who have seen them growing in a state of nature that they have sometimes snow upon them in the cool season.

#### Section 1, with thick coriaceous leaves.

*C. aloifolium*  
*cypripedium*  
*giganteum*  
*Hookerianum*  
*Huttoni*  
*Lowianum*  
*Mandaianum*  
*pendulum*  
*p. atropurpureum*  
*Traceyanum*  
*tigrinum*

#### Section 2, with thin leaves.

*C. affine*  
*Dayanum*  
*Devonianum*  
*eburneum*  
*elegans*  
*Mastersi*  
*M. album*  
*M. superbum*  
*Parishi*

WM. HUGH GOWER.

**Cypripedium Irapeanum.**—John Brown says, "I this spring received a box of roots of this plant from a friend in Upper Mexico. I put these into a box in the mould in which they came; they grew, and now all have died down. What shall I do with them?" This is a deciduous species, and the roots should be kept fairly moist where they are at present, in a cool temperature, say with the *Odontoglossums*, or in a house that does not fall below 45°. When you wish to take them out from the box and to pot them, I would advise using pots not less than 8 inches across; drain these well, using for drainage some burnt ballast, light turfy loam, and good peat in about equal parts. Potting should be performed early in February, just before the roots begin to grow. The crowns or roots should be planted some 3 inches deep and subjected to more heat. When the stems have come above ground, the plants should be removed to a warmer house, be exposed to the full sun, and plentifully supplied with moisture both at their roots and in the atmosphere. Plenty of air must also be admitted. Treated in the above manner, you may get some of them to flower next summer. The plant was long ago introduced by Messrs. Backhouse, of York, and I saw it blooming in their nursery in 1869 or 1870 for the first time. Its large rich golden-yellow flowers, which are spotted on the inside of the pouch with red, are very showy. — W. H. G.

**Cattleya Percivaliana.**—T. Johnstone sends a superb flower of this variety, asking if it is the true *C. labiata*. It is a variety of it which some years ago was imported by Mr. Sander, and named in honour of Mr. Percival, who at that time had a grand collection of Orchids at Southport. The flower sent resembles in a striking manner a noted form in that collection. It is not often one sees so large a flower and one so richly coloured. The blooms each measure 5 inches across, the sepals and petals of a soft rosy lilac hue, the front lobe of the lip prettily frilled and bordered with a distinct band of rosy lilac, the remainder wholly deep crimson, the base and the throat being lined with alternate stripes of crimson and rich tawny yellow. I think this plant likes a slightly warmer atmosphere when growing. It was figured in *THE GARDEN* of June 8, 1889 (p. 532).—W. H. G.

**Dendrobium formosum.**—In its native condition this beautiful Dendrobe is spread over a wide area, being found in Northern India and Upper Burmah, and thence southwards as far as Tenasserim. It is also a native of the Andaman Islands, whence indeed the finest varieties come. It is the finest species of that section of *Dendrobium* known as the *nigro-hirsute*, which is characterised by short black hairs on the young stems. Its mature stems are a foot or more in height, stout, and bear large, oblong leaves of a rich shining green. The raceme is terminal and consists of about four flowers, but on newly-imported plants, especially of the strong growing variety known as *giganteum*, a pair of racemes are frequently borne on one stem, forming a splendid terminal cluster of eight or ten blooms. The diameter of each one of these being 4 inches, or even more, its wonderful beauty may be easily conceived, especially as the flowers, with the exception of a patch of bright yellow on the lip, are of the purest white. The petals are very broad,

and stand up like two wings, being much larger than the sepals, as is also the scoop-shaped lip. This *Dendrobium*, unfortunately, is not one of the most satisfactory to grow. The first year after importation, and in a less degree the second, it grows admirably; after that it declines rapidly. It is no doubt to our fogs and dull skies that this is primarily due. The best success with it under cultivation has been obtained by growing it in the hottest and moistest house, with little or no shading. It requires but a short resting period. The flowers are usually produced in late summer, but this depends on the stage of growth of the stems. Several plants have been flowering during October and up to the present time at Kew.

## GARDEN FLORA.

### PLATE 835.

#### RHODODENDRON KEWENSE.

(WITH A COLOURED PLATE.\*)

THIS is a hybrid between two species of Sikkim Rhododendrons, viz., *R. Aucklandi* and *R. Hookeri*. It was raised at Kew, the cross having been made in 1874, and the first flower developed fourteen years after in the temperate house at Kew. It is at least as hardy as either of its parents; possibly it may prove hardier. At Kew it grows well and flowers most profusely in a screen house, that is, a bed which is protected by a canvas screen in cold weather. In the temperate house it does not do so well. Wherever the Sikkim Rhododendrons grow well this hybrid should be planted, as it has all the charms *R. Aucklandi* with the freedom of flowering of *R. ponticum*. The flowers shown in the plate are smaller than the average size, which is 3 inches in diameter and 2 inches in depth; their colour is at first rich rose, gradually changing to a pale flesh, and the buds are rosy crimson. The plant is a sturdy grower, much bushier than *R. Aucklandi*, and the leaves, which are from 6 inches to 10 inches long, are shining green above, paler beneath. Since 1888 the plants have flowered every year in May, some of the bushes being magnificent, almost every branch to the number of fifty or more bearing a head of flowers. The young growths, which are produced at the same time as the flowers, add considerably to the effect, each young leaf being subtended by a large crimson foliaceous bract. I consider this to be one of the finest of all true hybrid Rhododendrons. *R. Aucklandi* is the parent of several other hybrids. The late Mr. Mangles, of Haslemere, crossed it with *R. ponticum*, and obtained what he called *Alice Mangles*. He exhibited it in flower in April of 1882. I have never seen this, but it is described as a very beautiful plant with bold oblanceolate leaves and a magnificent, but rather loose conical truss of large, lilac, nodding bells about 4 inches in diameter, six-lobed, each flower supported on a long spreading stalk. This hybrid ought to be nearly, if not quite hardy, its one possible defect being the earliness of its flowering. Another of these hybrids is *R. Manglesi*, of which a figure and description will be found in *THE GARDEN*, Vol. XXXVIII., p. 225. For this hybrid we are indebted to Messrs. J. Veitch and Sons, who raised it from *R. Aucklandi* and a hardy garden kind named *album grandiflorum*. It was awarded a first-class certificate by the Royal Horticultural Society in 1885. The flowers are 3 inches in diameter, white, with a few red spots on the upper seg-

\* Drawn for THE GARDEN in the Royal Gardens, Kew, by Gertrude Hamilton, June 25, 1892. Lithographed and printed by Guillaume Severeys.





RHODOLENEUM FRUTICOSUM







ment of the corolla. The plant is quite hardy at Coombe Wood, neither flower-buds nor foliage being injured by frost, although the plants are in an exposed position. Large plants of it flower freely. I saw it in flower in Mr. A. Waterer's nursery at Knaphill in June last. I believe the late Mr. I. Anderson-Henry made the same cross as produced *R. kewense*, but I cannot trace the plants or ascertain if he named them. There are plants at Kew which are the result of crossing *R. Aucklandi* with *R. arboreum*, but they have not yet flowered. I have a note also of a hybrid which used to be in the collection of Mr. Mangles, and which was obtained from *R. Aucklandi* and the hardy variety known as John Waterer. *R. Aucklandi* now, according to botanists, synonymous with *R. Griffithianum*, has very large saucer-shaped flowers of the purest white. It grows into a large tree 40 feet high. There are good examples of it in the temperate house at Kew, where it flowers in April or May. *R. Hookeri* is very similar to *R. Thomsoni* in leaf and flower. It has compact heads of rich crimson blooms. *R. Thomsoni* is hardy at Kew. *R. Hookeri* has not been tried so far as I know.

W. W.

## ORCHARD AND FRUIT GARDEN.

### THE BEST PEARS.

THE Pear tree ranks amongst fruit trees of the highest class. The beauty of its habit of growth and the variety and fine quality of its produce render it a pleasing subject to all planters and all lovers of fruit. When it is mentioned, moreover, that the period during which the fruit becomes ripe extends from midsummer to Whitsuntide of the following year, it may be understood how important it is to make a choice selection from the very extensive list of good varieties which are now in cultivation.

In the following selection the varieties are enumerated successively, in their order of ripening:—

*Doyenné de Juillet*.—With the shape and colour of a Mignonne Pear, this variety possesses a fine quality of flesh, and is specially recommended by its earliness of ripening. How different this from the early Pears which are so plentiful in our fruit markets!

*André Desportes*.—Of somewhat larger size, this fruit has the pearly appearance of a Blanquet Pear. The tree, being of large dimensions, is well adapted for orchard planting.

*Épargne*.—May be grown either in the open ground or on a wall. A scarlet-skinned Pear of pleasing form.

*Beurré Giffard*.—Equal to the preceding variety in the fine quality of its flesh and the attractiveness of its exterior, this has the advantage of being amenable to any form of training.

*Précoce de Trévou*.—Fruit remarkable for its fine appearance and flavour. The tree hardly requires the pruning-knife, as its branches well enough naturally to satisfy its cultivator.

*Williams*.—The most profitable, perhaps, of our chard Pears and a great favourite with the English and Americans. Do we not meet with it on the tables of the rich and on the stalls of the fruit-sellers? The tree brings in an assured return of fruit and money.

*Docteur Jules Guyot*.—A sister to the preceding variety, if one may judge from its abundant productiveness and the fine appearance and good quality of its fruit. It would gain by a comparison if the palate of the tester were not prejudiced in favour of aromas which have a strong musky flavour.

*Mme. Trepoee*.—If any fault is to be found with this variety, it is that it is prolific to excess, although the fruit is quite a store of *eau sucrée*

flavoured with almonds. The excessive productiveness of the tree is detrimental to the branches and also to the size of the fruit.

*Beurré d'Amanlis*.—A handsome and good variety for household use and for market. The branches of the tree are numerous and readily pliable for any form of training. Bears well either in exposed positions or as a low standard.

*Doyenné de Mirabel*.—The tree grows well and gives satisfaction to the cultivators in the valley of Montmorency and elsewhere. The oboval form of the fruit and the melting quality of its flesh have caused it to be classed by turns with the Beurrés and the Doyennés—groups which have now lost any signification that they ever possessed.

*Triomphe de Vienne*.—Put into commerce at the same time as Marguerite Marillat, which it equals in size and in first-rate quality, the *Triomphe de Vienne* has the advantage of the tree being of more vigorous growth, whether it be grafted on the Quince or grown on its own roots.

*Beurré Lebrun*.—Branches slender, although the bark appears disposed to peel off. The fruit, which is oblong or almost cylindrical in form, seldom contains any pips, a fact which was noted in the *Revue Horticole* by M. Ed. André, who named the fruit *Beurré Lebrun* when it was first exhibited at Troyes.

*Beurré Hardy*.—This, it is said, will supersede the old *Beurré Gris*, the latter being rather tender for open-air cultivation. *Beurré Hardy* is a delicious Pear, as is now well known, and its fine tree, which is hardy and cold-resisting, is an ornament to any garden in which it is planted.

*Fondante des Bois*.—What a pity that such a handsome tree should be so sparingly productive of its fruit, which are of superb appearance and exquisite flavour! Might not the same remark be applied to *Beurré Superfin* and *Doyenné du Comice*? Growth robust, habit very erect; fruit faultless in appearance and flavour. Should be grafted on the Quince.

*Louise Bonne d'Avanches*.—If one were to pronounce judgment on a variety of Pear tree from the number of fruit yielded by it, and the vigour and habit of the tree, and also the beauty and good quality of the fruit, this one would have many chances of being adjudged a good first-rate.

*Beurré Capiaumont*.—Classed by turns amongst the dessert and the preserving varieties, this Pear makes a good figure on the dining-table served up either in its natural state or as a preserve. The tree, of generous growth, adapts itself to any form of training.

*De Tongre*.—In Belgium this is named *Durondeau*, and is deserving of more extended cultivation. Its bronzy skin covers a refreshingly juicy flesh. The tree is well adapted for any form of training, including wall and trellis-work and retaining the spray growth.

*Doyenné d'Automne* still maintains its ancient reputation in spite of the cryptogamous parasites which stain the skin of the fruit, notwithstanding which this Pear preserves its fine quality and proverbial flavour.

*Colmar d'Arcberg*.—As the preceding variety is best adapted for open positions, and the one before it for walls, so is the present variety best suited for borders in the garden, the stem of the tree being of low growth. Its fruit is remarkable for its abundance, size, and full flavour, the latter being sometimes astringent, but more frequently agreeable to the taste.

*Antoine Delfosse*.—When this variety becomes better known to the keepers of hotels, buffets, and restaurants, more trees of it will be planted. Every guest now accepts a whole *Antoine Delfosse* and asks for another one.

*Duchesse d'Angoulême*.—Along with *Williams*, the *Duchesse* takes the lead of the varieties which are most in request for the shop-window of the fruiterer or the pantry of the purchaser. The tree is such a favourite, that it is placed first on the list of low-stemmed Pear trees, although we know of other varieties the fruit of which has more finely-textured, more juicy and more sugary flesh. Contrary to what was at first anticipated, the *Beurré*

Clairgeau has not supplanted it, neither has the *Beurré Dumont*. Extensively grown in Flanders and in the Tournay district, this excellent Pear does not seem to do so well in the neighbourhood of Paris. The tree has a good appearance; why does it bear so poorly there?

*Président Mas*.—The correct behaviour of the tree and the fine appearance and valuable qualities of its fruit are very appropriately associated with the name, which puts us in remembrance of our great pomologist.

*Beurré Bachelier*.—Another variety of branching habit and very erect-growing, which has its assigned place in orchards, and should be trained in pyramid or chandelier form. The fruit is large, green-skinned, and succulent-fleshed.

*Charles-Ernest*.—This continues the series of short-branched, ramified, compact-foliaged varieties, and is quite an ornament in fruit gardens or in pleasure-grounds. The fruit is large, pleasing to the eye, and still more so to the palate.

*Beurré Diel*.—Of more free-growing and less stiff habit than the preceding, this variety yields a good crop of large and fine Pears, which become yellow as they ripen, and in this condition will continue for several weeks at the disposal of the consumer.

*Beurré Millet*.—Lovers of small melting Pears which ripen about the first of January should plant either *Beurré Millet*, a branchy, erect-habited tree, or *Zéphirin Grégoire*, a similar variety, but not quite so erect-branched, or *Colmar Nelis*, which has slightly twisted branches. The fruit is not of large size, but is very abundantly produced.

*Beurré d'Hardenpont*.—Could this be an illusion which threatens to disappear? Does it not threaten to abandon exposed positions in the open ground and confine itself to walls, as the *Crassane* and the *Bon Chrétien* have done? Henceforward let us graft on the Quince and shelter with a wall the best of our winter Pears.

*Passe Colmar*.—Brought out about the year 1750, like its Belgian sister, the last-mentioned variety, *Passe Colmar* still maintains its verdant tint, its generous growth, its delicate aroma, and its popularity with good judges of fruit. One word of advice: In planting it, avoid wind-swept positions.

*Nouvelle Fulvie*.—A variety with twisted branches and rather strange-looking when grown as a tall standard. It is very suitable for espalier training. The flower-clusters, being surrounded with a rosette of leaves, withstand bad weather pretty well, and its long stalk permits the fruit to sway with the wind, whereby it escapes being blown off.

*Royale Vendée*.—The fruit of this is quite a store of *eau sucrée*. Keep it for your own use. Its leaf-green skin offers no attraction at the sale of wares which are bought for their external appearance.

*Saint-Germain d'hiver*.—An old acquaintance which is ever young with its fine flavour. The branches of the tree, however, do not stand bad weather well. It requires good nourishment at the root and good shelter above, and should be grafted on the Quince.

*Passe Crassane*.—What a rich gain this of Bois-bunel's! At the exhibition held at Evreux, I measured a splendid specimen of *Passe Crassane*, grown in the fertile valley of the Seine, which was 14 inches in circumference. It had a vinous flavour and the branches of the tree which produced it were as erect as the shaft of a column.

*Olivier de Serres*.—Branches compact; fruit medium-sized; flesh of fine texture and not very sugary. This and the preceding variety are sufficient to render one raiser famous.

*Joséphine de Malines*.—Branches twisted. Retain the spray whether the tree is pruned long or not at all. The depth of winter can glide over its fine smooth bark without cracking it. Flesh of fruit salmon-coloured and perfumed like a Hyacinth.

*Duchesse de Bordeaux*.—Formerly named *Beurré Perreau*. Amazingly productive; quality of fruit beyond comparison. What more would you have? Well, more vigour of growth and a more branchy habit would be desirable.



*Doyenné de Montjean*.—Formerly named Doyenné Perrault. A greater amount of vigour would not hurt this variety, inasmuch as the greater weight of the fruit increases the value of the crop. Double-graft it on the supernumerary branches of your pyramids or wall trees of autumn varieties which show an excess of vegetation.

*Doyenné d'hiver*.—A queen of the fruit-room at the close of the season who does not appear disposed to relinquish her sceptre. Shall we continue still longer to strengthen the tissues of the tree by means of fortifying hygienic ablutions? In the meantime, let us give it a well-drained position and graft it on the Quince, either simply or double-grafted.

*Doyenné d'Alençon*.—The hardness of this variety in the open air has not yet secured for it the popularity which it deserves. Large plantings of Pear trees have brought out the good qualities of this variety in relief.

*Bergamote Espéren*.—Fruit produced in clusters; quality beyond comparison, at least unless your palate prefers very strong aromas. The tree, which has a fine appearance, does best when grafted on the Quince. The upper growth which is not pruned produces rather small-sized fruits.

When spring has nearly arrived, any hard-fleshed Pears that remain on the fruiterer's hands are consigned to those of the cook. Let us wait till spring comes!—CHARLES BALTET, in *Revue Hortivole*.

#### SHOULD FORCING STRAWBERRIES BE PROTECTED?

THIS is a question about which opinions differ. One grower recommends their being stacked in the open air, a system I am not a believer in; another recommends their being plunged in the open air, the plunging being adopted merely to prevent injury to the pots from frost. Again, they are often wintered in cold frames and also on shelves in orchard houses. During a mild winter the stacking might prove successful, as even by being laid as it were on their sides, sufficient moisture from the rains is absorbed to keep the soil about the roots fairly moist. But what if the winter proves to be long and severe, with spells of frost perhaps of several weeks' duration? In such a case a layer of litter is recommended to be thrown over them. This is unnatural, especially if it has to remain on for a lengthened time, as it undoubtedly would have to if the frost were prolonged and severe. Frost also extracts moisture and leaves the soil in a dry and light condition. Under the system adopted, moisture cannot be applied, neither can the soil be pressed firmly in the pot, unless, of course, the whole lot is taken down, and which for obvious reasons is not very likely to happen. In the end the flower trusses do not push up freely and the main foliage is lost.

Considering the above, anyone might naturally think that plunging on the level is the better mode. I have done it myself and had success as well as failure. The success attends if it should turn out a mild winter and not too much rain. If a spell of frost occurs, a layer of litter would be thrown over them both for protection of the foliage and also to prevent the pots from splitting. If the litter has to remain on for a lengthened period the plants suffer, not perceptibly at the time, but later on in forcing.

I now come to what is supposed by some to be the most unnatural, *i.e.*, wintering in cold frames or on shelves in orchard houses. Wintering in cold frames I do believe in—not deep and dark pits where light and sunshine cannot reach them, but in low cold frames, where the plants may be freely ventilated and the lights removed during favourable weather. If the plants need water, this can be given when necessary. As regards Strawberries being wintered on shelves in orchard houses, the best forced Strawberries I ever saw, taking one season with another, were from plants so protected. The structure was kept freely ventilated in favourable weather and water applied when needed. Free ventilation with a judicious use of

the watering-pot is the panacea for all the phantom ills Strawberries are supposed to be heir to when wintered under glass. Y. A. H.

**Dressing fruit trees**.—In the case of insects on Vines, there is no better remedy than well washing with soft soap mixed in tepid rain water, using a soft brush in the crevices and spurs of the Vine. Gishurst may also be used with safety, especially by those who are afraid of strong mixtures. The old remedy of using flour of sulphur and soft soap, adding clay to make it as thick as paint, is good and preferable to strong doses of paraffin in warm water, as the oil does not mix readily with the water and the tender bark is permanently injured. Paraffin when used for trees, especially those at rest, should be in a soluble state and applied in strong doses. Figs and Cherries are often covered more or less with scale, which is readily got rid of by cleansing in the winter months. The old or matured wood of the Fig will require a stronger dressing than could be applied to Peaches or Nectarines, as scale holds firmly. Lime, soft soap, and tobacco water mixed will soon eradicate scale. Mealy bug, the most troublesome pest, needs the greatest attention both now and at the time the trees start into growth, as it is almost impossible to reach every one. There is rarely any difficulty in fruit houses kept thoroughly syringed in the growing season; it is when the pest is allowed to winter in the old bark that the mischief is caused. Now is a good time to cleanse the trees in the open that are affected. Peaches, which often suffer badly from mildew, should get a dressing of sulphur and Gishurst compound. A thorough cleansing of old walls with soluble paraffin is also beneficial, well saturating the old nail holes with the mixture. Apples infested with American blight should be thoroughly cleansed and painted over. Soluble paraffin is a sure preventive of mildew on Roses if thoroughly applied at this season.—G. WYTHES.

#### NECTARINES.

WHEN the new Early Rivers Nectarine becomes fairly well distributed it is likely to mark the commencement of a new era in the cultivation of this fruit, proving a real boon to the cultivator. The appearance of the Early Royal Peaches was a sort of precedent to the welcome likely to be accorded this new early Nectarine, although the latter from its size will doubtless hold its own when Early Beatrice and Louise Peaches are forgotten. Early Alfred is certainly a misnomer; on this soil it is a contemporary of Royal George. To return, however, to the Nectarine; if the tree bears out all that is claimed for it, of robust constitution and very free, the fruit extra large and handsome, and nearly three weeks earlier than Napier (which would make it a contemporary from a season standpoint of Early Beatrice Peach). Mr. Rivers has indeed scored a success, and it will be invaluable both indoors and outdoors. The description given both of tree and fruit would almost answer for Lord Napier, except in point of season, and it bears, I take it, a considerable resemblance to that variety. Are the flowers also large? Touching this question of large and small flowers, I should like to note an observation recorded for the last three seasons, that large-flowered Nectarines are not quite so satisfactory out of doors as the small-flowered section. Whether the reason for this rests with the flower or the tree I am not able to state decisively, but am inclined to blame the flowers. It is certain the larger flowers are more delicate, more susceptible to, and more quickly damaged by storms of sleet and rain. The centre of the flower, too, is more exposed; pistil and stamens have not the close, short, sturdy appearance to be found in the smaller flowers. Perhaps some correspondents who have a fair variety of Nectarines outside will say what their experience has been. Personally, for reasons above stated, I should always prefer Downton, Elruge, and Violette Hâtive for outdoor

work to Stanwick, Humboldt, Hardwicke, or Lord Napier.

Some seasonable notes in which maiden trees were strongly recommended have recently appeared, but I do not see that any great advantage is to be gained, except, perhaps, on the score of cheapness, and would quite as soon take a second season tree with five or seven fair leads. If the growth is a bit coarse and green, it will generally tone down the first season if no manure in any shape or form is used in the planting and strong, rank roots are cut back at the same time. The excessive use of manure from the very start is, I take it, answerable in the main for the very strong unripe wood one usually gets in the Nectarine and Peach far more than the position in which they are grown, for a thoroughly exposed site, such as most nurseries afford, allows plenty of light and air to play all round the trees, and they certainly do not get this on a wall unless unnailed in early autumn, a course of procedure I have never found necessary. With respect to the merits or demerits of clean *v.* bad-stemmed trees, by all means get the former if possible, but it is not absolutely essential either to ensure a prolonged life for the tree or for the successful production of fruit. There are some Nectarines here I know to be over forty years old, with gnarled and twisted stems, one of them girdling nearly 3 feet close to the ground. Some of the big, old branches (where portions had been cut away and the influence of the weather had eaten away the centres to a considerable depth) were, when I took charge of them, inclined to go to the bad, but the plastering up of all holes and bad fissures in the bark with a mixture of softened clay, the removal of weakly growths, and the gradual laying in the healthiest of the young wood have quite given the old trees a new lease of life. Some of the enemies to which the fruit is subject when it is ripe—notably, wasps and earwigs—seem to prefer the Nectarine to the Peach. I do not know if they are attracted by the stronger scent or find the skin more easily tapped, but such is certainly the case. E. BURRELL.

Claremont.

**Oranges at Messrs. Rivers' nurseries**, Sawbridgeworth.—The large stock of fruit-bearing plants in these nurseries is now carrying excellent crops of fruit. These when ripe promise to be quite equal to the fine specimens that Mr. T. F. Rivers has on previous occasions brought up to the meetings of the R.H.S. The trees are not large, but just the material for getting a good variety and plenty of fruit from in a comparatively small compass. Warmth is now being given them to perfect the fruit. The plants themselves are particularly healthy and clean, advantage being taken of wet days to do any cleansing that is necessary.—A. H. J.

**Apricots failing**.—I have never seen a reason for this given that seems to me conclusive. It is certain that fifty years ago Apricots did better generally than now. Why is this? No theories as to soil can apply. Again, why is it that complaints of Apricots failing are only heard of on this side of the Channel? Everywhere else in Europe Apricots fruit as freely as Peaches, quite irrespective of soil. My own impression is that the climate of this country is deteriorating.—WM. WICKHAM, *Binsted-Wyck, Alton, Hants.*

**Standard fruit trees**.—Standard Plums, Damsons, Cherries and Apples are the most suitable for orchards, but do not give the preference to those trees with much-trimmed or raked stems. It should be understood that most standard trees are worked on dwarf stocks, a single stem from these being run up to the required height and then stopped, two or three prunings resulting in a good head being formed. Till the latter is formed, short side shoots are allowed to grow on the stem, these being "stem-swellers," and are duly trimmed off when they have done their work. What are known as "feathered" trees, these being two years old from the graft and unpruned, in addition to being the cheapest, are also most certain to develop into



good trees than is the case with the older and more often planted orthodox standards. One or two prunings are sufficient to lay the foundation of a perfect head. The feathery red trees are much preferred at Toddington, Lord Sudeley's extensive fruit farms. The side shoots, besides being a source of strength to the stems, are retained for many years longer than is customary, or as long as they produce good fruit, and what is obtained from them soon pays for the tree. There is no necessity whatever to grow standards with clear stems, at any rate in cultivated orchards, and the side branches ought merely to be checked from taking a strong lead and retained for fruiting till they are heavily shaded by overhanging branches.—W. I.

#### MARKET FRUIT-GROWING.

THE season for planting fruit trees or bushes has again arrived, and there appears no slackening in the demand for trees of all kinds. Although Hampshire cannot at present be termed a fruit-growing county in the sense that Kent is, yet at the present rate of increase it will not take many years before it has a very considerable area devoted to fruit culture. At the present time Strawberries form a very considerable local industry in South Hants, the soil being especially favourable for very early crops. It is, however, in the direction of more permanent crops, such as Apples, Pears and Plums, that the greatest activity is observable at the present time. We are continually being told that fruit tree planting is already overdone; but the fact remains that enormous importations of foreign-grown fruit are sold in this locality, and if it pays the foreigner to grow it, why should it not pay us to produce it at a price that will make importing less profitable than it appears to be at present? It is of no use looking for fancy prices. At present I am by no means inclined to give up planting hardy fruits from any dread of foreign competition. The fruit that I have most faith in for extensive planting is

APPLES, as I feel sure we can produce any quantity and sell it in our markets at from 4s. to 6s. per bushel, according to variety. Purchasers certainly prefer English-grown Apples to foreign when they can get them. It is no use growing worthless sorts like the Goff, expecting to get good prices. Only really good sorts should be planted, and if they are cooking Apples, they must be large; if dessert sorts, only such as Cox's Orange, King of the Pippins, or Blenheim Orange should be grown. As regards cooking sorts, I can always sell Warner's King, New Hawthornden or any that are exceptionally large at good prices when small Apples can hardly be given away. Good fruit can only be had from vigorous young trees, and it is folly spending time and capital trying to improve old trees when young ones are so cheap and come so quickly into bearing. The best trees to plant for profit are maidens. These will generally bear some fruit the second year after planting, and quickly develop into fine bushes. One of the most common mistakes made a few years ago was the planting of too many soft early Apples, that must be sold direct from the tree. I shall in future only plant such kinds as give a good long season wherein to dispose of the fruit. Splendid sorts, that keep well until the spring, are abundant, and market growers want a constant succession to supply their customers quite as much as a private gardener.

PEARS are especially suited to the south of England, as we can grow varieties on open bush trees equal to those on walls in more inland counties. Really good dessert sorts well grown are a safe crop, as good Pears sell well when the old orchard sorts can hardly find purchasers. The selection of

PLUMS needs great care. Too many Victorias and sorts that ripen at the same time have been planted. Look out for very early and late sorts, and do not forget Damsons and Bullaces, for if grown well, they are as profitable as the very best Plums.

BUSH FRUITS are safe crops, as they very rarely fail and there is not much foreign competition to dread.

GOOSEBERRIES are in my opinion the best bush fruits to grow largely, as they are decidedly more profitable when gathered green than when allowed to ripen on the bushes. In this part we get good-sized berries for Whitsuntide, and that is the time to get good prices for green Gooseberries.

CURRANTS.—I should plant Black much more freely than either Red or White, for if grown well, they as a rule sell much more readily. They need very good culture to get the berries large. Small Currants of any kind are not profitable.

RASPBERRIES are not suited to dry ground, but where the soil is moist and deep they pay well, provided customers are secured to purchase them before they are over-ripe. J. GROOM.

Gosport.

#### CRACKED PEARS.

WHEN at Oxted, on the Sussex side of Surrey, recently, a gardener brought me samples of Van Mons Leon Leclerc Pears taken from a large standard tree on the Pear stock. The fruits were all more or less cracked, and in every case on the under side. Of course, in this there is nothing new, but in relation to a matter that has considerable interest to many whose Pears suffer in this way, it would be well to discuss it just to see whether it may be possible to arrive at some practical solution of the trouble and find a remedy. In this particular instance I found that of certain Pears worked on the Quince stock and planted and trained as cordons against a wall in the same garden, Van Mons and Easter Beurré both badly cracked, while Beurré Diel, Duchesse d'Angoulême and some others produced clean-skinned fruits. It is thus seen that the disease is not due to stock, but must in a large degree be associated with soil. It is possibly in this case very much as with some Apples that canker very badly, whilst other varieties on the same soil are quite sound and robust. The Pears that crack presumably need in the soil some constituent that others do not, and fail to find it. On the other hand, we have seen cold, wet seasons when Pears have been very much cracked, and yet in other years with ample warmth the fruits have been sound. In this particular instance the fruits have been cracked for the past twenty years, let the seasons be what they may. The subsoil where these Pears were grown is clay. The trees in no way exhibit evidence of the presence of clay, because the shoots every year are fully matured. On the other hand, in relation to both Apples and Pears there is no product so common when trees get into a sour clay as shoots that are imperfectly formed, and in winter die wholesale from lacking proper maturation. This is commonly termed canker, for it is about the same thing. It has often been said that cracking and canker are due to fungoid attacks. It seems far more probable that the fungoid attack follows upon the cracking of both fruit and wood; mould or mildew always succeeds vegetable decay, or practically accompanies it. There is also in relation to these Pears referred to a fact that should not be overlooked. There is no cracking in the flesh on the upper exposed or sunny side, but only on the under side. A. D.

Aids in colouring fruit.—Either stocks do or do not influence the colour and flavour of fruit. I hold that they do, and if "Y. A. H." will pay me a visit I will demonstrate the practice more clearly. I maintain that the seedling highly-coloured Crab stock, under the highest system of cultivation, gives more highly-coloured fruit than any other kind of stock. Soil, situation, root attention, and skilful pruning are all important factors in conjunction therewith. I do not say well-coloured fruit cannot be grown on trees on other stocks. The highest coloured Apples I ever saw were recently shown (last September). They had been grown at Kempey, Gloucestershire, upon some of the prepared Crab stocks worked in our home nur-

series by an intelligent small holder of 14 acres. Peasgood's Nonsuch and Worcester Pearmain were much finer than we get at Madresfield, quality, size and colour superb in the extreme—positive evidence of what we may expect in a few years' time, when the thousands of trees we are distributing gratis to tenants come into full bearing. The theory of colouring by wind will not hold good —W. CRUMP, Madresfield Cou. L.

#### LIFTING PEACH TREES

WHEN the fruit has all been gathered the grower must neither think that his task is done for the season, nor must his efforts be relaxed as regards any detail which is likely to add to the future well-doing of the trees. In many instances the trees become debilitated or unhealthy, when a little timely attention to the roots would have resulted in a better state of things. On some soils certainly, but these must be very suitable naturally for the free development of the trees, Peaches will continue in a satisfactory condition with little soil or root-disturbance. If the trees take on an unhealthy cast, are addicted to mildew, or the fruits fail to stone properly, then it is evident that something is wrong at the roots. Again, they may be growing too strongly. This is very easily rectified, as gross growth is generally the result of over-rich borders, and possibly too loose, from the borders being closely cropped with vegetables. The want of calcareous matter in the soil also tends to a gross habit, whilst if this is present in sufficient quantity and the borders kept firm, and not cropped with vegetables up to within 5 feet or 6 feet of the wall, the wood is firm and short-jointed. Annual lifting either wholly or partially is not needed, this giving the trees too much of a check. As far as the setting of the fruit is concerned and its after swelling off, there would not be any difficulty, but it lacks size. On heavy and calcareous soil I find lifting necessary every three years. After this some of the varieties at any rate take on a yellow cast, and if not seen to the trees gradually die off. Last year I had a tree of Lord Napier Nectarine which suffered in this manner, but which had previously been healthy. In the autumn it was partially lifted, when the advantage was also taken of adding a little fresh loam and wood ashes. This season it regained its former vigour and ripened off a splendid crop. Trees which are now in a bad state, or rather in a condition for lifting, may if they have not been disturbed at the roots for some years and are somewhat old resent wholly lifting. In these cases the difficulty is overcome by lifting, one side one season and the other the next. The best season for this work is just as the leaves are falling, and if done with dispatch no possible harm can accrue. A trench should be taken out about 6 feet from the bole of the tree, and then with forks carefully work away the soil from the roots, taking particular care not to injure these, up to within 30 inches of the bole. The roots should be brought up, relaying them horizontally, adding fresh soil, wood ashes, and also calcareous matter if this should be deficient, either in the form of lime rubbish or even freshly slaked lime, the latter especially if the soil should be over-rich in humus. In these latter cases a sprinkling of kainit and superphosphate of lime worked into the border would greatly assist in supplying the elements needed in these worst of Peach soils. Peach growing in the open air is now being looked upon with more favour, and to further stimulate it, it is necessary that the roots have attention. Y. A. H.

Late Red Currants.—Opinions differ as to the best way of keeping these for late use. Some think they are best grown on north walls; others believe in open bushes. Needing these as late as possible, I try them both on walls and otherwise. Both last year and this, mine kept best on open bushes. I protect them with netting, and when the weather comes on rainy I then put mats over and round them, and from these bushes I generally can gather fruit as late as the first week in No-



vember. I find that they do not suffer so much from insects on open bushes. It is odd that after Currants have been hanging a long time birds do not care to eat them. This year I took off some nets in October, and the fruit was not touched by the birds.—J. C. F.

#### LATE PLUMS UNDER GLASS.

THERE are few fruits more appreciated than good Plums. Frequently one hears people say after eating a good ripe Plum, that it has more flavour than many of the Peaches. I prefer a good ripe Golden Drop Plum to almost any other kind of fruit. To those who have to keep up a good supply of high-class dessert during the last three months of the year, late Plums prove most valuable, seeing they may be had in good condition till the end of November provided they are well ripened and kept in a dry room till wanted. Plums pay better to grow in cold houses than many cultivators think. When grown under glass they can be allowed to hang till they get quite shrivelled. In this state they are delicious. Plums are much harder than Peaches and better suited for cold positions under glass. Some cultivators think they are not so easily managed as Peach and other trees and want more space. Such is not the case. Few trees bear lifting better than do Plums, that is, provided they are not too old when operated on first. It is astonishing how quickly they will commence bearing when growing under glass if they are kept pinched during the growing season. Should they grow too strongly, they can be lifted in part or altogether, according to circumstances. When lifting is necessary, it should be done as soon as possible after the fruit is ripe, and, if possible, while the leaves are on the trees.

When I took charge of these gardens some four years since, I found here in a long, cold Peach house some old worthless Peach trees. These were on the front trellis. I resolved to remove these and plant in their place late Plums. Accordingly, I obtained good-sized trees, planting them in fresh soil. The second year after planting they began bearing. Last year and this I have had good crops. The kinds I planted were Golden Drop, Coe's Late Red and Reine Claude de Bavay. I have now planted Ickworth Impératrice and hope to add Grand Duke during the present planting season. There are many other good kinds one could plant, but they would not be of much value to me, seeing I want them for shooting parties. Coe's Late Red I find very useful for sending to the kitchen; it keeps so long and is such an abundant bearer. Last year it kept us going till the end of November, and will again this. Of all Plums, I consider Golden Drop the best. With me it crops abundantly. Last year quite a small tree gave us ten dozen; these were thinned to five dozen, and this year I left nine dozen. Reine Claude de Bavay has cropped equally well. I have sent a sample of each.

DORSET.

\* \* Fruit of good size and remarkably fine flavour.—ED.

**Crab John Downie.**—I fully agree with the observations of Mr. Wythes about ornamental Crabs. A feature of this Crab is its comparatively pleasing flavour. Such a kind as this as well as the more highly coloured elder Apples should be planted largely for effect in the garden. These ornamental Crabs make a very good jelly, and for this purpose I allow them to hang on the trees as long as they will. They are best grown as standards.—A. Y.

**Planting Raspberries in autumn.**—In many gardens this fruit does not grow so vigorously as could be wished, often owing to being too long in the ground. Now is a good time to renew worn-out plantations. In the case of weakness or disease means should be taken to secure good plants from a fresh source. Autumn planting is the safest to obtain a strong growth the ensuing summer. Strong canes should be secured with good roots, and in places where Raspberries fail good loam should be placed round the roots to give them a start. If the subsoil is gravel this should be dug out, the top soil placed on the bottom of the

trench, and some new loam used for the roots. Early planting, mulching afterwards, and pruning hard back the following March will secure a strong growth that is out of the question when deferred till February or March.—G. WYTHES.

**Plums on north walls.**—Washington is not a good north wall Plum; the best fruits I ever had of this were from an east wall. The only Gages I had this year worth eating were from a north wall, as the trees on an eastern aspect had no fruit. Reine Claude de Bavay and the old Green Gage were the varieties. The fruit of Reine Claude de Bavay and other Gages in the open was very inferior to that of the same varieties growing on a north wall. It is quite evident that a north wall is not such a bad aspect for Plums as some people imagine. Districts, of course, have a deal of influence.—Y. A. H.

## ROSE GARDEN.

#### ROSE NOTES.

THERE are many Roses which vary so much in the colour of their blooms and also in habit of growth when growing in different localities, that I am often hearing from amateur friends who complain of the way some of our very best Roses for general cultivation thrive or behave with them. A short time ago "A. H." gave some interesting notes on the supposed deterioration of some Roses. May it not be that many of these instances are due to some of the same causes as those affecting varieties in certain districts? I suppose scarcely any rosarian of experience would consider that that grand Tea Rose Comtesse de Nadailac was deteriorating. Yet if he had been used to see this variety growing in the extra vigorous and luxuriant manner that I have recently received some wood both from correspondents in Ireland and Scotland, and then saw it as it generally grows, I have no doubt he would consider it was falling off. Horace Vernet as grown by Mr. E. Mawley is a grand all-round Rose. With me and many more it is of little use except for exhibition, and from at the most a two-year-old plant, dying after this age.

How very much some Roses vary may be noticed by a visit to a few gardens where these are grown largely. You will seldom find the same variety taking so prominent a position in all. I know a garden where Pierre Notting is considered the finest of all. Did I not know the variety is true to name, I should be inclined to the opinion it was not this Rose at all, so well do the plants grow and flower compared to any of this Rose growing with me or that I have seen elsewhere. In connection with this subject I may mention the notes from Mr. Grahame upon Edith Giffard. That gentleman says it is the best grower and most satisfactory Tea Rose he has in his garden. He also styles the flowers as large, not even medium sized. My observations go to prove that this is the exception in other gardens. Edith Giffard with me is a grand Rose, but not the most satisfactory in either of the attributes Mr. Grahame claims for it. That grand old Rose Dr. Andry used to be a great favourite of mine when grown on a certain piece of ground; but where it is now grown, it does not at all please me. The same may be said of Senateur Vaisse and Xavier Olibo, both of which have never been good with me except upon one piece of ground. Marie Baumann and Alfred Colomb are by some so nearly alike as to be almost, if not quite, synonymous. Now with me there are not two more distinct red Roses as a general rule; but one may occasionally cut blooms of each that can hardly be distinguished. Charles Wood, an old Rose that was a great favourite of mine, has now entirely disappeared from my stock. It was sent out by Portemer in 1865, and was one of the best growers and freest bloomers among deep purplish-crimson Roses. I do not find it in any English Rose catalogue now, but it will always remain in my memory as one of our best shaped Roses, and quite worthy of continued cultivation where it will grow as it used to do with me. Jean Pernet in a former

garden was always good—in fact, I there considered it the best yellow Tea, but it is an indifferent Rose where now grown. I think we often look upon a certain Rose as having deteriorated for the reason that it does not thrive so well in fresh quarters. Then we are constantly advancing in the improvement of Roses through new varieties, and when these happen to be of the same shade of colour as an old favourite, we naturally look upon it as somewhat eclipsed and fallen off.

On the other hand, there are many Roses which certainly seem to improve. Take A. K. Williams, for instance. When first introduced it was styled a bad grower by almost all who saw it. Now, however, there would be few give it this character. The Bride also was with many a very disappointing Rose during the first few years of its introduction to the public. W. A. Richardson, too, did not take the Rose world by storm nearly so much as one would imagine from its present and deservedly popular position. Just as some varieties of fruits do much better in certain districts, so, too, do many of our Roses. General Jacqueminot, Mrs. John Laing, and a few more are notable exceptions, and probably we could count the sorts on our fingers that will do as well in all districts as these two grand Roses. RIDGEWOOD.

#### OWN-ROOT ROSES.

THE fact that the remarks I recently made are directly contradictory of others made eighteen months ago shows that, like "P. N.," I am not so conservative in my ideas but that I admit improvements, and it was some of the very same batch of plants of Marie van Houtte that prompted my recent note. It is true that they have been much longer reaching that vigorous state natural to the kind. Now that there are shoots a yard high and as thick as my finger upon own-root plants, I am justified in my remarks. It is, I grant, a question of waiting longer, but it is better in the end. If Marie van Houtte is a free grower, there is a score of other first-rate kinds that with me grow equally strong on the Brier, and no doubt will succeed as well on their own roots. That there may be a few delicate kinds needing some assistance, such as a stock, I grant, and even thus bolstered up they are often short-lived. But just as the strong growers succeed upon their own roots simply by reason of their natural vigour, so I am convinced will the stronger dwarf Teas. The compensating advantage is that after we have grown them their strength and vigour are likely to be permanent. We shall not suddenly find out that the stock is unsuitable and the plant doomed to shortly perish. My remarks as to Roses going back, &c., after a few years were of a general character. I will apply them to the actual kind, and show "P. N." it was neither a case of unsuitable stock nor of delicate constitution. The Rose in question was Mme. Charles upon seedling Brier. It did very well for a season or two, and the group was made larger, but the ultimate result was that the plants became weak. An appeal to the vendor of the plants brought the response that he could not account for the plants going back, as the same thing had happened with him. Therefore, neither of the causes that "P. N." gave without hesitation is at the root of the evil. With me Mme. Charles is an excellent Rose, vigorous, and most profuse and persistent in bloom. Before we actually condemn, let us try fairly. I am not sure that it is fair to try own-root plants side by side under conditions of culture the same as for worked plants that have strong roots at the start. There must be strong root growth before we can have strong branches. A soil more open and altogether lighter than is usually regarded as Rose soil will do much to advance growth below ground and above during the earlier stages of the plant's existence, and perhaps as a permanency as well. I have observed that plants struck from cuttings inserted in a soil both light and open, a quantity of sharp road grit being incorporated with it, and left in the cutting bed, make rapid progress and give good flowers within a year. On p. 424 "A. Y." recommends



own-root plants for pot culture, and I still believe we shall do more with them in the open air when we have tried them in more ways than one, and found out the quickest and best way. Then I think the process will not be found quite so slow. We must not make the comparison begin with the rooted cutting as against the bud in a crown of strong roots. Let us start with a Brier cutting or seedling and a rooted Rose cutting, and see what can be done in a given time. To test the time fairly, we must take into comparative account the period of the Brier's growth until it is strong enough to be budded. Meanwhile our Rose cutting will be making considerable progress, especially if we have—as I think it is quite essential we should—planted it in a light, free soil. Till "P. N." and the Rev. F. R. Burnside give particulars of their trials, I will assume that they did somewhat as I did, planted the young rooted cuttings, if not side by side, certainly under the actual conditions and in a similar soil to that provided for the permanent growth of worked plants. A. H.

**Old Cabbage Rose**—Now that the planting season is upon us, allow me to enter a plea for the above, if only for its old associations. To show its value it should be planted in a mass. We have it as a dwarf hedge, and it neither receives nor does it need any pruning. A dressing of manure applied annually is all that it gets. The white Cabbage Rose is scarcer, and I have not met with it now for some years.—A. Y.

**Planting Roses.**—A letter has recently reached me in which were some leaves and wood of Roses that were planted last season. My correspondent claims that they were liberally treated and very carefully planted, and asks the cause of their not succeeding. He had planted them into cow manure, having collected the cakes from the meadow and used them in their entirety. Under such circumstances, it is not to be wondered at that the plants did not thrive. The leaves sent were brown and yellow, and had evidently only existed upon the sap in the plants at the time of transplanting. No new roots could possibly have been made into so strong a manure as crude cow droppings. Under such treatment the plants only linger on for a time and then die. The wood turns yellow and puts on a sickly, frost-bitten appearance. Had the same amount of manure been incorporated with the surrounding soil, taking care not to place too strong a compost into direct contact with the roots, I venture to say satisfactory results would have followed. There is no greater error in planting Roses than placing such powerful fertilisers too closely around their roots. During the past summer upwards of fifty correspondents have sent me leaves and growth of Roses, asking the cause of and remedy for their unhealthy condition. Fully half of these were the result of over-feeding. Give a Rose a good soil by all means, but do not plant it in what is practically a manure heap. A rich and unctuous garden loam needs very little further improvement for Roses, especially at the time of planting. After the plants have assimilated the greater part of the food already in the soil is the proper time to add more by way of manure of some kind.—R.

**Influence of soil on trees.**—In plantations intended mainly for profit, grouping according to soil and situation will be found the surest method. It is often asserted that the finest Oak, Ash, Elm and Beech are to be seen as single specimens in the midst of, or upon the margins of, other plantations. But wherever such an instance occurs, the particular tree is generally upon its own soil, and is found to be flourishing at the expense of all around it. An Oak in a deep loamy soil resting upon clay; an Ash or an Elm in a loamy gravel; a Beech upon a calcareous gravel resting upon a bed of chalk; a Scotch Pine at a considerable elevation, and in a gravelly soil which affords it complete drainage; a Horse Chestnut in a deep loam, with a dry bottom; a Mountain Ash in a high situation where it meets with light sandy land; a

Birch in a light black loam with a gravelly substratum; and a Spanish Chestnut in a dry loamy soil upon gravel, afford at once the finest specimen trees and the most serviceable timber.—B.

## FERNS.

### THE WALKING LEAF FERNS.

(ANTIGRAMMAS.)

ALL the plants comprised in this genus have not the properties of the old and well-known North American *Camposorus* (*Antigramma*) *rhizophyllus*, which spreads by rooting at the apex of each frond where it forms a new plant, and from which it again sends out fronds which produce other plants. Some few years ago



*Antigramma Douglassi.*

when I was with the late Messrs. Rollisson at Tooting

*ANTIGRAMMA RHIZOPHYLLA* used to be imported in large numbers every year from Canada and found a ready sale. Many years ago when I had charge of the outdoor ferneries at Hatchford Park I had many a little colony of this plant, for it is quite hardy. The leaves which fall from the trees if allowed to remain will afford it ample protection through the winter months. The fronds of *A. rhizophylla* are simple, tapering to a point, where they are proliferous, and at the base are two large ear-like lobes. The fronds are each about 9 inches long and bright green. It is found pretty freely in the United States and in Canada. Linnaeus also gives Siberia as a locality for this species, but Hooker makes the Siberian plant a distinct species under the name of *A. sibirica*. It appears to differ in having a simple frond without any lobes at the base. The same form was found upon one occasion only by my friend Wilford in the strait of Korea,

on the island of Tsu-Sima. Any reader who has a hardy fernery should plant this *Antigramma* in some light turfy loam, choosing a nice shady place and keeping it tolerably damp.

*A. DOUGLASSI* (the subject of the illustration) is a somewhat rare plant in Brazil, and at present rare in cultivation. The fronds grow to some 10 inches in length and are about 4 inches broad. They are deep green in colour, but non-viviparous at the point.

*A. BRASILIENSIS* has fronds each fully a foot long and about 2 inches or more wide.

*Antigrammas* are near to *Scolopendriums*, or Hart's-tongue Ferns, but they have netted veins. The two last named kinds require a stove temperature. Wm. HUGH GOWER.

### ADIANTUM CUNEATUM.

FOR every-day use, whether in pots or for cutting, it must be admitted that this fine old Fern is still in the front rank. With a good stock of plants it is always possible to have it in good condition. In many cases this Brazilian Maiden hair is kept too warm. This is a great mistake, resulting in a general weakening of the plants, whilst the fronds will not last nearly so long when cut. For instance, during the summer I would much prefer to keep my plants in a cold frame rather than in a house with the least amount of warmth in the pipes. Again, a moderately dry atmosphere is far better than where it is moisture-laden. This latter state of things is congenial to rapid and free growth, but the fronds grow too large with correspondingly large pinnae, which are not in any sense desirable, whilst they do not last nearly so long when cut. They may look all very well upon the plant, but the plant thus grown will not bear a change to less congenial quarters, nor are the fronds of much use when cut. Shading, again, is a great mistake; it used to be a popular notion in some gardens that shading was really essential, whereas quite the opposite is the case, except in the very hottest weather. When the shading is dispensed with, the growth is much harder, the pinnae finer, and the fronds, too, somewhat less in size, but supported upon foot-stalks considerably stouter. The paler colour, too, of the fronds when grown thoroughly well exposed is much more desirable for arranging with cut flowers. The darker green as seen upon plants grown in the shade is not nearly so effective; in fact, it is oftentimes a difficulty to use it tastefully when of this shade of colour, bearing in mind also the larger pinnae. During at least six months of the year no fire-heat need be used, and only a very light shading when the heat of the sun is intense. A free circulation of air is indispensable towards securing a good enduring growth, whilst an abundant supply of water is needed when the plants are healthy and the pots well filled with roots. When the latter is the case a weak solution of guano (Peruvian) in water will greatly assist the plants. This is often preferable to repotting twice in one season. In fact, potting is frequently carried too far. My best plants this past summer were those which were not potted last spring; these have continued in the best of health up to the present time. Overcrowding of the plants should be guarded against; they should now have all the light possible, not being overshadowed in the least by other things. Where there is any disposition to damp off in the case of the older fronds, these should be at once removed.

Plants which have been yielding a good supply of fronds for cutting and have become destitute of good material for the purpose should now be rested. Water should largely be withdrawn from such plants; but little will be required between now and the end of the year. I would not hesitate to lay plants of this description upon their sides for a time, as long as they did not get excessively dry, particularly if they are still disposed to grow. It does not matter at all about the fronds dying off; in fact, a little later on they may be cut off entirely, thus clearing the plants of scale if there is any upon them. Take care that the



plants whilst in this condition do not get any drip. When thus cut down, a spare shelf would suit them very well. These plants will make a capital stock to start early in the new year in a stove temperature, being meanwhile kept in a temperate house averaging about 50° at night. When given an increase of about 10° they will soon start into growth again, but the watering must be done cautiously until the fronds are well advanced. The best of those now in use will by that time be probably fairly well used up. These plants will then do with a rest, restarting them later in the spring in less heat. Where there is a great demand for cut fronds, it will be found better to have three batches in various stages rather than to rely upon two. In this way it is comparatively easy to have a ready supply. Plants that are now growing should have a fair amount of warmth, but not too much moisture. A light airy house with a night temperature of from 55° to 60° will suit them well. The stove itself is rather too warm for them, even when they are growing freely; what some would term a cool stove would answer. Where there is a good quantity of growth still in hand, but fairly well hardened, a night temperature of 5° less will suffice. In this way, by having plants in various stages, can successive supplies be mainly kept up. Young plants, *i.e.*, seedlings, should be carefully looked after. These frequently come up in quantity; if not, it is an easy matter to sow the spores or to stand aside upon a moist bottom a plant bearing fertile fronds, and thus let the seedlings spring up spontaneously, which, after all, is as good a way as any. I prefer seedlings most decidedly to division of the old stools. They make much better plants, whilst if required whilst still in small pots, they are far more useful. When the older plants become exhausted and there is a sufficient stock of younger ones, it is better to throw them away or use them up for decorating. For general purposes, any pot beyond 8 inches or 9 inches diameter becomes too heavy and cumbersome. As to soil, I prefer all loam, with sand or road scrapings. When the loam needs modifying, a little leaf soil or a small quantity of peat can be added, but not too much, as both tend to a strong growth. Potting is best done in the spring-time. A GROWER.

### DECIDUOUS FERNS.

MORE attention might very advantageously be given to this section; most of them die off towards the winter, thus allowing more room for other things—in itself an advantage in many respects. These Ferns are not probably so abundant as they would otherwise be simply because they are deciduous. This may be attributed in some instances no doubt to non-attention when they become shabby; not that they want a great amount of care, but they should not be allowed to get too dry. If the soil be kept in a happy medium the plants will be right enough, and will after a rest start with renewed vigour. Any attention that may be needed in the way of potting should be seen to as soon as the young fronds begin to make a move; if, however, any increase by division is necessary, that should be done a little sooner, so as not to cause any injury. As the growth begins to rise away from the soil see that the plants are kept well up to the light to prevent the stems drawing up abnormally long and slender. When the first fronds are more fully developed the majority of these Ferns will take water very freely, affording in this respect quite a contrast to the previous or dormant treatment, but as signs of fading and disposition to cease growing are apparent, then withdraw the water gradually. These deciduous Ferns are useful for all purposes to which a Fern can be applied, whilst as regards temperatures they can be had from those suited to the stove downwards to the cool house and cold pits.

Of all these Ferns there are none, I think, to surpass

*LEUCOSTEGIA IMMERSA*, which in appearance very closely resembles *Davallia Mooreana* unless it be minutely inspected, when the difference is apparent. It is of smaller and more compact growth, making beautiful little plants in 5-inch and 6-inch pots. If larger plants are needed, then I would advise pans in preference to pots. Another excellent way of growing this lovely Fern is in baskets. These may be of wire, of rustic-work, or of pottery-ware, in any of which they thrive well and make a mass of roots. The best effect is obtained, in my opinion, with this Fern when grown well exposed to the light. The bronzy tints then assumed cause it to be most attractive, whilst this kind of growth is also the most durable. It is a variety easily increased by division, and there should be no difficulty in obtaining a stock thus or by spores. I note that it is now included amongst the *Davallias* in the "Dictionary of Gardening." *Davallia immersa* sounds quite as well, but one is often accustomed to the older names and does not readily relinquish them. It may be grown in a cool stove or temperate house with the greatest success. Another good Fern of this class is

*DAVALLIA BULLATA* (the Squirrel's-foot Fern), one of the prettiest of the dwarfier species, and one which should find a place in the smallest collections. This also makes a beautiful basket Fern, is easily grown and as easily increased by division. It is also admirably suited to the fernery for growing upon walls or pillars, or it may be cultivated with equal success in either pots or pans, flat or mounded up as may be desired. This Fern will with good attention in the way of top-dressing remain in good health for some years without making up. This, however, should be done occasionally, doing away with the older rhizomes in the process. In small pots it is a very suitable Fern for decoration, whilst for supplying cut fronds it is one of the best that can be grown, the fronds lasting well in the young as well as in the mature state. The smallest fronds make capital material for backing up button-holes.

*DAVALLIA DISSECTA* is another good Fern of this class, particularly as a decorative variety for clothing walls, for baskets, and for cutting, giving a good supply of fronds in the autumn. Like the foregoing, it may be grown in the temperate house. *D. bullata* I have kept safely enough when at rest in 45° with 10° or 15° more when growth commences.

Amongst the *Adiantums* there are some which come under this category also.

*ADIANTUM CONCINNUM*, a gem amongst the Maiden-hairs when well grown, does best when treated as a deciduous Fern. This species is not nearly enough grown; in fact, it seems to escape notice almost entirely, whilst the larger form, *A. concinnum latum*, comes in for a much larger share of attention, although in my opinion it is not nearly so beautiful; it has size in its favour, that is all. Both of these, but more particularly the type (*A. concinnum*), do best in the warm stove, where this species makes a beautiful basket plant.

*A. ÆTHIOPICUM ASSIMILE* is another very charming deciduous Fern, casting its fronds in November and starting into fresh growth again in March. This is essentially a Maiden-hair Fern for the many, being easily cultivated in a cool house; in fact, it has been known to live out of doors through the winter. It makes a very pleasing basket plant, the creeping rhizomes appearing around the sides and the bottom. The fronds are pale green in colour, but do not last well in a cut state.

*A. AMABILE*, also known under the name of *A. Moorei*, makes a beautiful basket Fern, having in this respect the properties of the foregoing species, but possibly in a more marked degree. It is a rapid-growing Fern, nearly or quite (according to the temperature) losing its fronds in the winter. It can be kept in a temperature of 45°, but is safer in 10° higher. In the stove it makes one of the very finest of basket Ferns.

*A. LUNULATUM* is another deciduous species—one also that is of very slender growth. It should

be grown as a basket plant, or at any rate suspended if in a pot. Having the property of reproducing itself from the extremities of the fronds, it soon makes a good growth when once it is started. This is also one that requires a liberal supply of water; even when dormant it should not be allowed to dry up. This list of *Adiantums* would not be complete were it not to include

*A. PEDATUM*, one of the prettiest of all, particularly whilst the fronds are still young. This species may be safely wintered in a cold frame or out of doors even in the more favoured localities. In its wild state it is found in both hemispheres, being widely distributed. For planting out in the cool fernery it is strongly to be recommended. Its hardiness has been well tested in some localities, but I am disposed to think too much exposure as a rule would not be beneficial. Shallow planting in particular is not advisable, particularly in cold situations. As a pot plant it can be strongly recommended, lasting a long time in good condition.

*LYGODIUM SCANDENS* does best when treated as a deciduous Fern, thus affording a suitable opportunity for making a wholesale clearance of any insect pests to which it is oftentimes predisposed. Scale and thrips are the enemies in this respect, and these cannot always be cleared out of such slender growth. As growth ceases in the autumn the plants should be kept fairly dry, then after a time as the fronds become shabby they may all be cut off. By this time, for instance, this may be done, only pot room is then required until young fronds appear again. When required mainly for cutting the better way is to train each frond up a slender string from the early growth, keeping each one to itself, so that it can be readily taken off when wanted. For twining round tall vases, rustic arches, &c., these fronds are extremely useful, particularly when the fertile ones are fully developed. I have seen it grown well upon the back wall of a viney. This was at Normanhurst Court, the country residence of Lord Brassey. This species is now more generally known under the name of *L. japonicum*.

The list of deciduous Ferns might be further extended, but sufficient have been named to draw attention to a class which does not receive in very many instances that notice which they deserve. One would almost be inclined to think that the opposite would be the case when so many and varied plants are now wanted for decoration. Certainly they may be cultivated much more, and that with advantage.

FILICES.

### STOVE AND GREENHOUSE.

#### PANCRATIUM V. HYMENOCALLIS.

THE genus *Pancratium*, as now defined by botanists, is limited to twelve species of Old World plants, few of which are in gardens or, so far as I know, worth growing. The best of them is *P. illyricum*, an old garden plant which is hardy in the south of England. When doing well it forms a tuft of glaucous, strap-shaped leaves, suggestive of the foliage of Emperor Daffodil, and produces in summer numerous long-tubed white flowers in crowded umbels on stalks a foot long. It is a native of Corsica, Sardinia, Malta, and South Italy, where it grows in sand in the vicinity of the sea. It was figured in *THE GARDEN* of September 6, 1890, from a plant which has lived for several years in a south border out of doors at Kew. Next to this in interest comes *P. maritimum*, the Sea Daffodil, a beautiful plant when in flower, but rather difficult to cultivate in the garden. It resembles *P. illyricum* in bulb, leaf, and flowers, except that the last are pure white, very fragrant, and larger. They are also remarkable for the size of the staminal cup, which is fully an inch long and bell-shaped, as



in the Hoop-petticoat Daffodil. I have seen it several times in flower in a frame, and I believe Mr. Ewbank grows and flowers it in one of those cosy corners in his garden at St. John's, Ryde. Herbert reckoned that it required to be baked, almost like a Chestnut, for half a year to make it flower. It grows abundantly in the hot sand of the Mediterranean shores, a circumstance which no doubt led Herbert to adopt the baking treatment. *P. illyricum* is frequently called *P. maritimum*. Of the remaining ten species I know nothing that would justify me in recommending them as garden plants.

Horticulturists generally make the genus *Pancratium* much larger than this by including in it the two dozen or so species which are now classed by botanists under *Hymenocallis*, and it is these plants, and not *Pancratiums* proper, which have made the name *Pancratium* familiar in gardens. There are, as a matter of fact, very good reasons for separating the *Hymenocallises* from *Pancratiums*, the latter having many seeds in the ovary, and the seeds are small, black and angled, and not unlike those of the Onion; whereas in *Hymenocallis* the ovary contains few seeds, these being large, fleshy, and green, more like tubers than seeds. The genus *Hymenocallis* is only found in America.

Another good distinction between the two is that whilst the *Pancratiums* proper are, with only two exceptions, poor, almost worthless in the garden, nearly every one of the twenty-four species of *Hymenocallis* is good enough to be grown as a garden plant. They are easily kept in health, and rarely fail to bloom freely; their flowers are usually pure white, often large, and always fragrant. It may be useful to enumerate here and briefly describe some of the best and easiest to procure of the *Hymenocallises*. They have all been known as *Pancratiums*; indeed, it may be said that with only one or two exceptions the name *Hymenocallis* is scarcely used in gardens. In this matter we are faultily behind. There is just as much reason for calling a *Cattleya* an *Epidendrum* as there is for retaining the name *Pancratium* for the plants which properly belong to *Hymenocallis*.

*H. SPECIOSA* is not only the best of its genus, but also one of the best of stove bulbous plants. It grows very freely if planted in a rich loamy soil either in a large pot or in the border, and it is not very particular as to light. Water it delights in, and so far as my experience goes, it does not care to go long without it. Its large, broad, curved, rich green leaves are ornamental all the year round, and its perfect bouquets of large white fragrant flowers, ten to fifteen in an umbel, borne on a compressed stalk  $1\frac{1}{2}$  feet to 2 feet long, are produced two or three times a year. They last about a fortnight, and are most useful for cutting for vases, bouquets, &c. The species, a native of the West Indies, is an old garden favourite, and in every sense a first-rate plant. Although *H. ovata* is still kept up as a distinct species, it is so very similar to *H. speciosa*, that I scarcely know how it may be said to differ, except perhaps in the leaves being a little shorter and the flowers not quite so large. It may be that the plant we know in gardens as *H. ovata* is only *H. speciosa* or a form of it. The plants in cultivation under the names of *fragrans*, *amœna*, and *ovata* appear to me to be very near if not identical with *H. speciosa*, of which Herbert recognised four varieties. Mr. Baker, in his most valuable book,\* which everyone interested in bulbs should possess, keeps *H. ovata* distinct from *H. speciosa*, although he says they are nearly allied.

*H. LITTORALIS* is another useful old garden plant which is common in Tropical America, and of which there appear to be numerous varieties. It

has longer, narrower leaves than *H. speciosa*, broadest in the middle, narrowed to an inch in width at the base. The flowers are borne in umbels on scapes about  $1\frac{1}{2}$  feet long, and they have a tube 6 inches long, very narrow, sprouting segments, 4 inches long; a funnel-shaped cup,  $1\frac{1}{2}$  inches long and wide, and filaments 2 inches long. The segments are united to the cup on the outside, a character which distinguishes this species from all others. This plant grows and flowers freely under the same treatment as *H. speciosa*, and it may also be grown in a warm greenhouse. It likes plenty of moisture always; indeed, Herbert says of it that it and its varieties are much harder than the rest of the genus, and are decidedly aquatic or swamp plants. He also says it grew for some years outside against the front wall of his stove. I have never seen it tried outside, but it is certainly worth the experiment. There are numerous synonyms and garden names for this species, viz., *disticha*, *acutifolia*, *Staplesiana*, *panamensis*, *in-ignis*, *adnata* and *americana*. I am disposed to believe from what I can learn that the plant which some nurserymen are distributing under the name of *Pancratium floribundum* will prove to be *H. littoralis*, or a form of it.

*H. HARRISIANA* is a pretty little species, which I find can be grown well in a cold frame all the year round. This year a quantity of it was planted on one of the lawns at Kew, where it grew well and flowered freely in the summer. The bulbs are to remain in the ground for the winter to test their hardiness. The bed was planted partly with this *Hymenocallis* and partly with the rosy purple-flowered *Zephyranthes carinata* (*grandiflora*), the latter proving a success also, as far as the summer was concerned. It will be interesting to see if these two useful bulbs may be planted permanently in the open garden. *H. Harrisiana* has lanceolate leaves a foot long, a slender peduncle of the same length, and three to five flowers in an umbel. The tube is 4 inches, the segments 3 inches, and the funnel-shaped cup less than an inch in length. The leaves all perish in the autumn. The plant was introduced from Mexico in 1846.

*H. CARIBÆA*.—A common plant in the West Indies and a well-known stove plant here. It is longer and broader in the leaf than *H. littoralis*, strong plants producing leaves 3 feet long and 3 inches broad; they are, however, thinner in texture than those of the last-named species. The flower-tube in *H. caribæa* is less than 3 inches long, whereas in *H. littoralis* it is 6 inches or 7 inches long. Otherwise there is little difference between these two, except, of course, that of the union of the segments with the cup, peculiar to *H. littoralis*. The synonyms of *H. caribæa* are *patens*, *latifolia*, *angusta*, *declinata* and *amœna*. It requires stove treatment.

*H. EXPANSA* is a near ally of the last-named, differing from it mainly in having narrower and more erect leaves and a thinner flower-tube. Mr. Baker says it is intermediate between *H. caribæa* and *H. littoralis*. It has been known to produce twenty-one flowers in an umbel. The flower segments are linear and 4 inches long, the funnel-shaped cup an inch long, and the thin tube 4 inches long. The flowers are very fragrant. The plant is a native of the West Indies.

*H. MACROSTEPHANA*.—The origin of this beautiful plant is not known. Mr. Baker suspects it is a hybrid production, and suggests that it is the plant which Herbert described in the Journal of the Horticultural Society, vol. ii., p. 18, as having been raised from *H. speciosa* and *Ismene calathina*. It would be interesting to test this theory by crossing these two plants. I have never succeeded in getting the two in flower at the same time. Whether a hybrid or a species, the "large-crowned" *Hymenocallis* is a most useful and ornamental stove plant. It is exceedingly well grown by Mr. Wythes at Syon House. The bulbs are egg-shaped, 2 inches through, brown-skinned; the leaves are about a yard long, 3 inches wide in the broadest part and rather thick. The flower-stalk is about 2 feet long, stout, and it bears an umbel of from six to ten flowers, the tube of which is greenish, 3 inches

long, the segments half an inch wide by 4 inches in length, and the cup broadly funnel-shaped, fully 2 inches long and wide, the free portion of the filaments being an inch long. The whole flower is pure white, save a tinge of soft green about the tube and the yellow of the large anthers. The plants may be made to flower at various seasons of the year.

*H. LACERA*, also called *H. rotata*, is a native of the Southern United States, where, according to Herbert, it grows in bogs. It has narrow leaves about a foot long and few-flowered umbels. The flowers are white, tinged with green on the tube, and the cup is so shallow that it ought properly to be called a saucer; it is 2 inches across, and the narrow segments are of the same length as the tube.

W. W.

**Gesneras and their allies.**—J. Barlow, who says he has a fine lot of these now in full bloom, sends me flowers to name. I can name a few, but many of the *Tydeas* being seedlings cannot be accurately named. No. 5 I take to be *Gesnera cinnabarina*, which I used to have in good condition from now until after Christmas. It is one of the old species, but I can with confidence recommend it for late autumn and winter blooming. No. 11 appears to be *Negelia multiflora*, a species with beautiful pure white flowers, having the throat stained with yellow; this I have also grown and flowered in the autumn months. No. 13 is *Sciadocalyx Warszewiczii*, with a long tubular red flower, the lobes somewhat reflexed, green with reddish brown markings. I have found this more of a summer bloomer. No. 14 appears to be *Plectopoma scintillans*. The tubes, which are large and richly coloured, are on the outside of a deep heavy red, the inside of a lighter hue and the throat orange-yellow, more or less dotted with sparkling crimson. No. 15 is *Tydeæ Belzebuth* or something very near to that plant. It has long tubular flowers, which are carmine, the segments of the limb being scarlet, heavily spotted with blackish purple. M. van Houtte, of Ghent, used to have a beautiful lot of these charming plants. They are easily grown. The soil should consist of light yellow loam and good leaf-mould, peat and well-decomposed manure, the whole thoroughly incorporated and made sandy, and the pots should be well drained. The plants when growing should receive a liberal supply of water to their roots, and occasionally a little liquid manure. The atmosphere must also be kept well charged with moisture, but do not use the syringe to the plants, as I have seen very bad results arise through this. As they begin to show signs of decay, give less water, and when they have sunk to rest, do not neglect them, but keep them a little moist and cool until wanted for re-potting.—W. H. GOWER.

**Bignonia venusta** (*C. G. H.*).—This climber for a warm greenhouse I would strongly advise you to plant in the place you name, as you say there is plenty of head room and a somewhat narrow border, well drained and bricked off to prevent the escape of roots. This should be filled with soil, some two parts of yellow loam, the turves being cut up roughly and mixed with sand; about half the quantity of peat will be necessary. The flowers are large, trumpet-shaped, and of a rich crimson. The wood should be kept properly thinned, and it should be well ripened by exposure to the sun.—W. H. G.

**Freesiæ, prolonged resting of.**—Having grown these most charming and sweet-scented of early spring-blooming ornaments of the conservatory in considerable numbers ever since their first introduction to this country, now many years ago, and always with the most gratifying success till the spring of this year, I was all the more surprised and disappointed when some twenty potsful of good-sized bulbs which had bloomed abundantly and well during the early spring of last year utterly failed to do anything for me this year, though treated in precisely a similar manner to what they had always been. They shot only in the feeblest manner, and though placed on a high shelf near the glass in a warm intermediate house

\* "Fandbook of the Amaryllidæ." Bell and Sons. 1888. Price 5s.



(where they usually perfect their blooms before being brought down to the conservatory), they only produced two small and poor bloom-spikes amongst them. Having, however, this autumn been repotted at the usual time, they are now growing most vigorously and luxuriantly, and have already filled their pots with roots, giving all the appearance of having been thoroughly refreshed by their prolonged rest, during which the bulbs seem to have imbibed a store of nourishment which should result in an abnormally abundant bloom next spring. The varieties I grow are *F. Leichtlini*, *F. alba*, to which is usually added the name *refracta*, but this, I believe, is an error, as the true *F. refracta* is quite a different plant, which is figured in vol. vii. of Redouté's "Les Liliacées" on plate 419 under the name of *Gladiolus refractus*, and which I have never succeeded in blooming, though Professor Foster kindly sent me bulbs of it some years ago; *F. Leichtlini major*, usually supposed to be a hybrid between the first two sorts, raised by Messrs. Smith, of Guernsey, and the scentless and altogether less interesting *F. aurea*, which alone of all of them once failed to grow for an entire year. I have this year added to my collection three more varieties, viz., *F. xanthospica sulphurea*, *F. xanthospica tricolor*, and *F. lilacina odorata*, which I hope may prove distinct and valuable acquisitions.—W. E. GUMBLETON.

**Tea plants in England.**—"J. B." asks if these are hardy in this country. I cannot say they are not hardy, for I recollect some years ago seeing bushy specimens some 3 feet or 4 feet high of *Thea Bohea* and *T. viridis* in the open air. These plants were in a border in front of a greenhouse, and I daresay they were protected with mats in the winter. The cold in 1860 killed them, and I have not seen any planted in the open air since. I have, however, had the two kinds and the Assam Tea (*T. assamica*) under my charge since that time as indoor plants, and as such I would advise you to treat the plants you have of *T. viridis*.—W. H. G.

**Nicotiana affinis.**—What is the objection to this as a cut flower? The perfume is delicious. It will retain its freshness more than a week. It is white and pretty. You can cut and come again long after the frosts have commenced. I have two plants full of bloom in the open border looking me in the face as I write. The flowers travel well if gathered unopened, so I fail to see the objection to it. Arranged with Maiden-hair my friends and I find it very charming, and I can strongly recommend it for a pot plant for town use. I gave one to a lady in the spring, and she writes me from Victoria Street, S.W., that it has never been without flowers. As far as my poor experience goes no plant wants better soil, more generous feeding, and less coddling than this one.—J. W. SHAW.

**Ruellia macrantha.**—Acanthaceous plants are at the present day but very little grown, yet many of them are of easy culture and flower freely during the dull autumn and winter months. With them must be included this *Ruellia*, the flowers of which are the largest in the entire genus, and a very striking feature it forms in the stove at the present time. It is a free-growing subject, which is very apt to run up tall and sparsely branched unless stopped freely during its earlier stages. The flowers, which are borne towards the points of the shoots, are somewhat trumpet-shaped, slightly curved, and at the expanded mouth nearly 3 inches across. The colour is very difficult to describe, but it is somewhat of a rosy purple, veined with a deeper hue. A coloured plate of this *Ruellia* was given in THE GARDEN of July 2, 1887, and the picture then given conveys a far better idea of the flower than any written description. In common with all the members of the genus, it is of easy propagation and culture, for cuttings strike root readily in the spring, and if grown on throughout the summer, they will make neat little flowering plants by the autumn. During the summer very little artificial heat is needed, but as the season advances the plants must be removed to the cool end of the stove or into the intermediate house, where they will flower well. Ordinary potting

compost—that is, loam lightened by an admixture of leaf-mould, peat, well-decayed manure and peat—will suit the *Ruellias* perfectly. Probably the reason that this and other beautiful flowering Acanthads are not more grown at the present day is the fact that the blooms are not adapted for cutting, as if so treated they quickly droop.—H. P.

### THYRSACANTHUS RUTILANS.

(SYN., *T. SCHOMBURGHIANUS*.)

Now that there is such a demand for flowering plants which have as one of their chief characteristics the property of lasting as well as travelling in good condition, there is great danger of losing sight of some of our fine old flowering plants, of which the subject of this



*Thyrsacanthus rutilans.*

article may be taken as an example. I remember some twenty-five years ago it used to be seen in nearly every garden where there was a stove house. I had charge of several plants in one establishment myself for some years where in their season they used annually to be one mass of flowers borne upon long pendulous racemes. These plants used to be stood out of doors during the summer, being brought back into warmth in September, when they soon began to show signs of flowering. They were grown in the form of standards from 3 feet to 4 feet in height. Thus grown, the long branching spikes of flowers were displayed to the very best advantage. Since then I have grown them more extensively, but still as standards (dwarf plants possessing this habit being an absurdity), which whilst in flower have been trained, or

rather arranged, so as to allow the spikes to hang clear of everything over the pathway in the stove. The *Thyrsacanthus* lasts a good long time in flower, the spikes being so continuous when strong. For cutting even the flowers are not to be despised, lasting one night and day very well. In this way I have found them extremely useful for suspending over the sides of tall silver epergnes. After flowering it is best to give the plants a little rest, keeping them dry at the roots; whilst in this condition, what little pruning is necessary should be attended to. Potting is best done when growth is recommencing, the soil used being turfy loam chiefly, with some good peat. Too rich or manurial soils are conducive to rank growth, which is not essential. My plan has

been to strike a few young plants for growing on each year to keep up the stock. These should be trained up on a single stem until they are at least 2 feet or more in height, when a head may be formed. As soon as the warmer weather comes round, say any time in May, the plants can be kept in a house where the temperature is less than in a stove. Light and air will develop the sort of growth to flower well. In favourable localities the plants are quite safe out of doors from June to September, keeping them in a sunny place. Brown scale is about the worst insect enemy the *Thyrsacanthus* has; this should be kept down, otherwise it will soon spoil its appearance.

PLANTSMAN.

**Spigelia splendens.**—I am asked by S. Jacobs what is the matter with this plant, as it appears to be dying off, when but a short time ago it was wonderfully bright and gay. The plant is simply going to rest, and should be kept cool and moist. When it begins to show signs of growth it should be shaken out of the old soil, be repotted in well-drained pots in a mixture of loam, peat, leaf-mould and sand in about equal parts and stood in a warm greenhouse or cool stove. After a little while it will require a liberal supply of water. It grows some 18 inches or 2 feet in height, the shoots terminated by numerous one-sided spikes, thickly set with tubular scarlet flowers, which last a very long time in perfection. I obtained this plant some thirty years ago from Mr. Wendland, of the King's Garden, in Hanover, but have not seen it for some years.—W. H. G.

**Isoloma hirsuta.**—By some authorities this is included in the genus *Tydaea*, the members of which it much resembles, and like some of them it is when in a flourishing condition rarely without flowers. It is of rather a loose, rambling habit, more so than most *Tydaes*, but if stopped freely when young, this can be to a great extent obviated. The flowers are tubular in shape, about 2 inches long, and of a bright orange-scarlet colour. The specific name of *hirsuta* is derived from the dark brown hairs with which the entire plant, stems, leaves, and blossoms are thickly covered. Owing to this the flowers and young leaves especially have a very pronounced velvety appearance. An intermediate house temperature during the winter, such as is favourable to the *Gesneras*, *Tydaes*, winter-flowering *Begonias*, tube-flowered *Rhododendrons*, and other subjects will suit this *Isoloma*.



perfectly. It strikes freely enough from cuttings in the spring, or if an old plant is broken up it will usually yield several of its underground rhizomes, each of which will form a plant if potted and placed under conditions favourable to growth. The soil best suited for this, the Tydæus, and in fact most gesneraceous plants is about equal parts of well-decayed leaf-mould and loam, with a liberal dash of sand, though when put into their flowering pots a little good manure will be of service.—T.

## BOOKS.

### THE DEER PARKS OF ENGLAND.\*

THIS book is on a subject very interesting, and very beautiful too, but it is not approached from the æsthetic side by the author. It deals with the extent, stock, and statistics of each park that interests the author rather than the artistic features and landscape beauty, which are such important things in the parks of England. For many people it will be an extremely useful and handy book of reference. There is an introduction treating of the habits of deer and the best ways of keeping them in health. We cannot, perhaps, afford a better example of the author's way of dealing with his subject than by giving the following description of the parks in

#### KENT.

**EASTWELL PARK.**—Owner, the Earl of Winchelsea and Nottingham. Acreage, about 1460 acres. Fence, brick wall, continuous flat iron fencing 6 feet high, and Oak palings. Water supply, a small stream, widened artificially into a large lake. Number of fallow deer, 1000. Average weight of bucks, paddock fed, 120 lbs.; park fed, 90 lbs. Average weight of does, 60 lbs. Number of red deer, used to be about 400; these are now extinct, but it is proposed to introduce others. The principal trees are Yew, Beech, Oak, Spanish Chestnut, Ash, Elm, Hornbeam, and Thorn. Imparked by Sir Thomas Finch in the reign of Queen Elizabeth.

**KNOLE PARK.**—Owner, Lord Sackville. Acreage, 1000 acres. Fence, partly stone and partly Oak pales. Water supply, natural. Number of fallow deer, 670. Average weight of bucks, 65 lbs. to 95 lbs. Average weight of does, 40 lbs. to 50 lbs. Number of red deer, 60. Average weight of stags, 160 lbs. Average weight of hinds, 110 lbs. Great variety of hill and dale, with high level land thickly studded with fine Beech trees, Oak, Ash, &c. Subsoil sand, gravel, and lower strata rock. Very little water; barely sufficient in dry seasons. Imparked in the 15th century.

**LULLINGSTONE PARK.**—Owner, Sir W. Hart Dyke, Bart., M.P. Acreage, 720 acres. Fence, wood and some iron. Water supply, river Darent. Number of fallow deer, 200. Other animals, stock and sheep. There are some fine old pollard Oaks, the largest 36 feet in girth. The park is very hilly and well wooded—Elm, Birch, Ash, and Whitethorn. Imparked in the 15th century.

**COBHAM PARK.**—Owner, the Earl of Darnley. Acreage, 700 acres. Fence, flat iron and wire. Water supply, small ponds. Number of fallow deer, about 600. Average weight of bucks, 130 lbs. Average weight of does, 50 to 55 lbs. The weight of deer is given entire, not clean. There is a heronry in the park. The trees are Oak, Ash, Hornbeam, Maple, Chestnut, &c.; the Ash is particularly fine. The ground is undulating, with much Bracken. Imparked in the 15th century.

**MOTE PARK.**—Owner, the Earl of Romney. Acreage, about 600 acres. Fence, wall and paling. Water supply, lake and many springs. Number of fallow deer, under 100. Other animals or birds, geese, ducks, and one rhea. A variety of trees of good size.

\* "A Descriptive List of Deer Parks and Paddocks of England." By Joseph Whittaker, F.Z.S. London: Ballantyne, Hanson and Co.

**GODMERSHAM PARK.**—Owner, John Cunliffe Kay, Esq. Acreage, 600 acres. Fence, Oak paling. Water supply, the river Stour runs through the park. Number of fallow deer, about 350. The surroundings are 1300 acres of wood and 4000 acres of arable and pasture land. The timber in the park is of large growth and old. The fallow deer are all dark coloured, nearly black. Good trout fishing in the river Stour. Imparked in 1742.—43.

**WALDERSHARE PARK.**—Owner, the Earl of Guilford. Acreage, 450 acres. Fence, iron deer fencing. Water supply, artificial. Number of fallow deer reduced to 40; there used to be about 500. No red deer now, but formerly about 200. Very fine Chestnuts, Beeches, and Oak trees. A wilderness of 50 acres is not included in park. Imparked in the reign of Queen Anne.

**MERSTHAM HATCH PARK.**—Owner, Sir Wyndham Knatchbull, Bart. Acreage, 404 acres. Fence, Oak palings. Water supply, natural. Number of fallow deer varies between 150–300. Average weight of bucks, 100 lbs. Average weight of does, 50 lbs. Other animals and birds, rabbits, pheasants, partridges, and wild ducks. About 50 acres of very old pollard Hornbeams, and some fine specimens of Weymouth Pine. Enclosed by a grant from James I. in 1618.

**SURRENDEN-DERING PARK.**—Owner, Sir Edward Cholmeley Dering, Bart. Acreage, 374 acres. Fence, half wall, half Oak paling. Water supply, both natural and artificial. Number of fallow deer, 186. Average weight of bucks at six years, 114 lbs. Well timbered, and an ancient park.

**CHILHAM PARK.**—Owner, C. S. Hardy, Esq. Acreage, between 300 and 400 acres. Fence, Oak paling. Water supply, chiefly artificial. Number of fallow deer, about 100. Other animals and birds, a great many rabbits and herons. Imparked in the year 1616. The park is on a slope south-west from the castle, thickly timbered with Oak, Ash, Beech, Chestnut, &c., and largely covered with Bracken; overlooking the river Stour.

**HALL PLACE PARK.**—Owner, Samuel Hope Morley, Esq. Acreage, 270 acres. Fence, stone and brick walls, wooden palings and iron wire fence. Water supply, natural—small stream. Number of fallow deer, 95 to 100. Average weight of bucks, 11 stone. Average weight of does, 9 stone (10 in summer).

**GREENWICH PARK.**—Owner, Her Majesty the Queen. Acreage, 185 acres 24 perches. Fence, iron railings and brick wall. Water supply, artificial and natural. Number of fallow deer, 31. Average weight of bucks, 14 or 15 stone. Average weight of does, about 9 stone. A few swans: One of the prettiest parks near London for its size, being very undulating and thickly wooded, and commanding a fine view of the Thames. The park wall of brick was built in the time of James I. At the far end of the park, adjoining Blackheath, a strip fenced off from the main part of the park is used as a sanctuary for the deer on Sundays and holidays, when the park is crowded with visitors from London. The old trees, many of which are Spanish Chestnuts, are chiefly planted in avenues, for which the park is remarkable.

**MEREWORTH PARK.**—Owner, Viscount Falkmouth. Acreage of the deer park only, about 100 acres. Fence, wooden paling. Water supply, natural. Number of fallow deer, 110. The ground is undulating, and well wooded with timber trees. This park was re-stocked about the year 1833.

**BOUGHTON PARK.**—Owner, George Carr Rider, Esq. Acreage, 75 acres. Fence, partly wire, partly picket. Water supply, natural, and unfailing from a piece of water and ponds. Number of fallow deer, 75. Average weight of bucks, 140 lbs. Average weight of does, 120 lbs. Beautifully wooded and very picturesque, with a lovely view over the Weald of Kent. Old Tudor manor house on high ground overlooking it. The whole for its size remarkable for beauty.

**EAST SUTTON PARK.**—Owner, Sir Robert Marcus Filmer, Bart. Acreage, 70 acres. Fence, partly wall and partly iron. Number of fallow deer, about 100. Average weight of bucks, 9 stone. Average weight of does, about 6 stone.

The information is very useful so far as it goes, and if we have any objection to make, it is that the author tries to include too many things under the name of parks. Many of these so-called parks have not any pretension to be parks at all. A field with a few deer in it does not form a park. These new and small parks are among the least desirable things in our country life. It is only when parks have some dignity and extent and beautiful, naturally-grouped old trees that they are worth thinking about as an element of beauty in our English landscape. For instance, there are places put down here as parks that we know to be merely fields with a few deer in them, while Lord Gerard's is described as a "small paddock." We think also that the small parks, in addition to being ugly and unmeaning, are very bad for the deer, because there is so little variety of food in them and scarcely room for the deer to get about. In many cases where deer are, a drove of handsome Highland cattle would be much better. Cattle can be driven from pasture to pasture and given a change of food and life; whereas the poor deer are starved in the same spot. We disagree with the author about iron being the cheapest fence for a park, because we have noticed that after some years iron becomes fragile and wears away, especially where strong animals are near. At least, if iron is used, it ought to be concealed, and we think that enough ingenuity has rarely been used in forming natural fences and in taking advantage of natural impediments. We believe in a good fence of Holly and Quick on a well-made bank as the best possible surrounding for a park, and as the best means of concealing an iron or other fence when necessary. For cattle, we would certainly never use an iron fence, but the jumping powers of deer would, no doubt, in many cases make a good strong Oak fence desirable. One of the ugliest things in connection with deer is the use of iron fencing, and some means should be found of concealing or modifying it by doing all that is possible to form more natural and enduring fences. The painting alone of iron on a large scale is most objectionable.

**Handbook of the Iridæ.\***—For more than twenty years past Mr. Baker has published excellent monographs of the different families of the Monocotyledonæ, and this volume concludes the series. And while we congratulate Mr. Baker on having brought his labours to such a successful conclusion, we must also congratulate the many who cultivate the beautiful family of the Irids on having at last got a handbook which in a small space will tell them with authority very much that every gardener will be glad to know. The book is a strictly botanical work, and does not pretend to give any cultural directions of the plants named, but it brings into order the confused array of synonyms. It gives, in English, short, but most accurate descriptions of each species, and it tells their native countries and geographical range. As a specimen of the great value the work will be to all gardeners, we may mention that the order includes the Iris proper, of which 161 species are described; the Crocus containing sixty-six species, and the Gladiolus containing 132 species; while the whole number of genera described with their several species is fifty-seven. When we say further that the book is well printed and has an excellent index, we shall have said all that is necessary to recommend the book to our readers.

**Garden and home landscape pictures.**—A very interesting collection of landscape and garden pictures by Messrs. Moon and Norton are exhibited during the present month at Mr. Gooden's gallery, 57, Pall Mall.

\* "Handbook of the Iridæ." By J. G. Baker, F.R.S., F.L.S., Royal Gardens, Kew. London: G. Bell & Sons, York Street, Covent Garden, W.C.

**Garden Design and Architect's Gardens Illustrated.** to show by actual examples from British gardens, that timing and placing trees to make them "harmonious" with architecture are a serious, needless, and inartistic. London: John Murray, Albemarle Street.



## SOCIETIES AND EXHIBITIONS.

## NATIONAL CHRYSANTHEMUM SOCIETY.

NOVEMBER 23.

## Floral Committee.

A WELL-ATTENDED meeting of this committee was held at the Aquarium on Wednesday last. There were many exhibits both from trade growers and private exhibitors, but so large a quantity as was then presented needs a considerable sorting out, for there were many flowers staged that the exhibitors could not reasonably expect to be favourably noticed. The following were awarded first-class certificates:—

**MRS. J. MITCHELL.**—An incurved flower of great promise, the colour being a deep warm shade of golden amber, the outer florets flushed with rose. This is a sport from Empress Eugénie, raised by a grower in New Zealand several years ago and sent over to Mr. E. Molyneux for cultivation. The certificate was awarded to Mr. E. Molyneux as grower and exhibitor.

**KENTISH YELLOW.**—A Japanese reflexed bloom of good dimensions with grooved petals, of a pleasing shade of deep golden yellow. Staged by Messrs. H. Cannell and Sons, Swanley.

**WABAN.**—A Japanese incurved variety, raised in America some few seasons ago and figured in *Garden and Forest*. This is a very broad-petalled, heavily-built flower of a pretty shade of light rosy mauve. Mr. R. Owen.

**ROBERT OWEN.**—A deeply-built Japanese incurved flower staged last year in much better condition. The colour is a good golden bronzy yellow. Mr. Owen.

**MRS. BRUCE FINDLAY.**—A Japanese of distinct character and colouring. It has deep and globular blooms, with long, thin, flat petals, the colour being a light delicate blush. Mr. Owen also staged this variety.

**PRIMROSE LEAGUE.**—A large Japanese bloom of good form, and a solid-looking variety. Colour pure white with a creamy yellow tinge in the centre. Exhibited by Messrs. Pitcher and Manda.

Among other flowers that received considerable attention, Tribune, a good light yellow Japanese with short, broad petals, and Mrs. Walter Cutting, a large, rather loose-looking incurved Japanese of a soft pinkish shade, both shown by Messrs. Pitcher and Manda, were commended. Le Drac, a narrow-petalled, yellow Japanese, was sent up in good form, but was regarded as too closely resembling W. H. Lincoln. Silver King, a large bloom belonging to the incurved Japanese type, of a light pinky mauve, and also several other excellent flowers were staged by Mr. C. E. Shea. Duke of York, staged at the last meeting, and described in that report, was placed before the committee in much better condition. Southern Beauty, a large, rosy Japanese with light pink reverse, would no doubt have received a certificate, but was considered to be almost the same as Lizzie Cartledge. A few others, such as Garnet, Mr. H. Broomhead, Snowdon, T. W. Sanders, Gilbert Beale, may be heard of next season. Several incurved varieties of recent introduction were also presented for adjudication, showing that the old section so long admired by the florists of the past generation is not being quite forgotten in the great rush of Japanese novelties.

—The society has made arrangements for sending out to New Zealand, by way of reciprocating the enterprise of Mr. J. Earland, a number of the finest Chrysanthemum blooms of home growth likewise frozen in ice. From Mr. W. Herbert Fowler, Claremont, Taunton, has been obtained a dozen of the finest Japanese varieties with which he won one of the Holmes' Memorial challenge cups on the occasion of the great show at the Royal Aquarium on the 8th inst.; and Mr. W. Mease, Downside, Leatherhead, a noted grower of incurved varieties, has sent a dozen of his best blooms with which he scored such striking success at Kingston and elsewhere. Instead of each bloom being frozen in a separate cylinder of ice, as was the case with

those recently sent to this country, they have been placed in ordinary show-boards in cups and tubes as if prepared for exhibition, and then stood in a zinc case 15 inches in depth, this being sufficient to admit of stand and flowers being completely submerged, and leave space for 3 inches or so of water in each. There are two zinc cases, one containing the incurved and the other the Japanese blooms. The freezing process is gradual, occupying, it is expected, about four days, and it has been suggested distilled water should be employed, as the ice will be so much the more transparent in consequence when the water about the flowers has become a solid block of ice. Each zinc case will be fastened down and placed within a wooden one with sawdust round it, which in its turn will be securely fastened and made ready for shipment. The work of freezing and transmitting the cases has been undertaken by Mr. Kaye, the manager of the Cold Storage Company at Blackfriars, and so generously have the committee of the National Chrysanthemum Society been met by Mr. Kaye, that the cost of freezing will be practically nil. The cases will be placed in the refrigerating chambers aboard ship, and they will reach Wellington in time for the exhibition of the Wellington Chrysanthemum Society in April next.

**National Chrysanthemum Society's official catalogue.**—Those of our readers who are cultivators of the Chrysanthemum may be interested in learning that the National Chrysanthemum Society has just published a supplement to the centenary edition of its catalogue, which appeared two years ago. The new work brings the former issue close up to date, as it contains the flowers raised or distributed since that time, and these, as we are informed in the preface, number nearly a thousand varieties. The supplement is modelled upon precisely the same plan as its predecessor, and in the selected lists contains additions to the incurved, Japanese, Japanese incurved, Japanese reflexed, reflexed, large Anemone, Japanese Anemone, and single-flowered sections. English raisers, like Owen, Doughty, Cannell, Gibson, N. Davis, Dibbens, H. J. Jones, and Boyle, are well represented, besides the usual French seedling growers, Délaux and Lacroix. It is a point of some little interest to notice that in the Japanese incurved section every variety save one is the product of American raisers or an importation from Japan *via* America. The alphabetical list at the end seems to be very full, and calls for no special remark. We believe the supplement is included with the 1890 catalogue, but may be had separately for 6d.

## NOTES OF THE WEEK.

**Chrysanthemums from Swanmore.**—Mr. Molyneux sends us a most refreshing bouquet of Chrysanthemums which are exceedingly varied in colour and shape. They range from single yellows and delicately tinted pinks to bright terra-cotta, and include Anemone-flowered, pompons, single and incurved varieties. The plants had been allowed to grow naturally, no disbudding taking place, and the result was very pleasing, the sprays when loosely arranged in a vase being light and graceful.

**R.H.S. Gardens, Chiswick.**—The Chrysanthemums in the great vinery are still very interesting, filled as the house is from end to end with plants grown much more naturally than is usually the case. Disbudding has, it is true, been practised to a certain extent, but the plants are many of them regular bushes carrying twenty to thirty blossoms, instead of the regulation two or three at the most.

**Winter-flowering zonal Pelargoniums.**—A class or two for these at the Chrysanthemum shows would in many instances add to the attractiveness of the exhibition. We were particularly struck with the well-grown plants in 6-inch pots with from eight to twelve trusses on each which we saw at one local show; they were quite a feature in themselves. It is not necessary to give the

names of the sorts; the best kinds for the purpose are pretty well known. By encouraging these Pelargoniums, we are adding to the home display as a succession to the Chrysanthemums; for after the latter are much past their best, the former will still be bright, making a good display up to and even beyond Christmas. Being of easy culture, these plants might be taken more note of by the amateur gardener as a succession to his Chrysanthemums.

**Pears keeping badly.**—I can quite confirm Mr. Iggulden's experience respecting the bad keeping qualities of many Pears this season. Of the few varieties among our trees which bore any fruit Marie Louise decayed directly they were ripe, while Durandean, a very handsome lot, went rotten before even half ripe, though gathered at the usual time. Doyenné du Comice now threatens similar misbehaviour. Beurré Diel, however, ripened up well with a richer flavour and less grittiness than I ever before remember. Your correspondent's tirade against the railway companies is well justified. I would, however, point out that it is not merely the home fruit trade, but the whole agricultural and horticultural interest which is languishing under the incubus of these unrighteous and unpatriotic charges.—B. D. K.

**Orchids at Chrysanthemum shows.**—At none of the exhibitions around London have I seen such a number of Orchids as at the Brixton and Streatham Society's annual gathering. At the last show there were three classes provided for them, and the competition was in each case very spirited. A beautiful display of medium-sized or small specimens was thus to be seen, consisting of Vanda cœrulea, Cattleya labiata in variety, C. Bowringiana, and others, with a number of Cypripediums, as C. Harrisianum, C. Spicerianum and C. insigne, with Oncidium tigrinum and other good things in season, such as Calanthe vestita vars. and C. Veitchi. A deal of interest was evinced in these productions by the visitors. This suggested the thought to me that it would be well for other local shows to encourage Orchids.—G. H.

**Pear Marie Louise d'Uccle.**—I had some fine fruits from a young tree of this kind both this season and last year; but although they appeared to get ripe and assumed a rich yellow colour with a russet skin, they were quite uneatable, hard and flavourless, and decayed without ever becoming soft and juicy. I thought last year it might have been from gathering too early and keeping in a warm cupboard, so this year they were left on the tree till they parted freely from the twig, and then, following the advice of some of your correspondents, they were kept in a dark dry cellar. The result was just the same; they never got soft, but assumed a fine colour, yet were quite uneatable and decayed almost suddenly. Is this the normal condition of this Pear? as if so, I consider it perfectly worthless, unless it may be for cooking. Other Pears, such as Louise Bonne and Emile d'Heyst, just now ripe from the same garden are simply delicious.—R. J. G. READ, Ealing.

**Cœlogyne Massangeana.**—With the single exception of Cœlogyne cristata, there is, probably, no other species in this genus so well worthy of the Orchid grower's attention as C. Massangeana. Compared with most of the other species (which, coming from thoroughly explored regions of the East, are amongst the oldest of cultivated Orchids), it is of comparatively recent introduction. It is a native of Assam, and the first record of its flowering in Europe was in 1878. It is named in honour of Mons. Massange, in whose collection at Baillonville its first blooms appeared. Like most of the Cœlogyne, it is easily cultivated and flowers freely. Just now its long pendent racemes are conspicuous in the Orchid house. These hang perpendicularly downwards from the edge of the pot to a length of from 1 foot to 2 feet, carrying from a dozen to twenty flowers. The sepals and petals are narrowly oblong and of a light ochre-yellow. The lip is mainly of a rich crimson-brown, the side lobes being prettily veined with yellow, and the central one edged with creamy white; three yellow keels also traverse the whole length. A compost



of peat fibre and Sphagnum suits this species, and it may be grown in a hanging basket; when in flower, at any rate, it is necessary to suspend it. It requires an intermediate temperature.—B.

**Cirrhopetalum Medusa.**—Although several of the *Cirrhopetalums* may be correctly described as pretty, the leading characteristic of the genus is the remarkable form and structure of its flowers. This peculiarity reaches its highest development in *C. Medusa*, a species which was to be seen flowering during the past week at Kew. It is an Orchid which is not very often seen, and its existence in a few collections is probably due to an accidental introduction along with showier and more popular kinds. It was originally introduced by Messrs. Lodiges in 1841 from Singapore. It has small ovoid pseudo-bulbs an inch in diameter and carrying a single oblong leaf 4 inches to 6 inches long. The flower-scape is erect and of about the same length as the leaves, carrying the flowers in a mop-shaped head. The flowers, which are of a creamy white spotted with pale purple, owe their strange appearance to the length of the lateral sepals. Triangular at the base, these sepals are drawn out into tails 4 inches or even more in length, the upper or dorsal sepal being of similar shape, but only half as long. The whole inflorescence looks very much like a mass of tangled threads. Whilst this little Orchid is of no value from a decorative point of view, it is capable of adding much to the interest of the Orchid house, showing, as it does, one of the most singular freaks in floral structure which even this family of plants can produce.—B.

**Datura suaveolens.**—A plant of this species about 10 feet in height, with the habit of a small tree, is just now making a striking picture in the centre bed of the conservatory at Kew. It shows the value of the species for structures that are large enough to allow it room to develop, especially as it flowers so freely during the dull month of November. Individually, the flowers are, perhaps, the most striking of any to be seen either inside or out at this season. They are trumpet-shaped, the tube of the corolla being 7 inches to 8 inches long, whilst across the mouth it measures nearly 6 inches. The greater part of the corolla is pure white, a tinge of green shading the outside of the tube. The flowers are borne in almost every leaf axil near the ends of the shoots. The foliage makes a suitable background to the large flowers, the blades of the leaves being ovate and 1 foot long by about half as much in width. This *Datura* is a plant of very easy culture, and, like the other shrubby species, is a quick grower. After flowering, it should be cut hard back (if the plant is as large as is desirable; otherwise the shoots should be left 6 inches or so long) and kept cool and dry till spring. It may be grown either in pots or planted out in the greenhouse, needing in each case plenty of water when growing and flowering. It is a native of Mexico, and is one of the oldest exotic plants cultivated in the greenhouse at the present day, having been introduced to Britain in 1733.—B.

**Mixed groups.**—On more than one occasion I have noted what pretty effects have been made by these at Chrysanthemum exhibitions when composed of other than Chrysanthemums only. They afford such a contrast to groups consisting exclusively of this latter flower. These are from force of circumstances altogether a rich mass of flower; whereas the others are more toned down by the use of foliage material, thus affording a relief when contrasted with each other. Some very pretty groups of medium size were thus arranged at the late exhibition at Stroud. Those to which the first and second prizes were awarded consisted chiefly of Orchids, Ferns, and Palms. In the first prize group the lovely *Dendrobium Phalenopsis Schroederianum* was employed with telling effect. This Orchid for such purposes is most suitable, the drooping spikes upon the tops of the slender growths standing out so well above other things. Even if Orchids were excluded and provided for separately, there is an abundant choice from amongst other things, Roman Hy-

cinths, Chinese Primulas, Persian Cyclamen, Bouvardias, and winter-flowering Carnations, with zonal Pelargoniums, for instance. All or each of these could be used with good effect in combination with fine-foliaged plants. It is not at all necessary that these groups be large. We would, in fact, prefer them to be small, thus giving more opportunity for competition, whilst where it was possible they could be alternated with the Chrysanthemum groups. These latter would then look better by being placed a little further apart, being frequently too much crowded.

**Phoenix Roebeleni.**—There can be no question that this little Phoenix is the most interesting addition to cultivated Palms which has been made for many years. Not only is it of great interest, but likely to be also of much value, possessing as it does a singularly elegant habit, and being in a great measure distinct from any Phoenix hitherto known. It may, perhaps, be best described as a Date Palm in miniature. When fully grown its stem attains no greater height than 2 feet, supporting a perfectly proportionate and graceful head of arching leaves, which are pinnate, and from 1 foot to 18 inches long, with narrow, linear pinnæ 6 inches in length, in shape and colour comparable to those of *Cocos Weddelliana*. Mr. J. O'Brien, who named this Palm after its collector (in the *Gardeners' Chronicle*, October 26, 1889), purchased the first cultivated plant at the auction rooms. This specimen is, I believe, the one now growing in the stove at Kew. It has two stems, one 18 inches high, the other 10 inches, and several sucker-growths at the base. It is in the best of health and growing freely, and, judging by it, the species may be said to be as easily grown as any of the Phoenixes. When it becomes more common and better known, there is little doubt that it will be greatly sought after. A drawback to many Palms is the fact that if kept in a healthy growing state, they become too large to suit many gardens, and frequently have to be got rid of on that account. There can never be any difficulty of this kind with Phoenix Roebeleni however freely cultivated it might be. Mr. Roebelen discovered it on the banks of the river Mekong, in Siam, on whose rocky banks, he says, it grows in great abundance. He gives the minimum temperature of this district in December and January as 41° Fahr., so that it is likely a stove or, at the lowest, an intermediate house will be necessary for it. It is rather singular that not long after the discovery of this pigmy Palm on the eastern hemisphere, one of somewhat similar character should have been found in the west. This is *Thrinax Morrisi*, discovered by Mr. Morris, of Kew, on the island of Anguilla, in the West Indies. It differs from the Phoenix in being a Fan Palm, but is of somewhat similar dimensions, having the same slender stem, which, with the crown of leaves, gives it a stature of no more than 3 feet.—B.

## PUBLIC GARDENS.

**Bostal Wood.**—At a recent meeting of the Plumstead District Board of Works, Colonel Hughes, M.P., L.C.C., reported that the London County Council had completed the purchase of Bostal Wood, and Plumstead parish could now arrange to open it at any time.

**Paddington Recreation Ground.**—The trustees of the London parochial charities have made a further grant of £1000 towards the purchase of Paddington Recreation Ground, in addition to the sum of £1000 already promised. The grant is conditional on the remainder of the money (£2480 out of a total of £50,880) being forthcoming, and on the passing of the Bill which the Paddington Vestry have resolved to promote in the next session of Parliament if the money is assured by the 21st of next month, the date for depositing the Bill.

**The control of the parks.**—At a recent meeting of the London County Council it was agreed not to proceed further with the resolution

to appoint a superintendent of parks at a salary of £700 a year, but that Mr. J. J. Sexby be made chief officer of the parks and open spaces sub-department, and that as such he be responsible for the due execution of all orders of the Parks Committee in relation to the parks, gardens, and open spaces of the council, and for the management of the whole staff employed in the sub-department. The council further agreed that Mr. Sexby's salary should be £500 a year, and that Mr. Nairn should be appointed chief clerk of the parks sub-department at a salary of £100 a year.

**Open spaces.**—At the monthly meeting of the Metropolitan Public Gardens Association, 83, Lancaster Gate, W., the chairman, the Earl of Meath, presiding, progress was reported with regard to the laying out of the Duncan Terrace enclosure, N., and Goldsmith Square, E., for the children's portion of which latter ground donations for the provision of gymnastic apparatus would be gladly welcomed. The usual arrangements being made regarding future maintenance, it was decided to undertake the laying-out of St. Mary's Churchyard, Woolwich, S.E., St. Thomas's Square, Hackney, E., and a playground at Kentish Town, N.W., at a total cost of about £1500, if only sufficient funds could be secured for the purpose. A grant of gymnastic apparatus was made to Latymer Road Mission, W., and seats were given for a chapel ground in Millwall, E., and Upper Richmond Road, S.W. Letters were read from the Kensington Vestry consenting to plant trees in Queen's Gate and Exhibition Road, S.W., adjoining the Natural History Museum, and from the Vestry of St. Boltolph's, Bishopsgate, providing a sum of money for the improvement of the parish churchyard. It was agreed that the association should offer to take charge of the Haberdashers' School playgrounds, Hoxton, N., during the school holidays if the governors permitted the admission of the children of the general public. Amongst other schemes under consideration were the acquisition of the Copperus, Bromley-by-Bow, E., Buffalo Bill's site, Earl's Court, S.W., the Eton and Middlesex Cricket Ground, N.W., the Cross Bones Burial Ground, Union Street, S.E., advertised for sale by auction on the 15th inst., and a playground in St. Matthew's Parish, Westminster, S.W.

**Osier growing.**—Can any reader give me an idea of the weight per acre of Osiers cut from well-established plants?—L.

**Evergreens for Dartmoor.**—Will any reader kindly say what are the best Evergreens and other shrubs to plant on an exposed spot on the fringe of Dartmoor, so as to give rapid effect and picturesque growth? Sandy soil with stones in abundance, also one part of garden loam, but light.—DRY.

**Presentation to the Rev. L. Blomefield.**—An event of some interest to naturalists took place at the last meeting of the Linnean Society held at Burlington House on the 17th inst., when a congratulatory address illuminated on vellum was presented to the Rev. Leonard Blomefield, M.A., F.L.S. (formerly Leonard Jenyns, Vicar of Swaffham Bulbeck, Cambridgeshire, but sometime resident in Bath), on the occasion of the 76th anniversary of his election as a Fellow of the society, and in recognition of his continuous and useful labour as a zoologist. Mr. Blomefield was elected in November, 1822, and is now in his 93rd year.

**Name of fruit.**—H. R. C.—Pear Beurré Diel.

**Names of plants.**—E. F. T.—*Cratægus* sp.; send better specimens.—T. C. Melrose.—3, send again; 4, *Asplenium salicifolium*; 5, *A. furcatum*.—G. Mackett.—1, *Antigramma rhizophylla*; 2, *Asplenium pinnatifidum*; 3, *Blechnum glandulosum*.—J. P.—1, *Vanda tricolor*; 2, *Cattleya Warocqueana*; 3, *Cypripedium insigne Maulei*.—O. W.—1, *Cattleya Warocqueana*, very good variety; 2, *Cymbidium giganteum*.—J. B.—1, *Lælia autumnalis*; 2, *L. anceps*, dark form; 3, *L. anceps Hilli*.—C. C., *Birmingham*.—1, *Cattleya Bowringiana*; 2, *Lælia alba*; 3, *Lycaste costata*.—G. Britwell.—1, *Dendrobium album*.—A. H.—1, *Cypripedium elligerum majus*; 2, *Epidendrum vitellinum*; 3, *Cymbidium giganteum*.—J. Simpson.—Please send flowers; impossible to name from a shoot only.—John Chzreh.—*Cotoneaster* affinis.



## WOODS AND FORESTS.

## REPLANTING WOODLAND.

WHATEVER diversity of opinion prevails among foresters as to practical management, nearly all are agreed as to the mistake of replanting with the same description of trees, at any rate until a certain period has elapsed. There must be time for the soil to become sweetened, for fresh mineral food to be prepared, and for the destruction of enemies, insect and fungoid. Unless the soil is specially suitable, by the abundance of requisite food, for a particular class of trees, it is only natural to conclude that after providing material for fifty or sixty years' growth, there will be exhaustion, even though much of the supplies is returned as decayed leaves, branches, &c. This is what we gather from our experience as regards the influence of rotation, but it only explains one, and perhaps the least important, reason of the fact that immediate replanting with similar kinds of trees seldom results in equally vigorous growth.

A more potent reason for failure arises from the poisonous nature of the excreta, which, until sweetened by oxidation, are prejudicial to the young plants. Of course, this applies in some degree to whatever trees are planted, but is more especially injurious when like follows like. It is for this reason that all experienced foresters strongly recommend that, before replanting, the land should be thoroughly drained. None but aquatic plants can flourish in a waterlogged soil. It is only by the aeration of the soil, which follows the removal of water, that a healthy condition is induced, that acids are neutralised, and plant food gradually set free. It is, in short, absolutely essential to the healthy growth of timber that the land should be thoroughly drained. A third reason against replanting with similar material is the injury to be anticipated from insect and fungoid parasites. It is well known that the eggs of the beetles—such as *Hylobius abietis*, *Hylurgus piniperda*, the Pine beetle, and *Adelges laricis*, the Larch bug—are deposited underground on old roots, and the grubs live on dead wood. It is therefore important that all dead wood should be removed and all decaying matter burnt before replanting; also, if possible, that a period of three or four years should elapse between cutting down and replanting.

We have now to consider other causes of failure. It must be understood that, as a general rule, hard-wooded trees should be followed by Larch and Pines. Even if we plant a certain proportion of hard-wooded trees to remain for the permanent crop, these should be of a different nature. Thus, if the previous crop were Oak, Ash or Sycamore will be suitable to follow. It is better that these should occupy different parts of the same wood than that they should be mixed. The Scotch Fir is useful as a shelter to the more delicate Larch, which, notwithstanding heavy loss from disease of late years, is, under favourable conditions, the most profitable of quick-growing woods. Opinions differ as to the reasons for the great mortality, and in many cases total destruction, of young Larch wood of late years. The causes are various—we may allude to some of the more prominent. Climate is an important element. The natural home of the Larch is on the slopes of mountainous districts; it enjoys above everything a dry, porous soil, in which air has free access to the roots. Strong soils are not favourable, and stagnant water is fatal; and even where drainage is

good, low damp bottoms, subject to fogs, are injurious to healthy growth. It is well known that the severest frosts occur in low valleys, and a great deal of the mortality which has occurred of late years has, we believe, been mainly due to severe frosts late in spring when the sap was up, and which destroyed the smaller cells. The comparative healthiness of Larch on hill-sides sheltered from the colder winds is a proof of this.

Failure may often be traced to want of care in the preparation of the young plants, and to change of soil from the nursery ground to their permanent home. The seedlings are often grown under the forcing conditions of highly-manured soil, of a free, open nature, in sheltered situations; and if at once transferred to a soil of different character, where the circumstances are much less favourable, the change is too sudden, and a severe check is experienced; necessary supplies of food are wanting, and the vitality of the plant is weakened, rendering it liable to fungoid attacks. F.

## THE COMMON BIRCH.

(BETULA ALBA.)

THIS is met with in all the countries of Europe, and in the north of this continent, as well as in Northern Asia and America, it forms extensive forests. In Sweden, Norway and Lapland it springs up in places where Fir, Pine and Beech forests have been destroyed by fire. The size and appearance of the Birch vary considerably, according to the nature of the locality in which it grows. Upon lofty mountains it becomes comparatively small and shrub-like, thriving best upon slopes and plains. Its usual height is from 40 feet to 50 feet, but it frequently attains 70 feet. The bark of young trees is of a reddish brown hue, but with increasing age it whitens until it assumes a beautiful silvery colour; the larger branches also become white, but the small twigs always retain their original hue. The Birch throws off the outer layers of its bark annually, and thus it generally presents a smooth and shiny appearance. Upon very old trees, however, the bark is sometimes burst and rent in all directions. The branches are slender, and at their extremities divided into numerous small twigs and rods. The leaves droop downwards, and give a peculiar appearance to the tree, by which it can readily be distinguished from its forest companions.

The timber of the Birch is white, close-grained, tough, light and pliant. It makes excellent fire-wood and yields superior charcoal for smelting. The *sabots*, or coarse shoes worn by the peasantry in some parts of France, are made from the wood of the Birch; in Germany, spokes, ladder-beams, axe-handles and cattle-yokes are made from it; and in Great Britain it is used for turnery, hoops and fish-barrels. Almost every part of the tree is utilised. Brooms and switches are made from the small twigs and rods.

In Sweden and Norway the leaves are often gathered while green, and given to sheep and goats in place of fodder. Prepared with alum, they yield an excellent dye, which imparts a beautiful permanent yellow colour to linen and woollen materials. The outer bark of the tree is very tough, and contains valuable balsamic and antiseptic qualities. In Sweden, Norway and Finland the bark is used instead of slates for roofing houses. Along the Volga and in some parts of North America canoes are constructed from the bark, and fishermen make their shoes of it. In Siberia and Lapland it is employed in the manufacture of boxes, baskets, hats, ropes, and drinking vessels. In Russia a bright reddish-brown oil is distilled from the bark of old trees; it is used in the preparation of Russian leather, to which it imparts a peculiar odour. In Poland the inner bark is highly esteemed by tanners. When holes are bored in the trunk or branches in spring, before the leaves begin to expand, the sap readily flows out. This liquid is clear as water, and has a

pleasant, though somewhat acid taste. Some trees yield a large quantity of sap, and as much as 10 lb. of it may be obtained at once, especially if a bright sunny day follows upon a cold night. The sap contains a large amount of saccharine matter, and, when fresh, forms an agreeable beverage. In a fermented state it is known as Birch wine.

The common Birch is propagated by seeds, layers, suckers, and cuttings. The seeds do not retain the power of germinating for more than one season. Sandy wastes may be reclaimed by being planted with Birches; but at the time of planting, it should always be remembered that such principal masses or trees as are to remain permanently must be arranged first, and their future size and character taken into consideration, so that the effect hereafter may not be left to chance. T.

## SHORT NOTES.—WOODS AND FORESTS.

**The Sweet Chestnut.**—The seeds of this should never be sown in autumn, as the germinating power is apt to be destroyed by the frosts of winter. The best course is to place the nuts intended for seed in layers of sand in a dark cellar, and then to sow them in spring, as soon as all danger from frost is gone.

**Beech timber** is especially adapted for sub-aqueous structures, or for positions in which it is not exposed to the action of the atmosphere. As fuel, the Beech is very valuable, and is surpassed in heat-giving qualities only by the Hornbeam and Maple. The charcoal of the Beech is highly esteemed on account of the equable heat which it emits. The bark is useful to tanners, and from the ashes of the wood excellent potash is obtained.

**Firs in a northern aspect.**—So much does a cold situation influence the growth of the Fir, that trees grown on the northern side of a hill are superior to those grown on the southern side, as those on a northern aspect grow less rapidly than those on the sunny side of a hill. The timber on the northern side will therefore be, as a rule, more durable than that grown on the southern, and the trees would not be so liable to injury from frosts; indeed, many diseases are induced, perhaps aggravated, by the sap being checked during early spring, on a south or south-eastern aspect.

**The Red Birch** (*Betula nigra*), although perhaps hardly so quick a grower as our native species, is well worth attention, if only for the picturesque effect produced by the red bark during the winter months. In the Red or River Birch the red bark hangs in thin broad flakes from the stem and larger branches, and imparts a distinct and peculiar appearance to the trees—an aspect as different as can well be from that presented by the chalky-white, smooth trunks and branches of the Silver Birch. The Red Birch, in its native habitats along the low river banks in the United States, forms a medium, or rather large-sized tree; the wood is light-coloured, and does not seem to be so valuable as that of some of the other North American Birches.

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No. 1098. SATURDAY, December 3, 1892. Vol. XLII.

"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—Shakespeare.

## CHRYSANTHEMUMS.

## TOO-MUCH-ALIKE CHRYSANTHEMUMS.

For several seasons past the National Rose Society has found it necessary to issue a list of too-much-alike Roses, no two of those bracketed together being permitted in the same class, or otherwise disqualification would follow. If this precaution is advisable in the case of Roses, how much more so is it among Chrysanthemums. Already there is a considerable number of very much alike varieties, besides innumerable synonyms, and now that raising seedlings has become so general, the lists of too-much-alike varieties will be rapidly augmented to a bewildering extent. Seed can be bought very cheaply, and plants raised and flowered quite as easily as any other greenhouse flower, and as a consequence the numbers of novelties, or what are thought to be such by their raisers, are submitted to the committees of the Royal Horticultural Society and the National Chrysanthemum Society, not by the dozen, as heretofore, but by the hundred. Only a very few of these seedlings are considered worthy of certificates, but it is not to be supposed that the raisers of the rejected candidates for honours will accept the committee's decisions as final, but will continue to cultivate their pets and also contrive to get them grown by other enthusiasts. The Continental raisers are evidently "played out," but they have done their part towards swelling the lists and adding to the confusion. American raisers are now well to the front, and they have a knack of describing and advertising their wares in such glowing terms, that it is in that quarter more than any other we are likely to get too many alike varieties. There is yet another fertile source from which much is to be feared, viz., the growing of too many doubtful sports. It may be that, now our authorities are fully alive to the peculiarities of many varieties, more especially in the matter of bud-variation, they will fight very shy of sports, no awards being made to these till they are thoroughly tested. Recent events seem to point to the conclusion that these sports will be very carefully dealt with in the future, and they need be, for it is very certain their name will soon be legion.

Doubtless, the work of bracketing too-much-alike Chrysanthemums together is anything but a light undertaking, though it need not be so very difficult if growers generally would give their experience in the horticultural press. Besides, the National Chrysanthemum Society ought to do something more than sit in judgment on what is placed before them by novelty raisers. That and merely holding a good average exhibition are not doing much towards furthering the "good cause." By way, therefore, of setting the ball rolling, I propose to give my own experience with, coupled with observation upon, too-much-alike Chrysanthemums, and hope to see others also give theirs. Taking the Japanese section somewhat in alphabetical order, Beauty of Castlewood is the first to be commented upon. This is really a very beautiful incurved variety, the inside of the florets being a bright deep red, and the outside or reverse a rich orange-yellow. Now this exactly resembles We-Wa, and is also con-

sidered by some to be very similar to Mrs. C. W. Wheeler. In the latter dictum I do not agree, the guard petals of the last-named being of a greater length and more drooping, while the colours are duller. Ought they to be bracketed together? Bouquet des Dames I consider quite distinct from Elaine, but all the same I should not risk showing both in one class. Coronet, Thunberg, Kioto, and Mr. Cannel, as seen at their best on the show boards—and that is the only test that can be applied, the habit of growth in all cases not being taken cognisance of—do resemble each other somewhat, but they hardly deserve bracketing together. The first-named is the easiest grown, and will probably outlive the rest, but Thunberg is the most taking flower. Countess of Lytton is a very doubtful improvement on Mr. Ralph Brocklebank. There is a slight difference, the former being somewhat paler in colour, but they ought to be bracketed together all the same. From what I remember of Dormillion, Charlie Sharman should be bracketed with it, but am open to correction. The so-called sport from Etoile de Lyon, Miss Lilian Cope, is now generally understood to be no deviation at all, very early taken buds of the former usually giving a nearly white flower, and it was too hastily concluded that a valuable new variety had been obtained. Some of the seedlings raised by me, and doubtless by numerous other growers, bear a strong family likeness to Etoile de Lyon, and some bracketing if some of these slight variations find their way into catalogues. J. Stanborough Dibbens has been very extensively grown, for the first time, this year, and in several respects it deserves to be eulogised. At one time I thought there was a slight difference between that variety and F. A. Spaulding, the latter having the broader petals and being the more compact flower, but later blooming plants have dispelled all doubts, and these two must unfortunately be bracketed together. Florence Davis is so very distinct, that it would appear scarcely possible to bracket this with any other variety, yet I fail to see any difference between that beautiful flower at its best, that is to say, void of a green centre or a green tinge generally, and the novelty exhibited as the Beauty of Exmouth. I feel certain they will have to be bracketed together, no matter how much they may differ in their habit of growth. Sarah Owen is a favourite of mine. It is a distinct sport from the popular Mme. J. Laing, and in its turn yielded a slight variation known as D. B. Crane. The latter is now considered too much like its parent, and although I can separate them readily enough, D. B. Crane having the most yellow in it, they will yet be bracketed together if ever my suggestion is adopted. Viel d'Or, if I received the true form, is only another name for Yellow Dragon, though at first it appeared to have a distinct bronze tinge in the flower. As yet all the hairy varieties that I have seen are distinct enough, but they are multiplying rather fast, and as a consequence there will soon be some bracketing necessary. Some of the very late flowering varieties, more especially those of American origin, bear a somewhat suspicious resemblance to each other, but as yet I cannot determine whether any of them ought to be bracketed together.

Incurved varieties being far fewer in number can be more readily discussed, but the time has arrived when some authorised list of too-much-alike varieties ought to be published in the prize schedules of all societies affiliated with the National. There seems much uncertainty about Emily Dale. Is it distinct from John

Lambert, and is the latter in its turn only another name for Golden Queen of England? With me the first-named is the most refined flower of the three, while John Lambert, besides being a fine flower, also incurs more surely and consistently than Golden Queen. Doubtless this is a point that will never be wholly set at rest, but the case can simply be met by bracketing all three. Nor will all growers be agreed as to the distinctness or otherwise of Mrs. Robinson King from Golden Empress of India. The former is with me of a richer yellow colour, but will it be safe to show both varieties in one stand, or is this to be another case of bracketing? The Princess of Wales and Princess of Teck, as well as the Queen of England families, are multiplying rather too rapidly from sports, and sooner or later there will be more need of bracketing. For instance, is Mrs. Heale distinct from Princess of Wales or not, or does all depend upon taking the right bud? I am unable to discuss the question of bracketing any of the reflexed, Anemone-flowered and pompon varieties, but have no doubt there are too much alike forms among these also.

W. IGGULDEN.

**Chrysanthemum Miss Lilian Cope.**—T. Parkin (page 451) is in the same position as myself, and as far as I can learn everyone else with regard to this Chrysanthemum, for it seems in all cases to have reverted to the original Etoile de Lyon. Last year I saw some good pure white blossoms which promised to be an acquisition, but this season my blooms of Miss Lilian Cope are quite as deep in colour as any of those of Etoile de Lyon. The lesson to be learnt from such behaviour is by no means to send out as new any variety obtained from a sport till it has been grown for a sufficient length of time to prove that the change is permanent. Still, with all care cases of reversion are by no means infrequent, as an instance of which I may mention an experience of my own. The variety was Annie Clibran or J. R. Pearson, which originated as a sport from the white Mlle. Lacroix, and owing to the colour of its blossoms was often called the pink Mlle. Lacroix. I obtained it in the spring of 1890, and grew half-a-dozen plants, all of which flowered in a very satisfactory manner and quite true to name, but the young ones propagated from these which bloomed the following year had white flowers, and a few of them grown on during the present season are still of the same tint. On the other hand, this pink variety has with many of my friends remained quite true to its character. Just another word with regard to Miss Lilian Cope, for I see one of our principal Chrysanthemum nurserymen who I believe sent out this particular variety has issued a circular in which he says: "Miss Lilian Cope: I much regret to find that the whole stock of this sport has reverted to its original colour, though after every appearance of being properly fixed."

—T.

**Disqualification at shows.**—Your correspondent, writing about the disqualifying at Brighton show in THE GARDEN of November 19 (p. 451), says that he is surprised at the short-sightedness of the exhibitors, as a reference to the catalogue would at once disclose whether a variety was admissible or not. If he will look through any of the Chrysanthemum catalogues (National excepted, which hundreds know nothing about), he will find nine out of every ten class Amy Furze as a reflexed, and also Charles Delmas.—G. H.

\* \* I am well aware that the classification of certain varieties in trade catalogues is misleading to exhibitors, who ought to know that no trade catalogue is binding on any society or judge. The descriptions therein contained are no doubt the honest opinion of the vendor, but unfortunately for exhibitors they are not always accepted by judges, and certainly never when they clash with the official catalogue of the N. C. S., recognised by all societies affiliated thereto, and of course bound



by the rules therein contained. If the schedule of the society referred to had been carefully read, those who were not aware might have known there is such a thing as a catalogue published by the N. C. S., and which is binding on the exhibitors and judges alike. For any judge to disqualify a bloom purely from individual opinion would set up a precedent that I would not care to be responsible for. If such were the case, I should disqualify any stand of reflexed blooms that contained Mr. M. Sullivan. It is a pity that all societies do not recognise the N. C. S. catalogue as their authority in the matter of nomenclature. This society would then be compelled and able to publish an annual list or an addendum of new varieties for the guidance of exhibitors generally.—E. MOLYNEUX.

**Naming Chrysanthemums.**—Many are the devices for displaying the names of cut blooms of Chrysanthemums, but one of the best that has come under our notice is that adopted by Mr. Herbert Fowler. In Mr. Fowler's plan the wire arrangement is fixed at the front of the flowers instead of at the back, the name in this case not interfering with the appearance of the blooms. The cards used by Mr. Fowler are about an inch wide and from 3 inches to 4 inches long, with the name printed in bold letters, the topmost name of the three belonging to the bloom in the back row, and so on. Visitors can see at a glance what are the names of the blooms. Formerly the names were pasted to the stand in front of each bloom, but now with such huge flowers that plan is of no use.

**Chrysanthemum Mrs. Alpheus Hardy.**—In spite of additions to the class of which this is the original, this variety is much superior to any other when seen in proper condition, but how singular it is that so few really good blooms of it are to be seen at shows. The petals generally lack solidity. Being loose and uninteresting, in this way they lose the great charm which this variety possesses—its peculiar hirsute character on the reverse of the florets. The best examples I have seen during the past season were at Windsor, where a special prize was offered for six blooms, and, strange to say, every one of the twelve blooms exhibited was perfect. Here is an instance of what the offering of prizes will do towards the cultivation of any particular variety, no matter how difficult it may appear to be to produce it.—E. M.

**Single Chrysanthemums.**—A visit to the principal Chrysanthemum exhibitions north, east, south, and west discloses the fact that this section is steadily increasing in public favour, and that cultivators now appear to appreciate them at their proper value. Not only do many societies now offer prizes for single Chrysanthemums put up in bunches in a cut state, but they are also largely employed in the making up of groups in pots, whether in competition or for exhibition only. Visitors appear to admire the varieties of this section, especially when the flowers are used for filling epergnes for drawing-room or dinner-table decoration. For either of the latter what could be more appropriate than single Chrysanthemums cut with tolerably long stems and arranged with Fern, with a few light Grasses intermixed?—E. MOLYNEUX.

**Chrysanthemum Tokio.**—Though it is some thirteen or fourteen years since this variety was sent out it is in its way unsurpassed by any newer forms, and to the lover of bush Chrysanthemums it is simply invaluable. It belongs to what is called by many decorative Japanese, for the flower is much too small to compete with the huge specimens one sees on the show board now-a-days. In habit and build the flower of Tokio is somewhat in the way of that popular market variety Source d'Or, though the colour is quite different, that of Tokio being a light bright crimson, often tinged with gold. Very effective plants of this variety can be grown in pots 6 inches in diameter. When grown in this way disbudbing should not be practised, as allowed to open naturally each flower will stand nearly clear of its neighbour, and as all of

them are borne on good straight stalks without any signs of weakness, the branches are thus terminated by large heads of flowers, a result vastly more pleasing than a huge bloom crowning a naked stem. The same remarks will also apply to Source d'Or, except that the colour of the flowers is deep gold, and it is also far more popular than Tokio.—T.

**Leggy Chrysanthemums.**—Few if any Chrysanthemum notes during the present season have interested me so much as that with the above title on page 451, for in common with W. Iggulden and many others I have found that selecting varieties from the blooms as set up for exhibition leads to a good percentage of leggy varieties, of no use whatever where the one object aimed at is effective plants. My experience of the varieties named is about the same as that of W. Iggulden, and the selection there given of good-habited varieties should be made a note of by all interested in the Chrysanthemum as a decorative plant for the greenhouse at this season.—T.

**Chrysanthemum Mrs. F. A. Spaulding.**—One of our prominent Chrysanthemum nurserymen gives this variety and J. S. Dibbens as synonymous with each other, and as far as my experience extends, they certainly appear very much alike, if not actually identical; therefore I am induced to ask the readers of THE GARDEN their opinion on the subject, feeling sure it will be valuable to many, as we have now quite sufficient of "too-much-alike varieties."—T.

**Chrysanthemum Volunteer.**—At p. 451 Mr. W. Iggulden in his article on "Leggy Chrysanthemums" refers to the above Chrysanthemum as being a very tall grower. By some people Volunteer and Miss Irving Clarke are supposed to be one and the same thing; this may be as regards form and colour of bloom, but with me the variety I have under the name of Volunteer is only 4 feet high. I am told this is the true Volunteer. I see Mr. Iggulden has omitted two of the very dwarfest of Chrysanthemums, i.e., W. H. Lincoln and Vivian Morel.—A. YOUNG.

#### SHORT NOTES.—CHRYSANTHEMUMS.

**Chrysanthemum Mme. Leblanc** is a full-flowered, promising Japanese, with broad, flat and pointed florets, snow-white in colour.

**Chrysanthemum Mrs. H. W. Goulden** is an incurved Japanese of a most lovely peach colour—always admired in a Chrysanthemum.

**Chrysanthemum Eda Præ** is very much like A. H. Neve in colour and form with the one exception that the florets while unfolding curl at the points.

**Chrysanthemum C. Shrimpton.**—This is best described as a bright Gloire du Rocher, with broader and longer florets. A very promising sort for any purpose.

**Chrysanthemum Pearl Beauty** is another of the incurved Japanese kinds, most promising as an exhibition flower; the colour, blush-white, cannot fail to attract notice.

**Chrysanthemum Snow Wreath** is one of the finest single-flowered varieties we have. As its name implies, it is of the purest white, the points of the petals slightly recurved.

**Chrysanthemum Mrs. H. B. Ironside.**—This reminds one very much of Comte de Germiny in its colour and formation, but in this case the florets are more curled and less formal.

**Chrysanthemum Mme. Nathalie Brun** belongs to the Japanese Anemone section. The centre or disc is full, white; the guard florets pale pink, very thinly disposed, which is against it.

**Chrysanthemum Barbarossa.**—The narrow florets of this Japanese sort are semi-drooping, a form which is generally pleasing, not being too stiff in appearance; the colour is deep pink.

**Chrysanthemum Rosy Morn** belongs to the reflexed Japanese section. The flower is very compact, the colour deep peach. Pale Vivian Morel colour would not be a bad description.

**Chrysanthemum Ernest Asmils** belongs to the Triomphe du Nord style of bloom. The flower is

compact and full, and valuable for the front row of an exhibition stand, the colour terra-cotta.

**Chrysanthemum Harry Baisley** is best described as an improved Condor, the centre being fuller than in that variety. The points of this new introduction also curl a little while unfolding.

**Chrysanthemum Waba.**—This belongs to the incurved Japanese section, with thick, fleshy florets of a pleasing pink colour. It is a promising variety of large size, and just the flower for exhibition.

**Chrysanthemum W. P. Routh** is of the Avalanche style of bloom, which is a sufficient recommendation, only the colour is yellow—a distinct gain, as good yellows do not predominate at the present moment.

**Chrysanthemum Duke of York.**—This belongs to the incurved Japanese section. Well-grown blooms are very large, the reverse of the florets silver, the inside purple-magenta. A promising exhibition sort.

**Chrysanthemum Madeline Davis** is one of those Japanese flowers which are pleasing on account of the loose manner in which the florets incurve. When they are folded up too tightly their beauty is lost. The colour is blush white.

**Chrysanthemum Mrs. Lawton.**—This Japanese Anemone is undoubtedly a novelty of the first rank. The guard florets are broad, white, with blush tips; the centre or disc full, pale pink in colour. Altogether a promising variety.

**Chrysanthemum Princess Victoria.**—This may not be large enough for the exhibition table, but as a decorative variety it is exceedingly useful. The colour is blush-white, the florets reflexed, the whole flower of great depth and solidity.

**Chrysanthemum Professor Wh'freack** belongs to the same type of flower as M. Freeman, except that it is larger; the colour is a striking one—magenta or deep rose with silver reverse, which is conspicuous only on the tips of the florets.

**Chrysanthemum Mme. Darquier.**—This belongs to the flat or strap-shaped Japanese class. The florets are narrow, evenly disposed, the ground colour white edged with rose, the base of all the florets much deeper in colour, gradually paling towards the tips.

**Chrysanthemum Mr. W. H. Atkinson.**—This Japanese kind reminds one of the now almost obsolete Triomphe du Nord both in colour and manner of growth, with the exception that this is a larger bloom and more fitted for the present-day style of exhibiting.

**Chrysanthemum Mme. Mante.**—This is a French seedling of the incurved section, novel in colour, but, I fear, too thin in "build" to be of much value as an exhibition variety. The colour is yellow in the centre, deepening to an apricot shade on the outside.

**Chrysanthemum Lizzie Cartledge** is of American origin, very striking in appearance when caught at the right moment. The surface of the medium-sized florets is magenta, the reverse silvery, half-expanded blooms showing to perfection the combination of colours.

**Chrysanthemum Princess May.**—From American-saved seed, Mr. Agate, Havant, was fortunate enough to raise this exquisite Japanese variety, which cannot fail to give satisfaction to all who grow it well. In colour it is pure white, the florets long and narrow; some curl at the tips and are of a drooping habit. It is a full, massive flower.

**Chrysanthemum Mme. Octavie Mirbeau.**—This Japanese kind belongs to the class which most persons admire. The florets droop gracefully at the points. If it proves distinct from Comte F. Lurani, which it much resembles, it has a great future before it. In the newer variety there is a greater warmth of colour than in Comte F. Lurani. The ground colour is white, heavily mottled and edged rose.

**Chrysanthemum Mr. Charles Blick.**—This Japanese reminds one very much of Thunberg both in colour and form, but it differs in several ways from that old yet excellent variety. The florets are less incurved, being informally twisted, narrower and longer; the colour, too, is of a more golden yellow. It will surprise me much if this does not turn out to be one of the best yellow Japanese Chrysanthemums we have.

**Garden Design and Architect's Gardens Illustrated.** to show, by actual examples from British gardens, that tipping and alighting trees to make them 'harmonious' with architecture are barbarous, needless, and inartistic. London: John Murray, Albemarle Street.



## FLOWER GARDEN.

## THE EMPEROR DAFFODIL.

THIS, one of the best and boldest of all the yellow Daffodils, was raised from seed by the late Mr. W. Backhouse, of St. John's, Wolsingham, many years ago. To the same raiser we also owe the Empress Daffodil, and both were figured in the old *Floral Magazine*, wherein we are told that they were the results of crosses between *N. bicolor* and other forms of *N. pseudo-Narcissus*. Both *N. Emperor* and *N. Empress*, quite apart from the size and beauty of their flowers, are robust in constitution, and as a rule they thrive well on nearly all soils, bearing flowers at least a third larger than those represented in the engraving. The perianth lobes of *N. Emperor* are of a soft pale yellow with a deeper golden trumpet, the whole flower being of stout substance and of the texture so well illustrated by the accompanying woodcut. Even although this fine free-growing kind has been in some points surpassed of late years by such fine seedling kinds as are *Glory of Leyden* and *Weardale*, yet for general garden culture it still remains one of the most distinct and effective of all good garden Daffodils. Although now late in the year, bulbs may still be planted for flowering next spring. Like most other Daffodils, *Emperor* grows best in pure, deep turfy loam resting on gravel or other well-drained bottom. Nothing in the way of freshly added or crude manures should be given, but this variety and some other garden seedlings do well if planted in succession to a crop for which well-rotted manure was used.

F. W. B.

**Imported Lilies.** — The golden-rayed Lily is at the present time such a popular species, and the number of home-grown bulbs for disposal so very few, that the earlier importations from Japan are always invested with a considerable amount of interest, which was in no ways lacking on November 7, when the first consignment of the present season was disposed of. The bulbs were much smaller than the average of preceding years; yet there seemed to be a good demand for them, which was not lessened on the 10th, when the second consignment was offered for sale. There seemed to be many larger bulbs among these, and in very good condition they were, which remark will also apply to the forms of *L. speciosum rubrum*, *Krætzeri* and *Melpomene*, *L. longiflorum* and *L. Krameri*; while there were some of the finest examples of *L. odorum* that I have ever seen. These last were announced as *L. Browni*;

but though the flowers are somewhat in the same way, there is a very great difference in the bulbs. *L. auratum* is now later in reaching this country than was formerly the case, for last year the first sale was held on November 3, while in 1890 it was on October 7, and the year previous as early as

journey would be heavy. In any case, such quantities are sent here from Japan, that Lily culture must be a very important item in that country. There is certainly more supervision brought to bear on the plants when in flower previous to being sent here than was formerly the case; for whereas at one time an occasional *rubrovittatum* or some beautifully marked form of *pictum* would crop up, they are now always sold separately from the general bulk. The same holds good with regard to the coloured varieties of *L. speciosum*, which used to be all sold under the collective name of *rubrum*; but now the richest coloured are separated and disposed of as *Melpomene*. H. P.



*Narcissus Emperor*. Engraved for THE GARDEN from a photograph sent by Mr. J. D. Pearson, Chilwell, Notts.

October 1. Whether the last two years have been more backward in Japan I cannot say, or whether, as is probable in order to allow them to reach this country as early as October 1, it was necessary to take them up before they were thoroughly ripened, and consequently the loss during the

planted at once if this is not already done, for the sooner they commence root action the finer the flowers will be. Irises are all impatient of removal, and must be left alone if possible; but when planting is imperative, early autumn is the best time to do it; this sometimes saves a year in the time of flowering,

LIFTING AND REPLANTING  
HARDY PLANTS.

FINE weather without frost in November gives the hardy plant grower the chance of going through the stock, lifting, dividing, and replanting where necessary, but it is not wise to lift everything in the borders and to manure and dig the ground all alike, for some plants are better left untouched till spring; others resent frequent disturbance, while others again do not need it, and all vary in the amount or kind of manure they want; some will assimilate a large quantity and some are better without any. When this is borne in mind it will be seen that any attempt to treat all alike would be folly, and that the better way will be to decide on the proper site for each plant. After Carnations are planted no time should be lost before commencing the work, and in some cases it would be even better to take it in hand earlier if possible. First attention should be given to those things which are intended for naturalising in out-of-the-way places, which cannot be easily got at in bad weather, as by leaving these till last a season is often lost, or the plants have not a fair chance of establishing themselves. This question of naturalisation requires much forethought, and if this is not given, failures will be more frequent than successes, for there are many things to look at in planting in places which do not often come under the eye, and there are many enemies to contend with unless one wishes to court failure. There are not many effective plants grown in the majority of gardens which can be naturalised successfully and allowed to take care of themselves for any length of time, and if plants outside the limit are chosen, the grower must be prepared to devote some time to keeping the groups free from weeds at least.

Bulbs of most kinds should be lifted at once if this is not already done, for the sooner they commence root action the finer the flowers will be. Irises are all impatient of removal, and must be left alone if possible; but when planting is imperative, early autumn is the best time to do it; this sometimes saves a year in the time of flowering,



though little must be expected of them for the first year. Some of the *Helianthus* occasionally get killed in a severe winter, but I find that divided pieces often escape when established clumps suffer. *Aquilegias* are best done soon after flowering. *Anemone japonica alba* I have found grows better when autumn-planted. This plant acts very differently in some soils to what it does in others, for sometimes it becomes a troublesome weed, but in light sandy soils increase is very slow and it never gets out of bounds. Alliums, such as *A. Moly* and *A. neapolitanum*, may be broken up and replanted now if necessary. Asters (*Michaelmas Daisies*) and *Doronicums* enjoy frequent division and plenty of manure. Many of the *Campanulas* are better for breaking up, replanting only the strongest crowns. *Chrysanthemum maximum*, the perennial *Centaureas*, *Geums*, *Mertensias*, perennial *Poppies*, *Monardas*, and many other things well repay attention, and in our light soil I find that some plants generally supposed to do best when divided in spring, such as *Delphiniums*, *Phloxes*, *Tradescantias* and *Plumbago Larpentæ*, do equally well when autumn planted, and are well out of hand before the spring comes upon us.

J. C. TALLACK.

## NOTES ON HARDY PLANTS.

**Aster ericoides.**—This is one of the most attractive flowers of late autumn, and some I have just seen from the favoured climate of Torquay are so pure and beautiful as to vie with the most delicate hot-house grown blossoms. There are two others, or perhaps three, that resemble it in some degree, that is, they have small white flowers, prettily disposed in spray form, with a mingling of small foliage. They are *multiflorus*, *Tradescanti*, and a white variety of *pendulus* or *horizontalis*, whichever may prove to be the right name. This *Aster* does not grow and spread so rapidly as some, and it is not one of those that would be improved by being transplanted every other year, but it should remain until it makes strong clumps. It is also better when seen in big specimens, for the reason that in most gardens it becomes bare of foliage in the lower part of the stems, which are 3 feet to 4 feet long. In October and November its attractive parts are confined to the points where the flowers are crowded. As is the rule, those *Michaelmas Daisies* which increase slowly, and are better left alone for years, are the kinds which rarely do themselves justice by the first season's bloom after transplanting. This is one which might make what would seem a miserable show until grown strongly, and I have known people cast it away because of what has been described as its miserable little flowers. It would indeed be a good plan to let all perennial plants have their chance until the second year. The perennial *Starworts* enjoy a somewhat stiff loam, deep and rich, say like that for *Roses*, and although they will grow anyhow or anywhere, they well repay for good culture.

**Chionodoxa Alleni.**—I have been told that the flowers of this species are much larger than those of *C. gigantea*, 2 inches across at least. The object of this note is to learn, if possible, on reliable authority whether the species is really superior to *gigantea*, whilst there is yet a little time perhaps to secure further supplies known, I believe, to be fairly well obtainable at present. The bulbs I have received fairly indicate (so far as we have learnt of *Chionodoxas* by observation) that they may attain a considerable size, and presumably the foliar and floral parts may correspond. I believe that a great many of these bulbs are collected, and necessarily so, before they are quite in their best condition for being dug; hence we find that a great deal of the outer parts of the bulbs shrinks into filmy tunics prematurely, and we know when they have done this by the disproportionately large basal root rings. Anyhow, we do not find such a prominence of the root ring in bulbs that have been lifted in our gardens when quite ripe; neither are they quite so much cone-shaped, but well shouldered or rounded bulbs. Indeed, the home-grown and the

imported are to be known distinctly by their shape alone.

**Chamaebatia foliolosa.**—If you can get this dwarf shrub fairly going it is neither tender in the North British climate nor of slow growth. I have seen it with its peculiar foliage rising from stems running like the roots of a Raspberry, to which botanically it belongs. Cuttings, however, are very difficult to deal with. I imagine it likes a little summer shade. The foliage is at once peculiar and beautiful; indeed, though its flowers are like those of the Bramble, the chief features of the plant are confined to the leaves. It is called the Tar Plant or the Tar Weed, because of its strong tar-like smell when touched however slightly. If not too closely examined the beautiful leaves have some resemblance to old or the darker fronds of the Filmy Fern (*Todea superba*). Though the plant comes from the warm climate of California, there can be no doubt that the peculiar oily properties of the foliage will in some degree enable it to withstand our cold weather. It is a splendid plant for rockwork, and it is in such a position that I have seen it thriving to perfection. Its effect on a rockery when not in flower is that of a dark green Fern with minutely divided fronds.

Woodville, Kirkstall.

J. WOOD.

## CARNATIONS FROM SEED.

I WAS turning over the pages of an old volume of THE GARDEN lately and caught sight of a note from someone who had purchased a packet of Carnation seed, and was woefully disappointed because the seed did not produce plants exactly like what the vendor of the seed had promised. The Carnation Society has given packets of seed to the members this year who will promise to raise plants from it under certain conditions, and I have had something to do to answer queries on the raising of plants from the seed and the results to be expected. Fortunately, those members of the society who are entitled to seed are also entitled to a copy of the Carnation Manual, and there we find how much the seedlings vary from the parent, also the percentage of quite single varieties, and others inferior in the good qualities that constitute a Picotee or Carnation. One experienced raiser of seedlings states that 12 to 15 per cent. of single varieties may be expected from the best named flakes or bizarres, and 70 or 80 per cent. not good enough to grow a second year. There might be 5 or 6 per cent. good enough to set apart for growing again. An amateur might also purchase seed of Picotees and expect to get Picotees from it; doubtless he would, but there might be a large proportion amongst the seedlings self Carnations. One florist, it is stated, raised 300 seedlings from *Pride of Penshurst* yellow Carnation and had but one yellow variety amongst them. Amateurs must not expect exact reproductions from the parent plant in any favourite garden flower that has been propagated from seed. The exact reproduction of the parent can be obtained only by layering. Amateurs raise Carnations and other garden flowers, such as the *Pink*, the *Tulip*, the *Hollyhock*, *Dahlia*, *Pansy*, &c., for the purpose of obtaining improved varieties, and they take infinite pains to fertilise certain high-class varieties with the pollen of other first-class sorts, choosing colours that will harmonise with each other. It is necessary to raise a large number of plants before any good results may be expected. The flake and bizarre Carnations, for instance, are not very easily further improved, and seedlings from the best varieties will give plenty of selfs and fanciful types quite out of the class to which they ought to belong, and I have also found that the flakes and bizarres produce the largest number of single varieties. I believe hundreds of readers of THE GARDEN are likely to be raisers of seedling Carnations next year, and it is well that they should know that even from the best seed that it is possible to save there will be by far the largest proportion of plants not worth growing again. This is stated not to discourage amateurs, but to prepare them for what they may expect. The seedsman can guarantee

that the seed has been saved from certain varieties or strains, but he does not know his business if he guarantees the seed to reproduce the parent plant. I believe that if rose, red, or white selfs of inferior varieties were grown by themselves removed to a distance from other varieties, the chances of exact reproduction would be very much increased, but Carnations are so easily increased by layers and pipings, that it is not worth while to strive for the reproduction of varieties by seed. I raise a large number of seedlings annually, and have had many disappointments, but the greatest delight of Carnation culture, to me at least, would be gone when I could not anticipate the flowering of seedling plants for the first time.

I hope, therefore, that no amateur will be discouraged by the above remarks, but rather that they will be to him an incentive to do his best to grow the seedlings well, for be it known that badly-grown plants will not produce good flowers, whether they are seedlings or named varieties. The Carnation certainly loves a generous soil and the careful hand of the gardener. I am trying an experiment by sowing Carnation seed at a different season of the year than I have hitherto done, but can say nothing about results at present. So far I have been very successful by sowing the seed about the end of March or the first week in April along with half-hardy annuals upon a hot-bed. The young plants appear in a week or ten days, according to the heat of the frame. They are pricked out in boxes like Asters or Stocks, and are generally ready to plant out in the open ground about the end of May or early in June. They may be planted after spring-flowering plants, such as *Hyacinths* and *Tulips*, but the soil should be deep, moist and enriched with decayed manure. They may be planted 15 inches asunder if there is plenty of ground to spare, for the plants will grow to a large size by the end of the season, and the next year each plant will produce a hundred or more flowers.

J. DOUGLAS.

## STOVE AND GREENHOUSE.

## PALMS FROM SEED.

At no time were Palms more popular than they are at the present day, and consequently large importations of seeds reach this country by means of which the supply is kept up. Not only do our nurserymen import seeds for their own stock, but large numbers are frequently offered for sale at the London auction rooms, and as a considerable quantity has been announced for distribution in this way, a few words as to their general treatment may not be out of place.

The all-important consideration is to obtain good seed, that is with the germ in a plump state, and ready to start into growth when placed under favourable conditions, for in the case of many kinds if the seed has been kept too dry or from other causes, the germ will shrivel up, while the body of the seed remains quite fresh and sound, and to anyone unacquainted with this peculiarity it appears to be in very good condition. With the more rapid means of transit and superior mode of packing, the seed reaches here as a rule in better condition than was formerly the case. The usual way is to pack the seeds in dry earth, that is a layer of fine earth, then a layer of seeds till the box is filled, when of course the seeds will be perfectly air-tight, and, generally speaking, they reach this country in good condition.

## RAISING THE PLANTS.

In sowing the seeds, whether in pots, pans, or boxes, the soil chosen should be a good yellow loam, lightened by an admixture of coarse sand. All mixtures of peat, manure, or leaf mould should be avoided, unless the



loam is of too heavy a consistency, when a little well-decayed leaf mould will be of service. It is better to pass the soil through a sieve with half an inch mesh, as the young roots are not so liable to be injured when potting the seedlings. In preparing the pots, pans, or boxes for sowing, fair drainage should be ensured, but Palms do not require nearly so much drainage as some subjects, all that is needed being to allow the surplus water to drain away. The soil must be pressed down moderately firm and made level; then when the seeds are sown care must be taken that they are not overcrowded, and they should be covered with soil to about their own depth. Until the young plants make their appearance above ground light is of course not essential, so that the boxes may be stood underneath the stages or in any out-of-the-way place, provided a good heat is maintained and the soil not subjected to any great extremes either of drought or moisture. The very best position is a bed of cocoa-nut refuse with a gentle bottom heat, in which the pots or pans should be plunged, when if the seed is fresh it may be reasonably anticipated to soon germinate, though in this respect many Palms behave in a very erratic manner, for frequently a few will make their appearance quickly after sowing, while the bulk will not germinate till a long time after. When the first leaf is well developed is a good time to pot off the young plants, for which purpose the soil should be the same as that above recommended in which to sow the seed. For the first potting it will be found an advantage to sift the soil as for sowing. For most of the generally cultivated Palms small pots known as thumbs are large enough, and if one good piece of crock be placed in the bottom of each pot, it will afford sufficient drainage. As the seed remains for some time attached to the young plant, a good general guide as to the depth it should be placed in the soil is thereby furnished, and that is in potting to place the young plants at such a depth that the seed just rests on the surface of the soil. The compost employed must be pressed down moderately firm. Should the roots be at all matted together, they must be carefully disentangled, as if broken or bruised however slightly, the result is likely to be the death of the plant. After potting and a watering sufficient to settle the soil, the pots should be plunged in a gentle bottom-heat, when the after treatment will consist in watering when necessary and in syringing more or less frequently, according to the season of the year and the weather experienced. It should be borne in mind that a humid atmosphere is favourable for most Palms, being very conducive to rapid growth.

As repotting is necessary, much the same kind of soil may be used, except that a little well-decayed manure will in the case of the stronger growing kinds be of service. Palms, as a rule, very much resent being over-potted, and to the uninitiated it is surprising what effective specimens can be grown in pots 5 inches or 6 inches in diameter. Of course, as the pots get full of roots an occasional stimulant is necessary to maintain the foliage in good condition, and the soil must not be allowed to get dry, as if this happens the foliage is very apt to acquire a sickly hue. When in small pots and they are full of roots, it is almost impossible to over-water them, provided the surplus water is able to drain away. Where Palms are kept in the dwelling house, a very important factor towards maintaining them in good condition is to frequently sponge the leaves with tepid water to remove the dust, which quickly gathers on the foliage.

As the roots of most Palms are of a deep-descending nature, they, as a matter of course, coil round the bottom of the pot, and when repotting takes place, these roots should be allowed to remain undisturbed, as if injured, it may prove fatal to the plant.

The principal insect pests from which Palms suffer are different forms of scale, some of which are more troublesome than others; but in the case of any of them the object aimed at should be to clear them off directly they make their appearance, as if allowed to effect a thorough lodgment on the leaves, they are very difficult to eradicate without injuring the tender unfolding foliage.

#### VARIETIES.

Of Palms that are used for decoration in a small state may be especially mentioned the different Kentias now so extensively grown by all our nurserymen, *Latania borbonica*, *Cocos Weddelliana*, *Geonoma gracilis*, *Seaforthia elegans*, *Areca lutescens*, *A. sapida*, *A. Baueri*, and *A. Verschaffelti*, *Phoenix rupicola*, several species of *Chamerops*, *Rhapis flabelliformis*, and *Corypha australis*. As several of these will do well in a greenhouse temperature, they are just the subjects for a dwelling house; but in raising them from seed, even the hardiest are much better if kept during their earlier stages in the stove, as they make much more rapid progress, and consequently form effective specimens in much less time than if they do not get the additional heat when young. The hardiest of all the above are *Chamerops excelsa* and *C. Fortunei*, *Corypha australis*, and *Rhapis flabelliformis*. This last is an exception to the others in its method of increase, for seeds are rarely obtained; but as a set-off, it pushes up suckers freely, which when sufficiently advanced can be taken off with their attendant roots and repotted.

H. P.

**Protection of bulbs from wet.**—The majority of Dutch bulbs, such as Tulips and Hyacinths, especially the latter, are apt after being potted to be allowed to remain uncovered. I refer to protection from wet after being plunged. In the neighbourhood of London I know that some of the best growers treat their bulbs so, and this without the slightest injury accruing. But farther north I have proved that if Hyacinths are to retain their roots they must be protected from heavy rain. Many failures undoubtedly are caused through this, and the grower often blames the vendor for supplying inferior bulbs. My bulbs plunged in cocoa fibre refuse are arranged in cold frames. The lights are tilted as high as possible consistent with keeping the wet out. Many people complain of their Hyacinth spikes being dumpy, but the want of roots is the cause, as when the bulbs are well rooted the spikes are sure to lengthen out under ordinary treatment.—A. Y.

**Massangea musaica.**—This is one of the many Bromeliads remarkable for their handsome foliage, while in this case the flowers too are very attractive. It is more frequently known by the generic name of *Tillandsia* than that of *Massangea*, though this latter is now regarded as the correct one. The leaves of this are long and broad and arranged in a regular vasiform manner. Each leaf is marked in a curiously irregular fashion with pale yellowish green and dark green, which present a somewhat singular appearance. It is by no means particularly free-flowering, but when the blossoms are produced they are decidedly attractive. The flowers are arranged in a close compact head well above the foliage. They are yellow at the base and white above—not a particularly showy combination of colour, but the brightest part of the inflorescence is the scarlet bracts from whence the blooms protrude. Another of its class remarkable for its handsome foliage is the old

*Tillandsia splendens*, also known as *Vriesia splendens*. The recurved leaves of this plant, which are arranged much as in the preceding, are of a bright green above, while underneath they are of a lighter tint, irregularly barred with blackish brown. From a flowering point of view, too, it is one of the best, the blossoms being borne in an erect, sword-shaped scape. They are whitish and not particularly showy, but are almost hidden beneath the large scarlet-coloured bracts, which are arranged in two rows and closely imbricated. A Bromeliad with strictly variegated foliage is *Nidularium striatum*, whose numerous bright green leaves, which are about a foot long, are longitudinally striped with white. In this the margins of the leaves are freely toothed. The blooms are not at all showy. The number of Bromeliads remarkable for their handsome foliage might be considerably extended, while those with showy floral bracts are even more numerous.—H. P.

#### CAMELLIAS.

WE cut the first blooms from our Camellia house on November 20, rather earlier than I had expected them, for although we had a larger percentage of true summer weather in 1892 than 1891, there was yet no spell of prolonged sunshine and steady heat to cause a specially early development of bud and flower. It is difficult to account for the way in which planted-out Camellias vary as to their early or late flowering season. The old French White and Jeffersoni are generally the first, but this year the former will be two or three weeks later than *alba plena*, and Jeffersoni will not be much earlier than Woodsi and conspicua. Most of these sorts with several more have been in their present quarters nearly fourscore years, and though from a strictly florist's standpoint the flowers may not be able to hold their own against those of more recent introduction, we find them very useful for table and small vase work after the Chrysanthemums are over, and indeed these semi-double flowers, of which *conspicua* and *Donkelaari* are types, are not so stiff and formal as the very double blooms. Two useful old varieties for button-hole work are *Lady Hume's Blush* and *Cup of Beauty*, the latter a very delicate flower, with its pure white ground and an occasional vein of pink. *Appropos* of the early cutting mentioned above, I think it may be partly traced to the correction of a little error in cultural operations. After the annual cutting back and tying in about the beginning of June, it was the practice (the house and a portion of the beds in which the plants are growing being exposed on all sides to the sun) to give a heavy mulching to prevent the beds drying out and to encourage back growth below the cutting. Now, although these ends were served, I found there was also a tendency to promote rank growth, which was late in ripening, so for the last two seasons I have been content with a little loose litter in June and have put on the heavy mulchings of farmyard (mostly cow) manure about the end of September, when growth is nearly over and the buds are swelling up. This change of practice has been quite satisfactory. The absence of stimulants during the growing season has resulted in shorter, more stocky, quicker-ripening wood and an earlier development of bud, and it is surprising to note the very rapid plumping up of the buds with the first heavy watering after the application of the autumn mulching. As the appearance and scent of the manure are objectionable, a thin coating of soil sufficient to entirely cover it is scattered over the surface. From the presence of rollers, cords and pulleys on both top and side lights, it is evident our Camellia house was at one time shaded, and that rather heavily, with blinds. These, however, came to grief nearly twenty years ago, and from that time until two or three seasons ago no shade of any kind was used, but, finding that after a heavy afternoon syringing the foliage towards the top of the house did not get thoroughly dry before the sun gained considerable power the following morning, and that consequently there was a little tendency to scald, I have for the last two summers taken the precaution to



syringe a little summer cloud over the lights some time early in May, and this has kept us quite free from scald. E. BURRELL.

Claremont.

#### SHORT NOTES.—STOVE AND GREENHOUSE.

**Double Primula White Lady** has been seen at several suburban shows this autumn blooming profusely and in very fine form. Plants carrying some five dozen fully expanded flowers, large and pure white, certainly have great value just now.

**Siphocampylus Humboldtianus**.—"S.M." also sends this for a name, and says he has it in bush form, between 2 feet and 3 feet high, and now covered with its bright carmine flowers, the exerted anthers being violet, the tube of the corolla about 2 inches long. This plant, introduced by Mr. Wm. Bull from Peru, is when well grown very handsome.—W. H. G.

**Asparagus plumosus as a basket plant.**—This forms a splendid basket plant. To grow this plant well it must not be cramped at the roots, our baskets being quite 2 feet over. The plants, as they grow, climb up the chains by which the baskets are suspended, and also depend all around, forming altogether beautiful objects. There are now some magnificent baskets of this plant in the large winter garden at Witley Court.—A. Y.

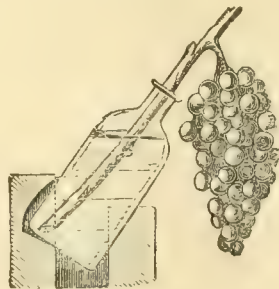
### ORCHARD AND FRUIT GARDEN.

#### PROPOSED INTERNATIONAL FRUIT SHOW.

ARE we to have a fruit show on a very large scale in London or vicinity next autumn, or has the project fallen through? If the scheme is still entertained, it is certainly time something definite was arrived at. Unless this is done, a considerable number of exhibitors will be at a disadvantage, this being especially the case with Grape growers. In some instances it might be necessary to start the Vines earlier than usual, while in others, retarding would have to be resorted to. Even if such was not the case, the uncertainty that prevails is not advantageous to the undertaking, and if a fruit exhibition on extraordinary lines is to be held, the sooner the date is announced the better. Want of funds, probably, is the cause. We who in the country have to chronicle excellent results at a comparatively small outlay, do not greatly sympathise with those at headquarters, that is to say, the metropolis, who cannot, or fancy they cannot, do any good unless so many thousands of pounds are expended. The proposal to erect a costly building on the Thames Embankment solely for the purpose of holding a fruit show was little short of ridiculous, and I feel certain will never be carried into effect. If I have been rightly informed, this structure and other extras not always associated with fruit shows would have swallowed up the greater part of the proposed guaranteed fund, the prize list and expenditure in the way of music and other attractions being anything but excessive. In order to make the undertaking a financial success it was proposed to extend the exhibition over a period of ten or more days, and this from an exhibitor's point of view would have proved a huge mistake. It may be the idea was to devote so many days to certain kinds of fruit, none that was valuable being kept long enough to spoil. Otherwise some sort of compensation ought in such cases to be given. It is bad enough to keep a fruit show intact to late on a Saturday evening, but it would be still more unfair to insist upon perishable fruit remaining over Sunday.

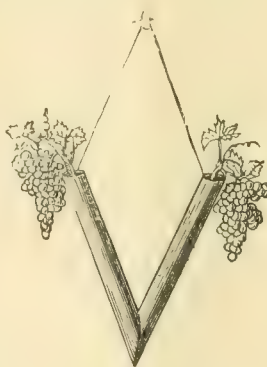
If Londoners want to see a really fine show of fruit, they have only to offer liberal prizes

and be reasonable in their conditions. It is not to be expected that exhibitors will be attracted from Scotland and from other parts nearer town if the prizes are not worth going so far to win. Why even the growers of some of the best Grapes not further away than the



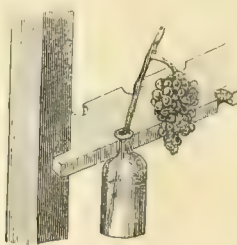
Ferrière mode of fixing the bottles.

west of England would not compete at Earl's Court simply because the value of the prizes did not warrant them in cutting their best fruit, and there will have to be a considerable advance in the liberality of those who frame the prize lists before a really representative meeting of growers takes place. Not being sufficiently acquainted with the city of London, I am not in a position to recommend any par-



Mr. Dodd's tube for Grapes.

ticular hall or site for a proposed fruit show, but should have thought the Guildhall quite good enough for the purpose. In all probability it would hold a fine display of fruit (trade growers' space being limited somewhat and with advantage, too), and yet afford ample space for all the visitors that would be likely to pay for admittance. If the Guildhall is out of the question, then why not erect tents on the Em-



Thomery mode of fixing the bottles.

bankment in lieu of the expensive wooden structure as proposed? Tents were thought too cold for a late display of fruit, but why hold the show so late in the season? Doubtless, if held before October, very many "city men" will be away for their holidays; but unless I

am greatly mistaken these are not the class of people that would patronise a fruit show, or be greatly instructed by anything they see. Would the Edinburgh show have been a success financially if it had depended upon the inhabitants of that city? I venture to think not. The greater part of the visitors was attracted from all parts of the country, every district contributing its quota. It would be much the same, or perhaps to a greater extent, if a really grand show was held in London or vicinity, and this being indisputable, whystudy Londoners so much in the matter? The first week in September is about the best time that could possibly be named for holding a good all-round show of fruit, and this for several reasons other than the fact that tents would answer well at that period. About that time there would be abundance of non-keeping Grapes available, while the later or more showy varieties could also be ripened sufficiently for exhibition without detriment to the crops. Then, again, Peaches and Nectarines would still be plentiful under glass, and most probably abundance be ripe in the open. Plums would be at their best, most Pears and Apples be sufficiently matured to exhibit, and small fruits be still available. It should also be remembered that the thousands of gardeners and others interested in fruit culture who came up from the country would want to see something besides the fruit show, and if the parks were in a poor plight, as they usually are in October, what else in the horticultural line is there for them to see?

I am no lover of the Crystal Palace, and never shall be till there is a more direct communication with London, but, all the same, I fail to see why a great international fruit exhibition should not be held there. No better building could possibly be found, as there is abundance of room for everything and everybody. With this convenience free of cost, the company, it may be, contributing handsomely to the prize list, surely what further is needed in the way of subscriptions ought easily to be collected. By all means make it a civic affair, though there ought to be no great difficulty in giving the exhibition all the *éclat* incidental to a royal opening. That gardeners throughout the length and breadth of the land would fully appreciate and support such a display of fruit as would be brought together I can vouch for, and such a gathering might be held as to fairly eclipse anything of the kind ever seen this side of the Tweed at any rate. W. IGGULDEN.

**Peaches in pots.**—I observed a very appreciable failure last spring in pot Peaches, the blooms falling early, leaving a very thin set of fruit. This failure was ascribed to various causes, but I am disposed to think that sufficient water is not given to pot trees in the winter, the presumption being that with trees at rest water is hardly essential to existence. And yet Peaches go to rest just as much when planted out in the open ground, and, as a rule, whilst so at rest obtain naturally the chief of their water supply. If that be so, is it not very probable that with the roots comparatively dry in the pots for several weeks the buds must materially suffer? To have kept the roots moist would have kept the buds plump.—A.

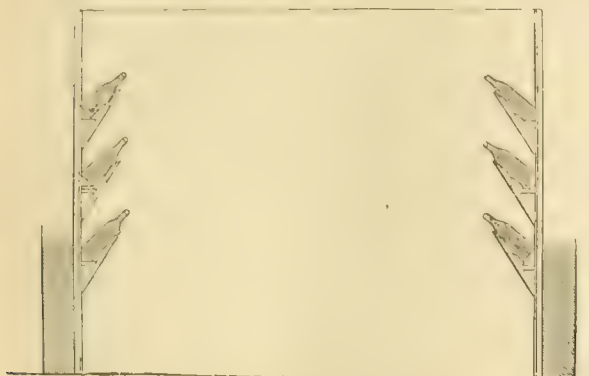
**Vine snags**—It is difficult to find a more appropriate designation for the long, crooked, and ugly spurs found so frequently on old Vines. There seems to be no reason why these long spurs should be left on rods, but it seems to be a practice with many growers. In time the product is small thin wood and very poor bunches. If the process of pruning compels the formation of these long spurs after a few years' fruiting, would



it not be better ere the evil gets too great to carry up new rods from the base of the old ones, more frequently cutting away the whole of the spurs one-half or one-third the length of the old rod according to the run of the roof, tying the new rod in to fruit where the spurs have been taken off, and so continuing to extend it the following years? Thus instead of seeing, as is so often the case now, Vines all snags, these old rods would be replaced every few years.

### KEEPING GRAPES.

Will some reader kindly tell me the best kind of house to put up for keeping Grapes as long as possible, as I am afraid I shall not be able



Section of Grape room at Heckfield.

to keep them long in my present room, which is over a stoke-hole, and generally stands at 60°? I have just taken out one row of glass from the windows and put in perforated zinc to cool it, but am afraid there will be too much air, as a correspondent in a recent issue said that a cool, dry, close room was necessary. My Grapes are mostly Gros Colman and a few Alicante. I suppose it is useless now to build a proper room this season, being too late to get dry. I want to keep 600 or 700 lbs. to market about March if possible, prices being so low now.—G. C. S.

\*\* A room over a stoke-hole is anything but a good position for storing Grapes in, especially if the temperature stands so high as 60°. From 45° to 50° has been repeatedly proved to best meet the case, and a room that keeps near these figures without either the assistance of much fire-heat or the admittance of air is most desirable. The best place I have yet found for keeping Grapes in is a spare bedroom in a large old house. This is on the north side, has thick hollow walls, and is duly ceiled. There is a fire-place in it, but this is only used during the prevalence of very severe weather, being blocked up at all other times. There is a tight-fitting shutter to the window, and this is seldom opened, while the door is also kept locked. It will be found that Grapes in still warmer houses or rooms are constantly cool, and which can be most surely tested by placing a berry against the cheek, and in the comparatively low temperature of a fruit room they are still colder. If a room is ventilated freely directly after a change from very cold to quite warm weather, the warm air quickly condenses on the cold walls, the moisture trickling down in streams, and we are told that this is simply the frost coming out of the walls. Much the same thing is liable to happen if warm air from the outside, and which is naturally highly charged with moisture, comes into contact with the Grapes, and once the skins have been damaged in that way, decay of the berries is inevitable and rapid. That is why Grapes keep so much better in a cool, properly constructed room than in a vinery where much greater fluctuations of temperature and free ventilation at times are unavoidable. It is surprising what a great number of bunches may be hung

in a small room, a series of simple racks formed so as to support half-pint bottles in a sloping direction being all that is necessary on each side of the room. Mr. Robinson in his work on the "Parks and Gardens of Paris" first drew attention to the simplicity and effectiveness of this plan of keeping Grapes, and the simple woodcuts here given will do more towards instructing "G. C. S." than any number of paragraphs from my pen. A bedroom not being available, then ought "G. C. S." and others who are anxious to keep a large quantity of Grapes till the spring, or, say, up to May, to construct a building specially for the purpose. In some instances it might be possible to convert a lean-to shed on the north side of a wall into a Grape room, a wooden floor being formed, the walls thatched, and the roof either ceiled inside or thatched on the outside. If necessary a room could be built against a north wall preferably as being the coolest site and least affected by fluctuations of temperature, the side being either a wall of hollow brick or stone, or of wooden posts and match-boarding, a heavy thatch of either straw, Reeds, or Heath being necessary in this case. The roof should be either slated and ceiled, or, better still, slated and thatched. What light is needed at different times can best be admitted by either a hinged top light or from one end, this being covered up as a rule. A single hot-water pipe carried round the room might be serviceable at times for the purpose of either expelling damp or for preventing very low temperatures through the opening in the roof. "G. C. S." can easily estimate what length his room should be, the height being regulated according to the wall against which it is to be constructed, and the length by the number of rails the room will hold and the average width of bunches, every bunch being allowed to swing just clear of its neighbours. I can only advise "G. C. S." to place a layer of perfectly dry ashes or some other non-conducting material between the brickwork of the stoke-hole and the flooring of his room, and if the flue passes through the room, to divert this if possible.—W. I.

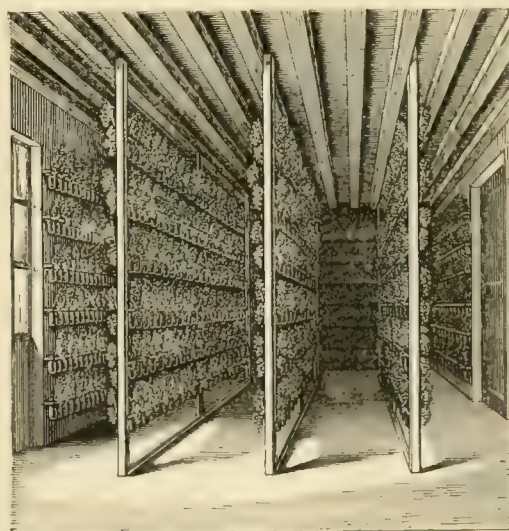
**Transplanting small Apple trees.**—Those who have a few strong growing varieties that fruit sparingly should lift them with as many roots intact as possible and with earth attached and replant in good loam, manuring on the surface after planting or in the early spring months. I find that by this system much finer fruits are secured from bush or small trees if lifted every two years, growing a sufficient number for some to crop each year. I note this system is largely practised in our fruit nurseries to get good samples, with the result that nicely balanced trees always full of spurs and fruiting wood are obtained. Such trees the first year after lifting present a nice appearance, and there is always a certainty of a crop even when Apples are scarce. There are many varieties, such as King of Tompkins Co. and Bramley's Seedling, that require lifting to check strong growth if large fruits are desired, and the transplanting is good for the weaker growers, as it forms fruit-buds, and with the roots a mass of fibre they may be fed from the surface, and thus be in a better position to support large fruits and to impart high colour and finish.—S. B.

**Fruit planting.**—There is nothing like making absolutely new plantations, and starting free from all old associations with worn-out soils and decrepit trees. It is specially wise to get trees planted early. In spite of the late heavy rains, soils generally are in good condition for planting, and where sodden these ought to be avoided. It would be far better if gardeners would plant their bush and pyramid hardy fruits in special

ground rather than with vegetable crops. The constant moving of the soil and heavy manuring needful in the latter case is too productive of gross wood; hence the frequent need for root-pruning. If trees were more properly root-pruned before planting, so as to ensure the production of numerous fibrous roots, much later trouble might be saved. Trees are often planted too deeply. The soil in the holes is, as it should be, deeply broken up, the trees are planted level with the firm soil, and later down they go as the soil settles. It is better to err on the side of elevating, as it is easy to feed the roots by top-dressing if near the surface than when the roots are several inches below the surface. We may not expect to see any very appreciable effect of the present fruit-planting efforts for several years, but the large importations of American Apples already in our markets show how great is the home void in hardy fruit we have to fill.—A. D.

### PROTECTING VINE ROOTS IN WINTER.

OF late years I have not placed over the roots of late Vines a heavy covering of short manure or litter, as I found this did more harm than good, and I see "Practical" is of the same opinion. It will be found that a border covered with a great thickness of manure or litter through the winter months is kept in a very wet state, the air and whatever sun could have reached the roots having been kept away and the surface roots killed. As described at p. 451, it is necessary to cover the roots of Vines that are being forced, but even then there is no advantage in using too much manure that soon decays, and, of course, gets into a solid wet mass. The roots of Vines are much harder than is thought, as I have seen them uninjured with only a few inches of surface soil as a covering during severe weather. On the other hand, it may be pointed out how quickly the frost injures the roots of pot Vines not plunged or protected. I do not say that covering of the roots is not necessary, but it may be done with lighter and drier material and at less cost, and present a neater appearance. For protecting early forced Vines there is scarcely anything better than leaves in a dry, fresh state, and I find there is no better covering for these than corrugated zinc sheets, which are not very expensive and are soon placed in position. These corrugated sheets are useful for many other purposes. I use them on the borders outside of the Muscat house to prevent the berries cracking from too much moisture at the roots. The corrugated



Interior of Grape room at Thomèry.

sheets may often be found useful where late Grape are kept hanging as long as possible, as when placed over the roots they throw off the autumn rains. When so employed it is best to place pieces



of 4-inch quartering boards or bricks under them; this gives a free admission of air to the roots, thus allowing the Vines to finish their growth, the roots also making progress. I do not think Vines forced hard should ever be planted outside. With midseason houses there is less difficulty, and here the value of leaves is far greater than a mass of manure. In these borders warmth is not the thing required, so that only a few inches of leaves are necessary. These should be used as dry as possible, covering as advised with the sheets afterwards. When leaves are used for covering, they may be applied as soon as they can be secured. I prefer Oak or Beech, as they do not decay quickly. I have also used spent Mushroom manure with advantage, this being light and porous, therefore frost-resisting. A few inches of this over the roots of late Vines will be found beneficial, as it is absorbed by the roots during the winter.

G. WYTHES.

#### GRAPE GROS GUILLAUME.

As a reader of THE GARDEN I have been much interested in the remarks of your correspondents in late issues on the culture of this Grape on its own roots and also worked on the Black Hamburgh. I have had a little experience in growing it, but under somewhat different conditions from those of W. Iggulden and "E. M." Twelve years ago I had charge of a large Muscat house, where I thought I could find room for an additional rod, and decided to try Gros Guillaume. The varieties already planted were Muscat of Alexandria and Mrs. Pince. The Vines were about ten years old and doing fairly well. I procured a young cane of the Robert's variety of Gros Guillaume, as it was called, and inarched it on a young rod of Muscat of Alexandria, which I had led up from a side spur. The graft took well and grew vigorously from the first, and always ripened its wood well; the stock also did well. I always curtailed the shoulders of the bunches of Gros Guillaume at thinning time as a convenient way of reducing the size of the bunches, so as to ensure a better finish. I generally thinned out the centre of the bunch pretty well, as I found that in swelling, a berry or two would burst if left too thick, and if given plenty of water they swelled to a good size. "E. M." says that his Gros Guillaume on its own roots was only second-rate in point of flavour, but I can assure him that it is not so when worked on the Muscat of Alexandria in a Muscat house. Flavour was one of the main points which placed the produce of this Vine at the top of large entries in the "any black" class at the Liverpool November shows more than once. I sometimes had a difficulty in getting the colour well up, especially in those bunches furthest away from the ventilators; but the fact of the garden being inside the borough of Liverpool may explain the reluctance to throw open the ventilators. I fully agree with what "E. M." says as to Gros Guillaume never producing ugly bunches; indeed, I often felt sorry to cut off such finely-shaped bunches when making a selection for the crop. In the ten years during which I had charge of this Vine, it never failed to show plenty of fruit, and set so thickly, that the thinning of those large bunches required a deal of patience. I aimed at growing the crop on alternate spurs every year, and I generally left three eyes on those spurs which were to fruit the year following. When grown under the above conditions, I think, all things considered, Gros Guillaume is really a first-class Grape, noble in appearance, of good flavour and keeps pretty well. As it requires nothing special in the way of culture, I would advise the introduction of at least one rod into every Muscat vinery.

STRATHALLAN.

**Staking fruit trees.**—I have seen many market plantations of trees which have been left unstacked, and I have never found that any good results followed. In most cases the stems become unduly warped, the heads lop-sided or injured, and

the whole plantation has worn a very wretched aspect. The old notion of planting deeply to secure for the roots a good grip of the ground, trampling in on them several inches of soil, and making it as heavy and hard as possible, is happily an exploded one. It is far wiser to plant comparatively shallow and give the tree proper support than to trust to such methods. Happy are those planters who have at command a large quantity of stout Ash, Hazel, or Larch stakes to make into tree supports. These if sound and new should endure at least two years, by which time trees will have secured good root-hold of the soil. If these be properly pointed and smoothed off at the bottoms, their forcing into the soil can hardly be productive of harm to the roots. It is best to have the stakes a couple of inches from the stems, so that the ties may be rather loose, and have for the first year, to wedge them slightly, a wad of hay or grass. The heads in that way secure a little play—indeed, quite enough for motion without inducing friction.—A.

#### NOTES ON STRAWBERRIES.

In reply to the following questions concerning Strawberries—

- 1, *Best kinds for flavour and bearing in your district;*
- 2, *Best early and late kinds for open-air culture;*
- 3, *New or little known sorts you have found worthy of cultivation;*
- 4, *Mode of treatment to secure the best and most regular crops;*

we have to thank correspondents in all parts of the kingdom for replies.

—The Strawberry crop has been very fine, and President is the best Strawberry in our neighbourhood for main crop. It is of rather pale colour, but of the richest Pine flavour. La Grosse Sucrée succeeds also very well as an early variety. Strawberries grow very well in almost any good garden ground, but succeed best in rather strong loam of a good depth and in a somewhat moist situation. Previous to planting, the ground should be well trenched and plenty of good manure intermixed. Planting is best performed about the middle of August or as soon as well-rooted runners can be secured. Sometimes I have layered Strawberries very successfully for planting on small pieces of turf 1 inch or more thick; the roots do not then become twisted and interlaced as they do in pots. The turves may be sunk a little into the ground and kept watered; in transplanting they should be carefully lifted with a trowel. It is not always convenient to prepare land for Strawberries at the season above named, but it is of great importance that the young plants should be put into their permanent quarters early, and receive every encouragement to get established before winter. Showery weather should be selected if possible. Strawberry plants that have been forced are available for forming an outside plantation where the fruit has been gathered, but the balls should be thoroughly soaked in water and the leaves dipped in a soft soap solution if they are infested with red spider. When planting Strawberries, the soil, which should be moderately moist, must be made quite firm about their roots. The distance at which to plant varies a little according to the strength of soil and the varieties. Generally the rows should be about 2 feet, and the plants  $1\frac{1}{2}$  feet asunder in the rows. The soil should never be dug between Strawberry plants, as there are so many roots near the surface which would be destroyed. Fresh Strawberry plantations should be made every year, as young plants produce larger and in every way superior fruit to old ones. If fruit of remarkable size and beauty is desired, the trusses should be well thinned out as soon as the fruit is set; leave only the finest and most prominent looking berries. The plants should be kept clear of all useless runners. The vigour of the

plants and the quality of the fruit will be much improved by copious applications of manure water. Three, or at the most four, years is as long as a plantation should be allowed to stand.—A. WAGG, *Ossington Hall, Newark.*

—In choice of ground for this crop I prefer that which is moderately heavy to that which is light or sandy. Anyone who can break grass land that has not been turned up for a few years will grow Strawberries to perfection. Old garden soil we trench to the depth of 2 feet, and put some well-rotted manure at the bottom, as well as mix it through the whole of the soil. In preparing the plants all are layered into small pots early in July; by the first week in August they will have good balls of roots, when they are planted 2 feet 6 inches between the rows, and 2 feet in the row. Give the soil a good treading in dry weather, as the plants are more prolific in firm soil. When the young plants are first planted they should be well looked to with water, so that they do not receive a check. At the end of September I give the plants a mulching of old Mushroom-bed manure. I do not keep the plants after three years. I make a fresh plantation every year. It is very important that the plants should be kept free from weeds and superfluous runners. They are too often neglected after the fruit is gathered; the crowns get choked up and do not ripen. If they do not die during the winter, they fail to produce a satisfactory crop the following year. The kinds I grow are King of Earlies, rather small, but of good flavour, and the first to ripen; this is followed in a few days by Laxton's Noble, a large handsome fruit, but soft and deficient in flavour; this I shall not increase. Vicomtesse de Thury is the one I depend mainly upon both for forcing and preserving, a first-rate cropper and good in flavour. President and Sir Joseph Paxton are known to all as being good. Dr. Hogg is of splendid flavour and a good cropper. A. F. Barron is a handsome fruit and of good flavour, but does not bear so well with me. Aberdeen Favourite and Captain are good hardy kinds and fruit well. Laxton's Commander is very prolific and holds up its fruit on a strong stalk, but it does not swell off equally; many remain small and have the appearance of being scalded. Of late kinds Waterloo is excellent, of good appearance and good flavour. It makes few runners and does not crop well the first year after planting, but does well the second and third years. Oxonian and Stirling Castle are useful late sorts here.—W. TUNNINGTON, *Calderstone, Liverpool.*

—Our crop of potted Strawberries being of more importance to us than those grown in the open ground, we pursue a system of cultivation and grow the sorts which seem best adapted to our requirements. We layer into fruiting pots annually about 3500 plants, consisting chiefly of Keens', Malakoff, Paxton, President, Napier, and Waterloo, with perhaps a new sort or two for trial, and they are brought forward in much the same order as that in which they appear here. We take our crop of outdoor fruit from the two-year-old bed, while the bed planted last year is devoted entirely to the raising of pot plants for next season's forcing. Besides the six above named most of the leading sorts have been tried and discarded because they appeared to possess no advantage over these, and an *omnium gatherum* of sorts is merely an interesting nuisance.—F. HARRISON, *Knowsley Gardens, Prescot.*

—We grow very few varieties—Black Prince, Vicomtesse Héricart de Thury, La Grosse Sucrée, James Veitch, President, Sir Charles Napier, and Loxford Hall; they ripen in the order given. The best for flavour are Black Prince, Vicomtesse Héricart de Thury, President and Sir Charles Napier; the three former are consistent bearers, Black Prince being the earliest and Loxford Hall the latest. I have not tried any new kinds, but have John Ruskin this year for the first season, so cannot say much of it at present. We renew our beds every three or four years at the latest, layering the runners in pots and planting out in August if possible. Our soil being very light and sandy, we trench in plenty of farmyard manure; after planting, mulching with the longest of the same. I



do not find it advisable to dig between the established plants, soil being so light. After cutting off runners and decayed foliage and cleaning the beds we top-dress or mulch with manure at once, and with litter again in the spring; by so doing we generally manage to have good crops, but we cannot stand a lot of dry weather.—N. SHERWOOD, *Chetwynd Park, Newport, Salop.*

—Of the newer kinds of Strawberries, Noble has proved to be an acquisition as a general early cropper; its colour and size are good, while President, Sir Joseph Paxton, and a few other older kinds still hold their ground as good midseason varieties. Eleanor or Oxonian is a good sort. One of the best doers with me is James Veitch, a large sort, and one of the best to fill the basket, and if left to ripen well the quality is good. Old beds of three or four years' standing are best chopped up or trenched in, and new ones formed of the earliest runners in July.—A. HARDING, *Orton Hall, Hunts.*

—Best kinds for flavour here are La Grosse Sucrée, Sir Joseph Paxton, James Veitch and President. Best early and late sorts: La Grosse Sucrée, Keens' Seedling, early; The Countess and President, late. Mode of treatment to secure good crops: Well trench the ground two spits deep, adding at the same time a good dressing of half-rotten cow manure, and in September sow on surface a fair dressing of soot, well raking the same in, afterwards planting strong runners (from pots) 2 feet 6 inches from row to row and 2 feet from plant to plant; then top-dress them with rotten manure for the winter. With the above treatment we generally secure very fine fruit; James Veitch and Countess 6 inches to 7 inches in circumference, and other sorts equally fine.—F. CLARKE, *Lonther, Penrith.*

—We grow only a few varieties of Strawberries, and the one that I find to do best here is Sir Joseph Paxton—undoubtedly one of the finest and best flavoured Strawberries in cultivation. It does remarkably well here on our light sandy soil, never failing to yield a good crop. When six berries will take up half a pound weight, there are plenty of them, I think but few varieties will equal it. Our mode of treatment is to prepare the ground in the winter, say November, by deeply digging and giving it a heavy dressing of manure from the farmyard the following summer as soon as the runners are large enough, from maiden plants preferred. We lay them into small pots firmly filled with good loam; they should be ready to plant out in the first week in August. By such treatment we have some of the finest of Strawberries.—J. LANGLEY, *Tedsmore Hall, West Felton, Osnestry.*

—The Strawberry crop has been a very good one in these gardens, and I have not heard many complaints from neighbouring places. We grow Vicomtesse Héricart de Thury largely for forcing; the fruit is of a good colour outdoors for preserving. Sir Joseph Paxton is a good one for packing when going long distances. Sir Harry is a good-looking fruit on the table when well grown, with just a few Laxton's Noble for early fruit. President is our all-round favourite, it is a sure cropper, of hardy constitution, fine large fruit, and of good flavour. It should be liberally used, given deep trenching, and plenty of good farmyard manure, and in cases where the soil is light a good coating of marl dug in is a great help; mulching in the spring greatly assists the plants to swell the fruit, and if dry give liberal waterings.—C. FLACK, *Cholmondeley Castle, Nantwich.*

—I do not go in for many varieties. Noble is the earliest, but from what I have seen of John Ruskin, that variety will take the place of Noble. It is earlier, of better flavour, and seems as if it would travel better. For main crop, Vicomtesse Héricart de Thury is decidedly the best, though President and Sir Joseph Paxton do very well. Filbert Pine is the best late kind. My mode of culture is to plant out forced plants  $2\frac{1}{2}$  feet between the rows and 2 feet in the rows as soon as a piece of vacant ground is available, digging deeply and manuring heavily, the flowers being picked off for the first year to induce runners to come early for forcing. Late or any sorts not suitable for forcing

are layered in 3-inch pots and planted out as opportunity offers, taking a crop of winter Onions or Lettuce between the rows the first year. When the ground is cleaned in the autumn, a top-dressing of spent Mushroom manure is very beneficial. I consider that mulching early with litter from the stable goes a long way towards prolonging the crop, especially if dry weather sets in before ripening begins. A good soaking with liquid manure while the plants are in bloom assists them greatly.—D. MCINTOSH, *Ashby Hall, Lincoln.*

—With regard to Strawberries, our best and main-crop kind is the British Queen, which does well here, but this season it has not been so good, nor have any of the others, as the cold affected the setting or the swelling, for many were pinched or deformed and did not attain the size they ought or acquire the flavour. For a first early we grow Noble on a sunny border, as though poor in quality it is long before any other, and makes a fine looking dish. To succeed it we depend on Vicomtesse Héricart de Thury, which is rich and good, and after this we depend on the Queen. This we plant in rows a yard apart and 18 inches from plant to plant, as to have the fruit colour well the plants must have plenty of room. I tried John Ruskin as a second early, but have destroyed the bed on account of the fruit milewing, and shall grow it no more. Latest of All I am rather pleased with, as though a weakly doer and making but little top, it is a great cropper and bears very large fruit with something of the Queen flavour, and as it ripens later is likely to be a valuable addition in gardens. The favourite here for preserving is the Elton, which is a free bearer and has fine deep-coloured fruit, sub acid and good for all kitchen uses. John Powell is the kind in most esteem with market growers around here, as it is a good cropper and hardy, and bears handling better than most others, and is of fair flavour. Cherries have been a heavy crop, especially on standards, and Morellos were full of fruit. Plums were almost a total failure both on walls and in the open. Peaches and Nectarines had plenty of fruit, but they did not swell kindly. Apricots were thin and small too, as it was not warm enough for them, and they ripened very slowly. Walnuts were a heavy crop, but Filberts were thin.—J. SHEPPARD, *Woolverstone Park, Ipswich.*

—The earliest and best was John Ruskin, of excellent quality. Noble is a very showy, early fruit and does well, but of poor flavour. Vicomtesse Héricart de Thury is an excellent early Strawberry for forcing. President succeeds the latter, and is a sure cropper for late cropping. I have found Wizard of the North, Filbert Pine, and Waterloo are the best late sorts; other sorts are grown, but the above I consider the best. I frequently here plant out a quantity that has been forced, and if taken care of as regards watering and during summer good results follow, but for Strawberry plantations I prefer to layer runners in small pots as early as possible, and to plant out on well-prepared and richly manured ground.—D. LUMSDEN, *Bloxholm Hall, Lincoln.*

—This is not a good garden for Strawberry cultivation, especially in dry seasons. The soil is rather poor and close to the chalk. As a rule I make a fresh plantation every year. I find the best crops the second year. I do not cut the leaves off. I used to do so, but find they do better if the runners are carefully cut off and the leaves left on. I give my beds a good mulching of farmyard manure every autumn, and find it very advantageous.—G. NISBET, *Hunstanton Hall.*

—The best Strawberry for flavour of a fair sized fruit I find is Sir Joseph Paxton. It bears well and travels well also. President and Vicomtesse Héricart de Thury also crop heavily. Noble is a good early kind and a great bearer; although not so good in flavour as later kinds, it is the best early I know of, and most useful for forcing. I find by planting Noble on a south border I can gather first week in June from one-year-old plants, planting about 20 inches apart. Then follow Sir Joseph Paxton, President, &c., from open ground, which are destroyed every two or three years; these last to the end of July: then we have Oxonian on a

north border, which carries us well on through August; consequently we have a long season of outdoor Strawberries. Our soil here is very light and dry, and requires a lot of care and labour to keep fruit trees and plants alive, much less in a good fruitful condition.

—Strawberries have been a very fine crop. We only grow a few of the standard kinds, viz., Vicomtesse Héricart de Thury, President, Sir J. Paxton, James Veitch, Dr. Hogg, La Grosse Sucrée, Elton Pine and Filbert Pine. Dr. Hogg I consider the best flavoured. La Grosse Sucrée is also of very fine flavour. Elton Pine is much liked as the best late sort; it was this season commented upon as being very sweet. I can strongly recommend Filbert Pine as a most useful late kind for light soils; it is a heavy cropper. The plantations are renewed every two or three years, and during the autumn receive a good mulching of long stable litter, which remains on till after the fruit is gathered, when runners and all loose material are cleared off, the beds cleaned and slightly stirred with a fork and kept free from weeds until mulched again. With the above mode of treatment I have secured regular crops for the past twenty years.—W. LOW, *Euston Hall, Thetford.*

—I find the best way to ensure a good crop of fine Strawberries is to well manure and trench the land. Make the rows 2 feet apart, plant a foot apart from plant to plant in rows. The second year remove every alternate plant to allow more room for established plants. Manure in autumn and spring, and never dig amongst the plants. Make fresh beds every three or four years. The best early is Noble, though the flavour is not first rate. The best all round is President, whether for flavour, productiveness or size. Auguste Nicaise, Duc de Malakoff, Admiral Dundas also crop well. Commander and Latest of All are the best of the new ones I have yet tried.—W. WAINWRIGHT, *Kimberley, Wymondham, Norfolk.*

—Strawberries, as a rule, do very well in this district. They are planted in rows from 2 feet to 3 feet apart and from 18 inches to 20 inches in the row on well-manured ground, and the plants are allowed to stand and crop for two years or three years at the most. The ground between the rows is kept clean and free from weeds, but it is never dug, nor the roots of the plants disturbed at any time. It is heavily mulched early in February with rough stable litter, which protects the plants and acts as a manure to the roots. By the time the Strawberries are ripe all the impurities have been worked out of it, and it acts then as a protection in keeping the fruits clean. There are not a great many varieties grown in this district. The most reliable cropper is President, of which great quantities are grown. Laxton's Noble I find to be the earliest kind for open-air culture, and the fruits are much earlier and larger from plants the first year after planting. I make it a rule to have a fresh plantation made every year, as I find the fruits ripen eight to ten days before the old-established plantations. It is not a first-rate flavoured Strawberry, but it is a very useful one, has a noble appearance, and answers either for dessert or preserving. The other kinds we grow here besides President and Noble that do well are Vicomtesse H. de Thury, Sir Joseph Paxton, and Black Prince. I have ordered several of the new kinds to give them a trial, but I find from experience that a variety may do well in one place and badly in another.—A. PETTIGREW, *Castle Gardens, Cardiff.*

—We find Strawberry beds best renewed every third or fourth year. I generally add to my beds by planting out the plants that have been forced each year. After planting we mulch very heavily, never digging the beds, simply hoeing to keep down weeds. The plan generally adopted round this neighbourhood is to layer runners into pieces of turf or 3-inch pots and plant out in September. Vicomtesse Héricart de Thury and British Queen are the most popular. Laxton's Noble has its admirers, but it is rather acid.—G. JORDAN, *Hackland Rectory, Ipswich.*

—Vicomtesse Héricart de Thury stands at the head of the list here for general usefulness, and I



question if there is a Strawberry in cultivation to equal this variety as an all-round one, being equally as useful for pot culture as it is for the open air, the fruit being of the finest flavour. Sir Joseph Paxton still holds its own for pot culture and in the open as well, high cultivation being needed to swell the fruit to its proper size. The same remark applies to James Veitch, only it does not bear quite so freely. Empress Eugénie is another excellent dessert fruit of fine flavour. President is a most abundant bearer, here at any rate, thick straw collars being needed round each plant to keep the fruit from lying on the ground. Of newer sorts that have been tried here, Waterloo, Loxford Hall, and Noble have been kept to see if they will improve by good cultivation. Of the three, Loxford Hall is the best flavoured; Waterloo is next, with beautiful dark coloured fruit; and here, at any rate, Noble's qualifications lie in its size of berry and colour. Few of these highly recommended new sorts will compare favourably with older ones for general usefulness; there may be places where they do better than others, but that is the exception, not the rule. I specially prepare the ground for Strawberries, as they delight in a deep rich soil, not made so with rank manure that would only create a great leafage at an expense of fruit. A knowledge of the soil to be dealt with is most necessary. A light soil needs a heavy moisture-holding manure such as cow's, and clayey soil needs it of a lighter character to keep it open. The plants are put out in the rows 2 feet apart. Whether they be runners or forced plants they are well mulched with the same material as the ground is manured with. After the crop is taken the plants are immediately cleared of all runners and weeds, and if the spring mulching is much gone, a fresh supply should be put on to enable the plants to make strong healthy growth. Too much importance cannot be attached to mulching; apart from it retaining the moisture, it keeps weeds in almost entire check, so that the plants have the full benefit of the ground.—A. KEMP, *Coolhurst, Horsham*.

— President and Vicomtesse Héricart de Thury are most relied on; the latter variety I suppose is more grown in this neighbourhood than all others combined, being a general favourite both for flavour, productiveness, and continuity of bearing. Noble has been tried in many of the surrounding gardens, but the general complaint is that of no flavour. Latest of All is spoken of in more praiseworthy terms, and will, I think, become largely grown. Dr. Hogg and Sir Joseph Paxton are the varieties to be found hereabouts, but President and Vicomtesse are the chief kinds, and in my opinion will be hard to beat. The best mode of treatment is to layer the runners into small pots, planting out early 2 feet apart on deeply dug well-manured ground. After fruiting allow all the foliage to remain, only removing runners and decayed leaves. It is a mistake to mow off what is wanted to mature the crowns and act as a protection during the coming winter. I do not practise digging among the plants, but mulch well with rotten manure in early spring. A few rows planted annually and a like quantity removed as exhausted will be found the best method to keep healthy and fruitful beds.—A. MAXIM, *Heckfield Place, Winchfield*.

— The varieties grown here are Vicomtesse H. de Thury, James Veitch, President, Noble, and British Queen. The last is our best for flavour, but a poor cropper. Noble is the earliest here. For a good cropper and flavour combined I should prefer President. Our mode of treatment is to dig deep and manure well, planting 3 feet between the rows and 18 inches from plant to plant. I find that strong runners taken from one-year-old plants in August and nursed during winter on a well-prepared border and planted in their permanent quarters the following April do best.—JAMES JEFFREY, *Caversham Park Gardens, Reading*.

— I have tried several new sorts, but as yet none of them come up to the old kinds of twenty and thirty years ago. La Grosse Sucrée is our best here for early work, but the best all-round Strawberry is Sir Joseph Paxton. British Queen

for pot work is very fine, but grown outside here it is considered too sweet and sickly. Our soil here is nearly all sand, yet with mulching twice a year Strawberries can be grown well. I water the young plants twice or thrice, but never afterwards, be the weather ever so hot. After the plants have stood four years I destroy, trench, and plant again, the best crops being gathered in the second and third years. I plant 3 feet apart every way.—W. C. LEACH, *Albury Park*.

— British Queen is still the best, and in our heavy, retentive soil this kind does very well. Best early and late kinds for open-air culture are La Grosse Sucrée, Vicomtesse Héricart de Thury. President, Sir Joseph Paxton and British Queen. These are the principal kinds we grow, and they ripen here in the order I have placed them. I have tried most of the new kinds, but have found none equal to the foregoing. The mode of treatment here to secure good crops is to plant fresh beds annually on well-trenched, heavily manured ground 2 feet 6 inches apart each way, never allowing them to fruit the first season. From these plantations I always take the young plants both for forcing and planting out. By this means I always obtain clean, strong, healthy plants to commence with—a point I consider of the utmost importance. As soon as I have taken all that are required, I trim off all the surplus runners and give the plants a good mulching of farmyard manure. Early in the spring I just point this in, taking care not to loosen the plants, after which I again mulch with long stable litter, which I allow to remain until after the fruit is picked, when I again clear off and treat in the same manner as before stated. I never allow the beds to remain more than three years, as the fruit becomes small and of poor quality.—EDWIN BECKETT, *Aldenham Park, Epsom*.

— The kinds I prefer for early work are Vicomtesse Héricart de Thury and Pauline; the former one stands higher in my estimation, considering all points, than any other. It is of robust habit, hardy, of excellent quality, whether grown artificially or otherwise, and a grand sort for preserving. Pauline comes in at about the same time, and being larger is an advantage in an early season. As midsummer kinds, I grow British Queen, Sir Joseph Paxton, Sir Charles Napier and President, all sterling sorts of good quality. As late sorts I select Oxonian and Elton Pine. Among the new kinds which have come under my notice are Laxton's Royal Sovereign, of good quality, somewhat of the British Queen type, and Gunton Park, a fine large Cockscorn-shaped fruit, rather dark in colour and of excellent quality. In the cultivation of Strawberries, a knowledge of the circumstances under which they are to be grown is essential, and must be duly considered. We sometimes hear of places where the plants will grow on year after year successively, and with ordinary attention yield abundant crops of fine fruit, but this is more often to be found an exception to the general rule—at least it is my experience. I find it necessary here, in order to obtain both fine fruit and first-rate runners—the latter most important at most places where forcing is carried on—to plant a certain number of plants annually. My practice is to plant as many as I destroy every year. By these means the plants get the benefit of a change of soil, which, when it has been well manured, produces a vigorous growth in the plants, which likewise yield good crops of fine fruit and runners also, excepting for early work. In this case warm borders are most essential, otherwise I prefer open quarters for the general crop, and north borders are desirable to prolong or retard the late kinds. It is customary here to put out a certain portion of the forced plants, because these in general yield a fine crop of ordinary-sized fruit the following season. I have, as a rule, abandoned the practice of taking any of the plants that are layered the current year for planting out. I find it better to keep these for forcing, and when the runners intended for forcing are removed from the plants, I select enough of the small sturdy runners that remain to meet all requirements. These are pricked out in open

quarters in rows 12 inches apart and the plants put in firmly 9 inches asunder, where they remain until about July following, when they are transferred with a ball of earth attached to the quarters selected for them, and are placed in rows 3 feet apart and 18 inches from each other in the rows.—G. T. MILES, *Wycombe Abbey*.

## GARDEN FLORA.

### PLATE 886.

#### IXORAS.

(WITH A COLOURED PLATE OF I. WESTI.\*)

AMONGST all the shrubby flowering stove plants there are none to surpass the *Ixoras* for beauty, for freedom of flowering, or for their utility. When well grown, they are gorgeous objects whilst in bloom, and at other times their bright lustrous foliage is of itself attractive. Referring to Paxton's "Botanical Dictionary," 1840, I find sixteen species are therein described, but a very few of these are now to be found in general cultivation, *I. coccinea* and *I. crocata* being the two most prominent, these even being now better represented by *I. coccinea* *superba* and *I. crocata* *Prince of Orange*. As exhibition plants I can well remember them as far back as 1857, but, of course, they were shown as such long before that time. Those which I can first call to mind, however, were grown by a fine old gardener (Mr. Atkins) at Firlie Park, in Sussex, who could hold his own in competition against the best London exhibitors. In London I well remember a grand plant of *Ixora salicifolia* being shown by Mr. May from Hawkesyard Park, Rugeley, Staffs, at the Regent's Park. Mr. Tanton increased their popularity whilst he was manager at the Pine-apple Nurseries of Messrs. Henderson in the sixties. Later on, we have many of us seen those matchless specimens of *I. coccinea* *superba* as shown by Mr. Baines, who fairly excelled all others in this particular variety. When shown as he used to stage it, this *Ixora* cannot hardly be beaten. At the present time *Ixoras* are in several varieties very finely grown by Mr. Cypher, of Cheltenham, also by Mr. Chapman at Hawkesyard Park, and by Mr. Gibson at Halstead Place, Sevenoaks, and Mr. Finch from Coventry, who both last year and this has produced *Ixora macrothyrsa* (I. Duffi) in grand condition. Mr. Lock, in the west of England, and other good growers have also staged them remarkably fine. This of itself is abundant proof that their cultivation when thoroughly well understood is no barrier to their more universal culture. What can be done with them from a decorative point of view to supply cut flowers has been abundantly displayed in the fine houseful of plants first grown by Mr. Roberts, and now by Mr. Reynolds at Gunnersbury Park, by Mr. Wythes at Syon, and others also.

#### Culture.

For some reason or other *Ixoras* are not cultivated nearly so much as they deserve to be. There is, I think, a popular notion that they are far more difficult to manage than they really are. If it is thought that bottom-heat is essential, that may be dispensed with, for I have grown them here very well without it, and seen others do the same. Bottom-heat is, I am aware, an accessory, but not indispensable. If the idea exists that growing *Ixoras* means increased trouble with the mealy bug, that also should be cast to the winds, for there are worse plants than the *Ixoras* for this

\* Drawn for THE GARDEN by Gertrude Hamilton in the gardens at Gunnersbury House, April 10, 1892. Lithographed and printed by Guillaume Severeyns.





DR. J. A. V. H. B. 11







pest, the *Dipladenias* to wit. As regards other insects, there is no extraordinary trouble, nor need any fears be apprehended from either one or the other if a determined set be made against their increase. The best time to commence the culture of *Ixoras* is in the spring, with small plants well furnished in nothing larger than 6-inch or 7-inch pots. The best season for propagating is from now onwards to the end of March—at least, I find this to be the time when I can succeed best. The additional warmth all through the winter in the pipes gives a reliable bottom-heat for striking. I prefer to take cuttings of the current year's growth, wood that is semi-hardened being preferable to that fully matured. The cuttings should be placed firmly and singly in 2½-inch pots. If the room be short, the cuttings will be found to strike very well in water, being potted when rooted. The former plan is, however, preferable, as another small shift can be given without any check at all. The cuttings should not be allowed to droop by exposure; this they will not do in a close pit with warmth. For the first year the aim should be to secure a good well-furnished base rather than attempting to flower the young plants. By a few stoppings a good groundwork will be formed; the shoots should also be drawn outwards in a semi-horizontal manner. This will encourage back breaks. For whatever purpose the plants are intended, the foregoing plan is a good one, as bushy plants are in any case the best. After potting from the 3-inch pots must be regulated according to the progress that is being made. When this is satisfactory, the plants should be good bushy ones in 6-inch pots in twelve months from the time of striking. If struck in the autumn or winter and kept growing, they would be fit for 4½-inch pots by April and for 6-inch pots by July, in which pots I would prefer to winter them, giving the next shift about February. The following summer they would give a good crop of flower—a dozen heads or trusses to a plant. They may be grown very well as decorative plants in smaller pots. I have had them thus in 4½-inch and 6-inch pots with six and eight or more trusses, thus making very attractive plants whilst in flower. An excellent plan is to continue striking a few plants fresh every year, so that a successive supply is always on hand.

If it is wished to grow on the plants to half or specimen size, I would not let them flower the two first seasons at all, making the chief object that of growth entirely. As to soil, there is a difference of opinion. For my own part, I prefer the best peat I can get, full of fibre and of lasting character, such as one would choose for New Holland plants or Cape Heaths. To this I would only add silver sand in a liberal manner. If the peat is not first-rate, then a good addition is some nutty charcoal or corks broken up finely. Good leaf-soil from the Beech or Oak is very good, but if used to any extent is not easily made so firm in the pots as peat; with this I would use good fibrous yellow loam; this would make a very good mixture with sand. I have seen *I. coccinea superba* thriving very well in nearly all loam, but the foliage is not usually so deep in colour as when in peat, nor do I think the plants would last so long in good condition. Firm potting I firmly believe in; I consider it one of the essentials to success, for if a plant is to last well it must be potted well. When loosely potted, the stem in time will become loose and the soil far too porous. Over-potting is not desirable. When the plants are pot-bound and showing for flower, some weak liquid manure will assist them, not, however, too frequently. In order to flower plants at any given future time, the treatment must be regulated accordingly. If they are needed in bloom in May or earlier, the growth must in a large measure have been made the previous summer and autumn; then after a short spring growth they will thus set for flower. If I remember rightly, Mr. Baines kept his plants of *I. coccinea* growing in a brisk temperature all the winter, showing them grandly in May. For later flowering, early spring pruning followed by fresh breaks will be the best plan to pursue. In some cases, as when growing on young specimens, merely topping the shoots would be all

that is necessary. The other plants that would flower in May would, as far as any pruning is concerned, have to receive attention the previous summer rather late. If plants are needed in flower in August or September for any given purpose, they should on an average, taking one sort with another, be stopped all over at one time about sixteen weeks before they are wanted in bloom. Thus if stopped at the middle of May, they would flower about the middle of September, and so on. In any case the stopping is a safe plan to adopt if autumn flowering is the main object desired.

As regards temperatures, I find that so long as 60° is the minimum at night during the winter, preferring, however, that it should be nearer 65° than 60°, I can grow them most satisfactorily. By the end of February I would aim at 70° at night in fair weather; less when severely cold, say 65°. By the end of March or the early part of April, 70° at night ought to be maintained. The day temperatures should range from 10° to 15° higher according to the weather. Higher than this even will do no harm; even 90° and 95° at closing time in the summer is only congenial to them, especially the Javanese section, under which most of them of them are included. The higher temperatures cannot always be maintained in a mixed house of plants without some detriment to other plants. Where, however, all are calculated to do well under it, rapid progress can be made. In my own case I am growing them in a pit formerly used for Pines with a fair command of heat, to maintain 60° or 65° being comparatively easy in the winter, whilst in the growing season the day temperature would more often than not touch 90° at closing time with about 70° at night. I have already alluded to bottom-heat. In the spring when starting the plants into fresh growth it accelerates root action, and thus assists the top-growth. Young plants also can be grown on more speedily when plunged in a brisk heat or temperature of 80° or 85°, which is high enough in any case. But rather than have the plants plunged in any material which has a tendency to become soddened, I would infinitely prefer to let them stand over rather than in fermenting material. I have grown them in bottom-heat and out of it, and have been satisfied with the results in both instances. In the former, however, the plants will not take nearly so much water; in fact, as the season progresses it must be given with some considerable caution. In the latter manner more water can be given at the roots with safety. Taken all ways, I think bottom-heat for starting into growth and hastening on young stock is the best, but as growth becomes well advanced I would prefer to dispense with it. The syringe should be freely plied at all times; this, whilst it assists the plants greatly in making their growth (a humid atmosphere being most congenial), at the same time sodden the plunging material. By a free use of the syringe also the insects to which they are subject can be better kept in subjection. Cleanliness from all insects is most essential, mealy bug, thrips, scale and fly all coping within the category. We can control all the three last-named by the syringe, the sponge, and occasional fumigations. The *Ixoras*, being evergreen plants, should not be kept too dry during the winter, even if no growth is in progress; sufficient water must be given to keep the foliage fresh. I well remember an old plant grower who was fond of *Ixoras*, but who erred in keeping the plants too dry in the winter; hence thrips were troublesome, whilst some of the wood would die and the plants be considerably weakened, fresh growth coming away weakly in the spring. Specimens do not, of course, suffer so soon as smaller plants by reason of the larger amount of soil unless they happen to be pot-bound.

#### Species.

*IXORA COCCINEA SUPERBA*, from Java, is without doubt the finest of all; it is of free growth, bearing immense trusses of flowers, and thrives best in a brisk heat whilst growing. In the case of this kind I have found it at times to have a disposition to scalding of the foliage. In one house where I

grew it I think the moisture was almost too much; in another it did well where the atmosphere was not so humid, although the syringe was freely used.

*I. SALICIFOLIA*, also from Java, is a very fine species, with elegant, drooping, narrow leaves; the trusses are large, the flowers of a clear orange-scarlet. The growth is not so free as in some kinds; it thrives best when worked by grafting upon a free-growing species. It makes a truly handsome plant.

*I. AMBOINICA*, from Amboyna, is not so much grown now as a few years back; the foliage is rather tender, but it is both a free grower and a most profuse flowering species; the colour a dark orange.

*I. MACROTHYRSA*, from the South Sea Islands, is a remarkable species; the growth is straggling and does not commend the plant to favourable notice, but the flower trusses are grand, in some instances as much as 18 inches across, the colour a deep reddish crimson. This is best grown as a specimen.

*I. JAVANICA*, from Java, is not now to be met with in any quantity, but it is a beautiful variety, particularly for spring blooming on the previous year's wood; the leaves are pale in colour, the flowers of a delicate orangeshade.

*I. FORMOSA* (taking its name probably from its native habitat, not from its style of growth) is the nearest approach to a yellow in the colour of its flowers—a pale orange. It is not a free-growing species.

*I. PRINCEPS*, from Java, has pale-coloured flowers which deepen with age. It is a free-flowering species and makes a good specimen.

*I. ODORATA*, from Madagascar, opens its flowers a pure white, shading off soon to a creamy colour. A strong-growing plant.

*I. CROCATA* (syn., *stricta*), from Moluccas and China, is seen best in its improved garden form *Prince of Orange*.

*I. GRIFFITHI* is a species now but rarely seen; its habit of growth is robust. This cannot be recommended.

#### Garden Hybrids.

Some of these are the very best kinds we have both for habit and profusion of flowering.

*I. JAVANICA FLORIBUNDA* is one of the oldest of these. It has nothing in common with *I. javanica*, being totally different in foliage and flower. It is a free grower and profuse bloomer, bearing two crops in one season. A variety of this called *I. floribunda nana* is of very close growth, flowering almost too freely. It is a useful kind as a small plant to flower in 4-inch pots.

*I. WILLIAMSII* is probably one of the best known of all the hybrids. It is of very free growth, making a good specimen, the colour of its flowers a reddish salmon, its trusses being produced free'y, even on small plants.

*I. FRASERI* has much in common with the foregoing in growth and profusion of bloom, being quite its equal, whilst the flower trusses are of a brighter colour, having more of the salmon tint in them. It is one of the best for cutting.

*I. PILGRIMI* is a hybrid from *I. Williamsii*, with more crimson in the flowers; the trusses are remarkably fine and the constitution of the plant excellent.

*I. PRINCE OF ORANGE* is a seedling from *I. crocata*, and is, in my opinion, one of the very best for growing to supply cut flowers. In growth it is rather long-jointed, thus giving a good length of stem when cut. It flowers most profusely and is a free-growing variety; the trusses are medium in size, small plants yielding a good number. It has flowers of a bright orange-red—a very showy colour when seen in a mass upon the plant.

*I. DIXIANA* is another hybrid which makes a first-rate specimen, flowering profusely and simultaneously, the colour a dark orange, the trusses of medium size, the growth and constitution excellent.

*I. COLEI* is the best of the white varieties. Its habit is good, being also of free growth, the trusses large, but the individual flowers rather below the average in size, but very dense upon the trusses of large plants.



I. MORSEI is a variety of which I have a high opinion. I consider it an improved form even of I. Prince of Orange, but have not sufficiently tested its freedom of flowering. The individual flowers are larger and the trusses also.

I. REGINA has much of the character of I. Williamsi, but with a dwarfer habit, the flowers also a trifle darker in colour. This should be more grown for use in a small state.

I. SANGUINEA bears large trusses of dark crimson flowers, being a free-growing kind and in its colour very distinct.

I. WESTI, the subject of the coloured plate, is one of the prettiest of all the hybrids now in cultivation in its delicately tinted flowers; it is also a very free-blooming and equally free-growing plant. The habit is not so compact as in most kinds. The foliage is of extra size, being of itself quite distinct and handsome. The trusses are extra large, lasting well in flower on the plant, with the same good qualification in a cut state. When the flower trusses are in a partially advanced state, they are somewhat of a tender character. This I have noticed particularly when fumigation has been performed; the undeveloped buds, half-grown and larger, will drop after a strong application; hence in this respect caution is necessary. With no recent fumigations, I find the present crop of flower (the second since May) to stand well. In its colour it is so distinct as to claim attention, being particularly valuable in this respect for cutting.

If I were limited to half a dozen kinds, I would grow I. coccinea superba, I. Fraseri, I. Prince of Orange, I. Westi, I. Williamsi, and I. Pilgrimi, with I. macrothyrsa as a special variety for specimens. JAS. HUDSON.

## THE WEEK'S WORK.

### THE KITCHEN GARDEN.

**PROTECTING CELERY.**—Much unnecessary work is often entailed in the covering and uncovering of Celery. A little protection is beneficial, as, for instance, when a sharp and prolonged frost is imminent and where it is not covered with snow. But to cover up as some people do is not only unnecessary, but injurious, as it often causes decay to set in. Celery not forced on with heavy feeding and also well earthed up will not require covering up until very severe weather sets in. At this time a layer of straw or Bracken should be laid along each side to facilitate the getting up, a little of the cleanest and longest being laid lightly along the top. Heavy coverings must be avoided. Protection from wet is far more needed, especially in those districts which are low-lying and in which rainfall is heavy. The best protection in these cases is to place a "cap" along the tops of the rows. This is formed by fixing two 10-inch boards together thus A. These coverings must be laid along the tops, so that light will enter freely, this also allowing a circulation of air.

**FORCING CARROTS.**—These can never be had too early, and as they are sure to be appreciated in any establishment, means should be taken to provide one or more two-light frames or brick pits for the purpose. For forcing Carrots nothing is better than fresh leaves—Oak, Beech, or Sweet Chestnut for preference—these keeping up a steady and lasting heat. Where there is no choice, other leaves may be used, with sufficient fresh stable litter to generate heat. Deep brick pits are the best. A depth of 4 feet trodden firmly is needed, as if less than this, the heat would not last. A depth of 8 inches or 9 inches of rich and friable soil must be spread over the surface. The seeds should be sown thinly in shallow drills drawn 5 inches or 6 inches apart, the surface being made rather firm. The French Forcing is the best variety for early forcing.

**PREPARATION OF MANURE.**—The quality of the manure for the various crops required to be grown in the kitchen garden goes a long way towards success, as there cannot be any doubt about the

inferiority of vegetables often being the result of the unsuitableness of the manure gardeners have to use. Artificial manures can never wholly take the place of good solid manure. This being the case, it behoves those who have the management in their own hands to see that this is prepared and applied in the best possible manner. Manure that is brought from the stables should not be allowed to remain in a heap, as it is very apt to become overheated, when its virtues would be lost. It should be turned over at intervals of a week or two until decay sets in, when it may be left. It is also a good plan to have a cesspool for the drainings to be run into. These may be occasionally thrown over the mass. As the manure becomes ready it is generally placed in small heaps over the plot intended to be dug, but unless it is to be dug over at once, it is much the best plan to wheel the manure into one or more plots according to the size intended to be dug, afterwards spreading it about when the time comes for manuring. By treating it in this manner the virtues of the manure are saved.

**MINT AND TARRAGON.**—Green Mint and Tarragon are frequently needed throughout the winter months, so means should be taken to keep up a supply. A few squares of Mint lifted and placed in boxes and introduced to a fairly warm temperature will soon start into growth. It is the same with Tarragon; this grows more freely if already established in pots. A sprig of Tarragon forms a good adjunct to a salad during the winter.

**CAULIFLOWERS IN FRAMES.**—These will now need attention, taking care that they are not allowed to become drawn. If mildew is likely to attack them, keep the surface stirred occasionally and dust the plants over with wood ashes. If severe frost is likely to set in, the sides of the frames should be banked round with litter, the sashes being covered with mats or Bracken.

**PARSLEY.**—Now is the time to take particular care of this. Gather from the open as long as possible. That growing in frames must be freely ventilated, keeping all decaying portions cleared away, also protecting it more or less as occasion may require by mats or litter. By keeping this in reserve there will be a fine lot available at the turn of the year, when it is generally scarce.

A. YOUNG.

### FRUIT HOUSES.

**EARLY GRAPES.**—Since the value of Lady Downe's as a late Grape has been more generally appreciated, and the adoption of more approved methods of keeping that variety, Mrs. Pince's Muscat and Alicante much longer than formerly, there has been far less necessity for hard forcing of early varieties in order to keep up an all-the-year-round supply of Grapes. If, however, Black Hamburgh or other early varieties is wanted during April, then must forcing commence early in December. Permanent Vines will not long stand being started thus early, the first week in January being a better time to commence forcing these. Either pot Vines or a row of young Vines temporarily planted or grown in a small forcing house should be first forced. These, after being exhausted in the production of one good extra early crop, are seldom of any further value and should be thrown away, other young Vines having been prepared to take their place. Failing a supply of home-grown canes, very good Vines can be bought for the purpose. In each and every case it is important that the canes to be hard forced should be strongly rooted, very few fresh root-fibres being formed in time to benefit the current crop.

**FORCING POT VINES.**—If the advice previously given as to pruning these has been followed, little or no further preparation is needed beyond seeing that the drainage holes in the pots are perfectly free. Any that have not had their laterals cut out ought not to be pruned now, as they are almost certain to bleed badly when placed in heat. Instead of pruning, be content to rub out superfluous shoots as fast as they show. Also be very careful not to cause wounds or partial breakages of any kind. Top-dressings are very misleading. The

fresh soil may be dry and the old soil underneath where the roots are be badly saturated, and *vice versa*, and without a careful examination of the old soil, it is a difficult matter to decide whether plunged plants want water or not. Therefore, defer top-dressing till there is no likelihood of mistakes being made, too much moisture at the roots at the outset being especially injurious to newly-started Vines. A moderately brisk hotbed should be formed in which to plunge the pots, this being composed preferably of leaves and stable manure. Plunge rather loosely at first, sinking the pots deeply and firmly when the trial sticks can be borne comfortably in the palm of the hand. Either depress the canes or else give them a sharp curve, so as to cause them to break regularly. Avoid hard forcing, a night temperature of from 50° to 55°, increasing from 5° to 10° in the daytime, being recommended. Syringe the Vines, walls and floors whenever found at all dry, a moist atmosphere being conducive to a strong, early break.

**FORCING PERMANENT VINES.**—It is possible to force permanently planted Vines sufficiently hard to admit of the crops being ripened in time for a wholesale clearance of Vines and the formation of a fresh border for new canes next May or early in June. The pruning, cleaning and dressing ought to have been completed, and a thorough rest given for a month in advance of shutting up the house. Supposing that the Vines are to be fruited heavily for the last time, do not prune hard, cutting the laterals back to the third or fourth bud answering best. Nor should Vines not yet to be destroyed be hard pruned. If the laterals are shortened to the second or third plump bud, this seldom fails to be followed by a strong break; but should the first bunches that show run to tendrils, as they sometimes do, having left rather long spurs admits of severe disbudding and a second start being made. Especially ought Buckland Sweetwater, Gros Maroc and Alicante to be lightly pruned, these invariably breaking more satisfactorily when either rather long spurs or a good length of young rod is left. Remove all loose bark, but do not go to the length of skinning the rods. A thorough scrubbing with hot soapy water will get rid of a great many insect pests, notably mealy bug, and if this be followed by a dressing of Gishurst compound, dissolved at the rate of 12 ozs. to the gallon of water, and duly thickened to the consistency of thin paint by means of pulverised clay, not many insects will survive. If mildew has been troublesome, add flour of sulphur freely to the dressing. Woodwork and glass should be thoroughly cleansed, and the walls dressed with hot lime. Loosen the surface of inside borders lightly, removing all rubbish and soil down to the roots. Then give a thorough soaking of liquid manure, and follow with a fairly rich top-dressing of solid manure and loam, or, better still, loam, bone meal, wood ashes and old mortar rubbish. Outside borders are a mistake as far as very early forcing is concerned, but these may be warmed up considerably by means of mild hotbeds of leaves and manure placed on them. Be cautious in this matter, however, a fierce heat destroying all the surface roots. When the Vines are first started depress or curve the rods considerably, so as to bring all the buds into much the same temperature, or otherwise the break will be most irregular. Commence with temperatures as advised in the case of pot Vines and syringe the rods and house frequently, plenty of atmospheric moisture being necessary to soften the bud scales. The moisture and ammonia given off by a bed or ridge of leaves and stable manure, or a hotbed formed for other forcing purposes, greatly assists in causing a strong break. Turn every day or two and renew with fresh material occasionally.

**FORCING PEACHES AND NECTARINES.**—Very early or hard forcing is neither desirable nor necessary now-a-days, especially where the earliest house is well stocked with good-sized trees of such extra early varieties as Waterloo, Early Alexander, and Hale's Early Peaches, with Lord Napier Nectarine as a companion. Supposing the trees had been duly pruned, cleaned and rested, and the borders watered and dressed, there is no good



reason why gentle forcing should not commence at once, the desire being to have ripe fruit in April. Start with a night temperature of from 45° to 50°, increasing from 5 to 10° with sunshine in the daytime; syringe the trees every morning and again at midday, a moist atmosphere being constantly maintained. PRACTICAL.

### ORCHIDS.

DECEMBER may be said to be the dreariest month of the year for Orchids, and yet as I write there are many plants in bloom with more showing their flower-spikes and giving promise of good things to come in the early months of the new year. Immense spikes of *Cymbidium Lowianum* are pushing out with the new growths, and promise soon to make a great show. Two *Cattleyas* of very distinct habit and time of growth are *C. lobata* and *C. Warneri*; they start steadily into growth some time in November, and continue growing all through the winter. Although there is some root growth, and much water is not required as yet, I think much harm is done by over-watering *Cattleya Warneri* at any time. I had a remarkably handsome specimen of the original variety which was over-watered at this season, and later before I became aware of it the plant suffered such a serious check, that I had to break it up and repot each part separately into small pots. *C. lobata* is a very distinct variety in colour, and exceedingly shy in producing its flowers. I had six plants for a number of years, and the only way I could get them to flower was by stinting them for pot room, and even in that way two plants only would flower in one season. Masses of roots form outside of the pots, and the plants would always do best when the roots could live on air, there being at the same time plenty of live back roots in the pots. Another plant in the *Cattleya* house that will soon be a mass of bloom is *Masdevallia tovarensis*. This charming little plant does not seem to be valued so much by Orchid fanciers now that it is cheap. When it was worth a guinea a leaf, all the fanciers were eager to possess it. It is the easiest to grow of all the *Masdevallias*, and can be propagated very readily by division. *Odontoglossum citrosum* is now quite at rest, and the plants may be kept so dry at the roots, that the bulbs may be at the point of shrivelling. This decided rest causes them to start away all the better next season. The spikes come with the new growths, and if they do not show when the growth has pushed out a couple of inches, there will be no spike that season. *Miltonia vexillaria* is also growing vigorously; the plants are quite clean, and we will not dip them much as long as they remain in that condition, but if there is the least suspicion of thrips, dip the plants at once in a tobacco liquor solution.

The flowers of *Cattleya labiata* are lasting well notwithstanding the dense, moist atmosphere; so also are the *Calanthes*. Although there are so many good new things in this genus in cultivation, they are not easily obtained by the ordinary cultivator, and most of us have yet to be content with the old *C. vestita*. The yellow and pink-eyed varieties are both common, and the pure white flowers are not the least beautiful of this section. *C. Veitchi* is an excellent contrast to it. The spikes will last two or three weeks when cut and placed in a cool room. When the above are past their best the *Lælia anceps* in variety succeeds them, and *Cattleya Percivaliana* is a rich contrast to the paler flowers of the *Lælia*. The white forms are very charming indeed. The *Vandas* of the *V. suavis* and *V. tricolor* types are now in their resting period, and should not have too much water to excite them into growth. Withholding water in the case of those Orchids which have no pseudo-bulbs to support them is rather dangerous, and considerable caution is necessary to give the plants enough without giving them too much. They do not seem to stop growth altogether, even at midwinter, and this must be taken into account. I may in passing merely remark that the plants of *Vanda teres* are kept much drier at the roots, and even if the stems and

leaves shrink a little, it does not matter; the plants seem to flower all the better for it next season. The Fox-brush *Aerides* (*Aerides Fieldingi*) also succeeds much better if not kept in too warm a house. The *Saccolabiums* seem to require a warmer temperature, and the pale blue *Vanda coerulea* has also been placed in the warmest house. The appearance of the roots upon these plants and also on the *Vandas* and *Aerides* in the *Cattleya* house is an excellent guide to the cultivator. When they have passed through their state of active growth, the roots change from their green, succulent, moist condition at the tips (I mean the aerial roots), the whitish appearance gradually creeping down until the merest tip of the roots seems to be in an active state. When the plants are in that state they do not need water, and care must be taken not to allow them to be excited by either much heat or moisture. I believe the best time to repot the plants is just as they are passing through this state of suspended animation. It is better for the plants that they should have fresh green Moss to grow into at this time rather than the old partly-decayed Moss, which has also got into a much worse condition by its being kept in a dry state when the plants have been at rest. Here I may remark about the tendency of the *Vandas*, *Saccolabiums* and *Aerides* to lose their leaves. The lower leaves are likely to die off at the period of rest, and more so just at the time the plants are about to start into growth again. Some growers say this is merely the nature of the plants. I have often admired the splendid *Vandas* in the nurseries of Messrs. B. S. Williams and Son—tall plants twenty years old at least, with plenty of healthy deep green leaves from base to summit. I have been told that Orchid amateurs have purchased such plants, giving them as nearly as they could the identical treatment; but that in a year or two the leaves have decayed at the base, sometimes as many as three pairs at one time. Success can only be attained by very careful attention to all the details of the work.

J. DOUGLAS.

### PLANT HOUSES.

PLANT CLEANING.—Every effort should now be made to get the entire stock of plants as clean as possible. This work can be done more efficaciously now in the case of plants of an evergreen character, because the wood is hardened and the foliage also. Insecticides of greater strength can thus be used with safety and with better effect. It will most likely be in the stove where the most of this work will have to be done. Half-and-half measures are not of much use, but rather a waste of time; it does not do to play with either the mealy bug or the scale, or they will eventually be our masters. In plant cleaning it is always well to consider beforehand if the plants in question are worth the time and the liquid expended on them. If they be old scrubby stools, of which there is a stock of young ones advancing, then it is better unless particular value be set upon them to consign them to the stake-hole or rubbish heap at once, thus not only saving the labour, but making room for other things. In most cases some pruning can be done, or at least a thinning out be given. For instance, in dealing with the *Stephanotis*, all the useless wood can now be very well taken out, and such as *Dipladenias* may be pruned once for all, these in particular requiring early pruning, because they start into growth correspondingly early. *Ixoras* and *Gardenias* can have the weakly wood taken out, more in the case of the former than the latter.

If *Crotons* of large size are infested with bug and they must be retained, a hard pruning, completely denuding the plants of leaves, is the best remedy. Then it can be made pretty warm for any insects which remain without any fear of injury. I would give such as these the hot-water treatment as a start. This may be as warm as the hands can bear it when drawn through the syringe. After this the insecticide used may be of extra strength. The cuttings it will be possible to clean in most cases if they be wanted for fresh stock.

Plants of free growth, as *Allamandas*, *Bougainvilleas*, *Clerodendrons* and the like, can be also partially pruned and then be treated in the same fashion. In fact, in any case when making an attempt to get rid of the bug, the knife should be used wherever possible to save labour. All sticks and ties should be removed, whilst any wire trellises must be closely inspected. It is all important to look to this; merely cutting the ties and leaving the sticks still in use will not do. Fine-foliaged plants that cannot well be pruned, and which it is difficult to syringe, should be carefully sponged. I say carefully, because it is not always so done. Some people are harder-handed than others, whilst sometimes it happens that tender young foliage is severely treated. In order to preserve the mixture when being used, a trough should be provided where the plants are too large to hold over a water-barrow for syringing. Dipping, I may as well say, I do not believe in; it will do for fly, but not for bug. What with first giving a thorough good syringing and then following it up with a careful and close sponging in bad cases, it can be made too warm for the mealy bug, as before stated. What may be termed half-and-half measures will not do, nor does it do to depend upon one close cleansing. It should be followed up again and again, never waiting till the case is a bad one. The safer plan is to experiment with the insecticide used before any given strength is applied in any particular instance. One thing should always be done; it is that of thoroughly shaking up all liquids before they are poured out so as to re-incorporate all the ingredients which are in some instances disposed to become separated.

White scale wants a lot of killing; it is frequently troublesome upon Palms either clustered around the base of the stems or upon the leaves, a favourite place being the axils of the leaflets in such as *Areca lutescens*. All Palms, whether large or small, will amply repay for a thorough cleaning by sponging. Where the syringe has been freely used all along they will be fairly clean; it is rather those which have escaped this implement which will want the most looking after. This same white scale will often give trouble upon the *Lapagerias* and the *Camellias* also; it is not a hard insect to keep under as a rule, but if it gets ahead it is then simply ruinous. I have noted that the ordinary brown scale is killed by fumigating with Campbell's rolls; this is a saving of labour if attended to occasionally. Of course, thrips and fly can be cleared off by the same method, or by the use of tobacco paper. On no account should the green-fly be overlooked; whilst there are still but a few insects to kill is a better time for fumigation than stopping for the many. On Indian *Azaleas* there may still be some thrips lurking about, ready to increase rapidly as soon as the plants (if forced) are placed in warmth. The better plan will be to fumigate these as a safeguard as well as a remedy, even if the process has been gone through when the plants were housed. The plants may have to go into an earlyinery, where thrips, like red spider, are always a nuisance. Look sharply after green-fly in pits upon *Cinerarias* and herbaceous *Calceolarias*; this insect in such places does sometimes escape notice. *Pelargoniums* may also be in the same position; these also must not be trifled with. It is an undoubted fact that our plant pests in the form of insects are frequently dealt with far too leniently. If more determined measures were taken, many who now deplore the ravages that have been made would then, on the other hand, be able to rejoice at the more favourable condition of things, the labour at the same time being diverted into those channels where yet further improvement can be made.

JAMES HUTTON.

The double West Brighton Gem *Pelargonium*.—When Mr. Pearson read his paper on the cultivation of winter-blooming *Pelargoniums* at the Drill Hall recently, he omitted to mention the single West Brighton Gem, and was reminded of it later on. That variety, as is so often the case,



broke into double form in more than one place. It is to the single form just what Wonderful is to Vesuvius. Very recently Mr. Cannell showed a finely improved sport from V. Raspail. That, oddly enough, is just like the sport from the same variety Messrs. Hawkins and Bennett have under the name of Duke of Fife. It is a grand double.

## KITCHEN GARDEN.

### NOTES ON TURNIPS.

THERE are now several more or less distinct varieties of Turnips in the different sections. Take the Snowball type, of which we have numbers of supposed good selections. Quality in many Turnips is more a matter of culture than anything else, the nature of the soil making all the difference. Of course age in the roots often makes a difference, but not to such an extent as soil. The Turnip delights in what we may term a calcareous soil, but this must not be poor, or the roots will fail to make much headway. The best quality Turnips I ever had were in a garden near the sea. The soil was rather deep and on the limestone formation. Where Turnips do not succeed, a dressing of kainit should be given, a little salt also being applied, say half an ounce to the square yard. It was after noting what beneficial effects the sea spray had upon the Turnip crop that I was led to apply the salt. Burnt soil is also admirably adapted for the Turnip crop, it being a usual thing for farmers to "soil-burn" for this crop, small fires being kept going at intervals over the piece intended for the crop, the ashes being afterwards distributed over the land. Old garden soils are often unsuitable for the growth of Turnips, and in these cases a dressing of fresh slaked lime would prove of marked benefit, and also help to destroy the disease termed ambury, or finger-and-toe. These soils are generally over-rich in nitrogenous matter, and deficient in those mineral elements needed for the crop.

Commencing with the early varieties, I find the Early Milan is the best. This variety I consider the most useful of what are known as the strap-leaved. It is undoubtedly the most useful for early sowing in the open air, and also for forcing under glass. The Red American Stone Strap-leaf forms a very good succession. The Early Munich is not worth growing. Certainly it was useful, as it was introduced before the Early Milan, and was more to be depended upon than the selections of early strap-leaved that used to be recommended for this purpose. Two or three years since I got together what supposed early varieties I could, both the English and the Paris market forms, but I found for open-air culture in this country they could be very well dispensed with in favour of the Early Milan. If desired after this, the Early Red American Stone may be sown, but I prefer a good selection of the Mousetail, the selections of Snowball coming under this head. So much are the Snowball types liked by many people, that no other is grown. If I was bound down to three varieties, it would be the Snowball, Early Milan and Orange Jelly, selections of the last now being known as the Golden Ball. This latter is a very hardy Turnip, keeping well on to the early spring in the open ground, and coming into use after the Snowballs are all used up. Some people profess to have a liking for yellow-fleshed Turnips, but I do not think they will ever become popular. In the north of England and Scotland they appear to have a greater hold upon the public, but for table use their colour is against them, however good they may be for flavouring. A good early yellow-

fleshed variety will be found in Petrowski. Veitch's Red Globe is a well-known red-topped Turnip, good alike for summer and most excellent for winter use. We now come to what is termed the White-stone section. This is flatter in form than the Mousetails and with a coarser tap-root. I do not care for it for summer use, but it is good for winter. It is largely grown in Essex for the supply of the London markets, and is a good form for sowing late for the supply of Turnip-tops in the early spring. The green-top Stone is also liked by some people for winter, but it is more favoured by cottagers. Last, but not least, is Chirk Castle Black-stone. This is certainly not a very inviting variety, but it has a remarkably white flesh and is very hardy, being, in fact, the hardiest of all, although I must say that I have found Orange Jelly or Golden Ball equally hardy. When not too large, any amount of frost which we are likely to experience never harms them. As a precaution, however, a little soil drawn over them removes all risk, as the quality is better when left in the ground.

A. Y. A.

### BRUSSELS SPROUTS AND POTATOES.

ON page 454 "A. Y. A." expresses wonderment at people persisting in setting out their Brussels Sprouts between rows of Potatoes, and condemns the practice altogether. For the past sixteen years I have both followed that system of double cropping and also taken various opportunities of strongly recommending others to do likewise. In all probability if "A. Y. A." had ever given the practice a fair trial, or say on the lines I have frequently laid down in the pages of THE GARDEN, he would not have been quite so positive that it is so faulty as he would have us believe. It may be he has not been under the necessity of growing all the Potatoes wanted for a large establishment all the year round in only a moderate sized kitchen garden, otherwise I venture to think he would pause before he devoted a quarter of ground wholly to Brussels Sprouts for the best part of a year. We annually dig several sacks of good Potatoes from between rows of Brussels Sprouts, and that, too, without the slightest detriment to the latter. This season the Sprouts could not well be better, yet they have very little more space allowed them than "A. Y. A." seems to consider the orthodox distances. Experienced gardeners need no instruction as to how to arrange their crops, but young hands and novices generally are frequently in a dilemma with their arrangements, especially when it is of great importance that the ground be very closely cropped. Planting Brussels Sprouts between Potatoes is a very simple and effective way of double cropping a good breadth of ground, and there are other good reasons for adopting the practice. Since the introduction of superior strains of the first-named there has been less need than formerly to raise and get out the plants extra early in the year, but it is yet most advisable that they be planted long before any ground can be cleared of Potatoes. Too often the plants are raised much earlier than the ground can be got ready for them, and if kept thickly in seed-beds, boxes, and pans, or if allowed to attain a great size where pricked out, a severe check is given, from which they rarely properly recover. If the seed is sown in gentle heat about the first week in March and the seedlings duly pricked out on sheltered borders, disposing them not less than 4 inches apart each way, they will be fine stuff for transplanting by the time they touch each other. Thanks to having decided to plant between Potatoes, the site is ready for the plants, and no excuse offers itself for any serious delay in transplanting. Where many err is in planting between Potatoes that form strong haulm. These certainly would smother anything placed between them, unless indeed the rows were arranged 4 feet or more apart. My plan is to grow nothing but Ashleafs on the quarter intended for Brussels Sprouts, the rows being dis-

posed 42 inches apart, and if any other short-topped varieties are preferred, the same distance should be allowed these. Directly after moulding up the Potatoes, the Brussels Sprouts ought to be planted midway between them, a distance of 30 inches dividing them in the rows, though 2 feet is enough for the dwarf strains, notably The Bullet, Paragon and Ne Plus Ultra, or Northaw Prize, as it is also termed. When the Potatoes are lifted—and this is done before the plants between want all the room—the soil is drawn up to the stems, and all is then done in the way of cultivation. When this practice is properly carried out, the grower has the satisfaction of knowing that a good crop of Potatoes has been gained and that a fine breadth of Brussels Sprouts has been prepared for the winter.

There is yet another point to be scored. Knowing that the ground must be well prepared for Potatoes, heavy soils are, or ought to be, freely manured now and roughly laid up for the winter. Before planting time arrives it will be well sweetened and pulverised, and this preparation greatly benefits Brussels Sprouts as well as Potatoes; so also would a dressing of quicklime applied now or, better still, next spring, the Brassica tribe never doing really well on manure-sick ground.

W. I.

**Labrador Kales.**—These are of the ordinary curled type, and of a reddish or claret colour. Some are very pleasing, but all have the merit of being very hardy. At present all the Kales wear such a vigorous aspect and seem so luxuriant, that it is difficult to anticipate harm of any description. Still, this luxuriance, because of the recent heavy rains, is the chief source of weakness, and were very hard weather to set in, great mischief might be wrought amongst all the Brassica tribe. Now these Labrador Kales are so hardy, that even where in very hard winters all other green vegetables have come to grief, these have remained unharmed. They are specially fitted for heavy soils or any places where water is apt to give trouble.—A.

**Potato Renown.**—It is amusing to find that there should be no less than three varieties of Potatoes of this name in commerce. I think they are sent out by Messrs. Webb, of Stourbridge, Fidler, of Reading, and Dean, of Bedford. It is odd that one name should have been thus selected by diverse growers, but it is presumably an expressive one. I know only the latter variety, a Victoria-like tuber of great excellence; indeed no sort has brought Victoria to my mind with its yellowish flesh, starchy texture, and good flavour in the same way that this Bedford Renown has. We have given numerous certificates this season to new or seedling Potatoes, but in too few is the old high flavour still found. I am now using one which obtained a great reputation this past season, but the tubers are devoid of quality or flavour. Something far better is needed to satisfy the connoisseur.—A.

### MARKET GARDEN NOTES.

THE season now drawing to a close has been exceptionally favourable to the growth of all green crops. The only drawback is that prices in market are low, and should we get very severe frost it is more than likely that a good deal of loss will ensue. The most important work at present occupying attention is the planting of

**EARLY CABBAGES.** Enormous quantities have been got out and are growing freely; in fact, too luxuriantly should severe frost follow without a covering of snow, the early planted crops being quite half grown.

**CAULIFLOWER AUTUMN GIANT** is being sent to market in great abundance, and seldom have I seen finer heads. Prices are low, but the ground must be cleared, and it is useless keeping back a crop that would be spoilt by the first severe frost we get. Plants of the Early London and other early summer varieties are being put out under



hand-lights or in cold frames, but at present they are kept fully exposed, as they are growing rather too freely.

**CELERY** is now being marketed in fine condition, the season having suited it. The majority of growers only plant white Celery for the very earliest crop, all the midseason and late crops being of the red kinds, not only because of their greater hardiness, but also because buyers favour them when they are carefully blanched.

**LETTUCES** for spring crops are still being planted, the Hardy Brown Cos and several of the Cabbage kinds being used. Small plants are being pricked out on sheltered borders and in cold frames for early spring planting.

**RHUBARB.**—Great quantities of clumps are being lifted and transferred to forcing houses or Mushroom houses, so as to get a full supply at Christmas. Most growers plant a large breadth in the open field for lifting, and do not pull any of the growth during the summer, but allow the plants to mature early.

**SEAKALE** is treated in a very similar manner to Rhubarb, a great quantity of crowns being packed into a small space. The plan of forcing established

**BUSH FRUITS** are being planted extensively. Gooseberries for gathering green are in great request, the large berried sorts like Warrington and Lancashire Lad being largely grown.

**BLACK CURRANTS** on moist rich soil do well. They sell more readily than either Red or White Currants.

*Gosport.*

J. GROOM.

## FERNS.

### NEPHROLEPIS.

THIS useful genus does not receive the attention it deserves, all the species being handsome and of free growth, soon making nice plants. They may also be readily increased by division or from the young plants which spring from the long slender rhizomes wherever they find suitable material to root into. The fact that they may be obtained in this way accounts for the few garden varieties, as the raising of seedlings being a slow process compared with dividing the plants, it is not often that growers trouble



*Nephrolepis davallioides furcans.*

roots in the open ground is now almost obsolete in market gardens.

**FRUIT GARDENS** and orchards are being better done every year more attention being paid to pruning, cleaning the trees and manuring. At present planting is being pushed forward, as the weather is very favourable. The greatest interest centres in Apples, as they succeed exceptionally well in this locality, the crops this year having been both abundant and fine. At present our markets are well supplied with home-grown fruit, some of the old local sorts, such as Deux Ans, being very plentiful. As a rule dwarf trees are taking the place of the old-fashioned standards, and probably a few years hence our home-grown supplies will exceed not only in quantity, but also in quality anything that has ever been known in England before. Good keeping Apples for storing, such as Blenheim Orange, are realising from 7s. to 8s. per bushel.

**PEARS** are being planted pretty extensively as dwarf trees, and really good sorts are a very profitable crop. Nearly all the old orchard trees are of common stewing Pears or very early dessert kinds, such as Windsor or Williams' Bon Chrétien, very good sorts in their way, but not so reliable as kinds that give a longer season wherein to dispose of them. When once established, dwarf Pear trees are remarkably prolific.

about sowing spores. Yet where this is done there will be some reward, for distinct variations will surely be found. I have seen some very distinct and pretty seedling forms.

**N. DAVALLIOIDES MULTICEPS** (to which a first-class certificate was awarded by the Royal Horticultural Society a few months ago) is a very elegant variety. It is a seedling from *N. d. furcans*, from which it differs in the pinnae being narrower, each one terminating in several long narrow segments; the fronds also terminate in a branching crest, some of the fronds being more divided than others.

**N. PLUMOSA** is another seedling from the same source, but when exhibited at a meeting of the floral committee of the Royal Horticultural Society it was considered to belong to *N. exaltata*, and certificated as a variety of that species. The fronds are narrower than those of the ordinary form of *N. d. furcans*, the side pinnae being slightly furcated and rather blunt, the fronds terminating in heavy branching tufts of multifid growths, which in well-developed plants hang down and completely hide the pot. It is hardly necessary to say that this variety must be grown in suspended pots to give the fronds a chance of proper development. Besides the two distinct varieties alluded to above, I have found many other intermediate forms, some of which might prove

equally worthy of distinctive names. I have also found many distinct forms among seedlings of *N. philippinensis*, which, by the way, is one of the most useful species.

**N. RECURVATA**, which has the appearance of being a hybrid, is a most distinct variety, of similar habit to the parent, except that the fronds are larger, the rather long, narrow pinnae deeply serrated and recurved, and of a soft pale green, suggesting some affinity to *N. pluma*, though not inclined to lose its fronds in winter.

**N. BAUSEI** is a fine variety of *pluma*, the pinnae, of a beautiful soft pale green and very feather-like in appearance, being deeply lobed and overlapping each other. Like the parent, this is quite deciduous, and the uninitiated may imagine the plants are quite dead in winter; but if kept in a moderately warm house and with just sufficient moisture to keep the crowns from perishing, they will start away again early in the spring.

**N. RUFESCENS TRIPINNATIFIDA**, though not quite deciduous, generally loses most of its fronds during the winter. The best way to treat it is to take care of the young plants which come from the rhizomes. These, taken off and potted early in the year, will grow away and make much finer fronds than those from the old crowns. To make large specimens, several young plants may be grown together. This Fern requires more care than most of the *Nephrolepis*s. It requires stove treatment and likes a moist atmosphere, but the fronds must not be wetted.

**N. DUFFI**, though not one of the most useful, is an interesting species or variety, whichever it may be. I have never been able to find fertile fronds, although I have searched among many well-developed plants. The absence of spores would suggest it is a hybrid, yet it is so distinct, that it is difficult to form any idea of its parentage. I should be pleased to hear if anyone has found fertile fronds of this Fern.

**N. CORDATA COMPACTA** is another fine variety. The fronds are produced regularly from a crown, growing nearly erect, but sufficiently recurved to make a graceful plant of compact growth.

F. H.

### SOME NOTEWORTHY FERNS.

UNDER this head I would draw attention to some Ferns which are not often met with, or which, if better attention were given to them, would be seen to far greater advantage. We have several kinds in cultivation which are grown in their thousands. However good these may be, and they are undoubtedly so, there must be in time a lack of interest in them. When, therefore, other Ferns can be cultivated, more pleasure is derived in their culture. It happens in many cases that where there is a demand there will in due course be a supply to meet such demand. In most cases this is applicable to Ferns such as I will now draw attention to.

**BALANTHUM CULCITA**, or as it is now termed *Dicksonia culcita*, is one of these uncommon Ferns. It is one of the most enduring of all, being at the same time of slow growth, often only making three or four fronds in a season, but these will last well into the second year. Although classed with what are usually termed Tree Ferns, this species can hardly be termed such, making no real stem, although the crown increases in size, rarely rising much above the pot. The fronds are more palmate than in many of its class, their length rarely exceeding one-third more than the breadth; they are of dense growth, bright glossy green in colour, and more coriaceous in character, being possessed of more substance than the *Dicksonias* usually grown. The soft and dense light brown woolly covering of the crowns is used for stuffing. It will grow freely in a cool fernery, making in course of time a fine specimen. The last really good plant of it I saw was at Knott's Green, Leyton (Mr. Barclay's). Some twenty years ago Messrs. Veitch & Sons had a large importation of it, the plants being beautiful



examples in 6-inch pots. As an excellent lasting Fern for decoration this variety may well be added to any collection. I have grown it thus myself also into specimen size, and always found it attractive by its distinct character.

**MARATTIA COOPERI.**—In alluding to this species, one of the largest growing of all Ferns, I am not going to recommend it when it has attained its largest dimensions. It is rather as a medium-sized plant, when the pot, for instance, does not exceed 1 foot in diameter, that I wish to draw attention to it. When of this useful size it is a worthy companion to our cycadaceous plants which it in some respects resembles. I had a small plant of this Fern in a 4½-inch pot once given me. This in due course made a beautiful plant by the time it was potted into a 12-inch pot. It used to be grown in a cool house, the temperature in very cold weather falling below 40°. It and all of the genus are moisture-loving plants, being almost semi-aquatics in this respect. For the fernery it is particularly to be recommended for its distinct and ornamental character. It was exhibited at the last November meeting of the R.H.S. in the large collection of Ferns shown by Mr. H. B. May, where some readers may have noted it.

**AGLAOMORPHA MEYENIANA.**—This Fern is not at all common, but one that is most interesting by reason of the diverse character of its fronds, the lower portion being entire, whilst the extremities or fertile parts are deeply serrated, somewhat resembling in this respect *Nephrolepis davallioides*, only of much more compact growth, the contrast between one part of the fronds and the other being even more marked than in the *Nephrolepis*. This Fern was also shown in the collection just alluded to.

**ASPLENIUM CICUTARIUM.**—This, although it belongs to a well-known genus, is not in any sense a common Fern. I think it is seen to the best advantage whilst still in small pots, say those of from 5 inches to 6 inches in diameter. Not being a vigorous growing plant, it does not appear to the same advantage when an attempt is made to grow it into a larger size. For the dinner table it is a most pleasing change to the ordinary run of plants so used. The individual fronds have the appearance of being inverted, a peculiarity not common to Ferns in general. The colour of the fronds is a pale pleasing shade of green; they are also much elongated in comparison with their width. The roots I have noted have a woolly look about them; this, however, is, I surmise, but smaller fibres. I have raised it readily from seed, but have noted that it succeeds much better when the pots are full of roots.

**ASPLENIUM LONGISSIMUM.**—This variety should be particularly noted by reason of its suitability for basket culture. In this way I have grown it with fronds quite 5 feet long, from the points of which issue forth tiny plants, adding further to their beauty. It is an evergreen stove Fern, not to be considered safe in the winter in a house ever below 50°, and at that but very occasionally. It makes good-sized plants whilst still in comparatively small baskets.

**CHEILANTHES ELEGANS** (the Lace Fern).—This, one of the most beautiful of all Ferns, should not want recommending, for it is fairly well known. In the cultivation, however, the mistake is oftentimes made of keeping it in too warm a house; rather than do this it is much better in a greenhouse. In my own case I found it thrive very well in baskets, although not what might be termed a suitable basket Fern. Another essential point in its culture is a plentiful supply of water; it should never be allowed to suffer in this respect. The fronds are liable to get broken when in pots amongst other plants, being of a stiff, but brittle character.

**CHEILANTHES HIRTA ELLISIANA.**—This, on the other hand, is a stove Fern; at least, that is the temperature where it thrives best. Like the foregoing, it is a moisture-loving plant, and needs also the same precautions as regards its culture. A ring of wire placed around the plant a few inches above the pot makes an excellent support for its fronds.

**CIBOTIUM REGALE.**—In its genus this is one of the best decorative Ferns we have, being well suited to the cool fernery. It must not be confounded with *C. princeps*, a much stronger growing species. For general use *C. regale* makes a fine specimen whilst still in 12-inch pots if kept well supplied with water. Whilst somewhat smaller, it is an excellent vase Fern, being thus seen to decided advantage.

**DAVALLIA GRIFFITHIANA.**—This is a very distinct species, and one well suited to basket culture, its long silvery grey rhizomes appearing in this manner to the best advantage. It is of medium growth, making if necessary nice compact specimens in pots or pans. This *Davallia* is well worthy of extended cultivation also for cutting.

**GONTOFLEBIUM SUB-AURICULATUM.**—This splendid Fern is seen to the best advantage as a basket plant when suspended in a lofty house. It is useless to grow it where there is not room to suspend it so that the fronds escape injury. It will remain for years in the same basket without a change being found necessary. As a wall Fern where it has room to grow it is also well worthy of notice, better, I consider, than many of the *Nephrolepis*, which are more semi-erect in growth.

**HYPOLEPIS DISTANS.**—This New Zealand Fern makes a beautiful dense mass of fronds, not unlike in some respects a well-grown plant of a *Gleichenia*. Those who grow it must keep it well supplied with water. It is most useful whilst in 6-inch or 8-inch pots, these being completely hidden by the fronds. A good mode of culture is to stand the pot in a pan as a safeguard against want of water.

**PTERIS SCABERULA.**—This Fern may be grown out of doors in damp, swampy places. I have thus seen it thriving well. In pots it is most impatient of water, for when once dry so as to suffer, there is no resuscitating the fronds if they once curl up. A shallow pan is the best for it, so that the creeping rhizomes can be pegged down as they extend themselves. There have been no doubt more failures in the growth of this Fern through want of water than from any other cause.

**ADIANTUM WILLIAMSII.**—None of the *Adiantum* family ought to require recommendation, but I am more impressed than ever with the utility of this, the most beautiful of all greenhouse Ferns. It is a mistake to grow it in warmth. The young fronds are beautiful with the golden farinose powder still upon them, whilst as they attain full size, they are very useful for cutting. Only a few days ago I tested their lasting properties against those of *A. cuneatum* and found them keep better than those of that well-known species.

FILICES.

## ORCHIDS.

### LÆLIA AUTUMNALIS.

I HAVE received a beautiful lot of blooms of this from "B. W. H." There are several varieties of the typical plant which vary only in the depth of colour, and can only be looked upon as sub-varieties or colour forms; of these I would mention Nos. 3, 4, 7, and 8. No. 6 appears to be the variety known as *venusta*, a bold and large flower with a rosy pink tinge, the side lobes of the lip white or creamy white. This form was figured in *THE GARDEN*, Vol. XXV. (p. 433), and is distinct from anything else that I have seen. It was introduced by the Messrs. Backhouse, of York, about twelve years ago. Nos. 1 and 2 appear to be forms of the pure white variety known as *L. a. alba*, recently figured in the "Orchid Album," t. 451. The flower marked No. 2 has a tinge of rose colour on the lip, and No. 1 is not quite pure white. When it is, saving the stain of light yellow at the base of the lip, it is a very chaste and beautiful form. No. 5, a large and bold flower, is the form introduced by the Messrs. Backhouse, of York, and named by them *atrorubens*. It has large flowers, the sepals and

petals of a bright crimson-purple, becoming paler towards the base, the middle lobe of the lip deep crimson, and the side lobes white. This was figured in *THE GARDEN*, Vol. XVII. (p. 229). The above are the forms sent by "B. W. H.," but there is yet another recorded variety introduced by Mr. Sander, of St. Albans, and figured by him in the "*Reichenbachia*," i., t. 10, under the name of *L. a. xanthotropis* with smaller flowers, the sepals and petals being broad and of a soft rose tipped with rosy purple, the lip rich rosy purple with a yellow base. This is a great beauty.

*Lælia autumnalis* has been known in England nearly sixty years. In the early times its culture was not understood, and consequently it was not well done, but the way in which "B. W. H." and also others whom I could mention grow it shows that Mexican Orchids are now better understood. The plant naturally grows in bare sunny spots at 7000 to 8000 feet altitude, and even more. The wet season lasts about five months at this altitude, and during the dry season the plants are exposed to the full sunshine; therefore the treatment under which the Mexican *Lælias* appear to thrive best is one in which they are exposed to the full sun and light. The plants should be liberally supplied with water both at the roots and overhead, and the temperature should be allowed to fall quite low during the night; in fact I do not think it would be out of place at all to let them be exposed to the open air during the night. Some plants which I had upon blocks were dipped in water and hung up out doors after 6 o'clock in the evening. In the morning they were again exposed to the sun's influence under glass. These made much larger bulbs, and produced finer flowers than the plants which were kept indoors. This I find is in accordance with their natural conditions, for I have been told the nights in Mexico are very cold. Some plants which I had, and which were left in the open air entirely, did not make such fine bulbs, neither did they flower in the autumn, whilst those removed to the stove house in the morning and returned to the outside in the evening grew and bloomed well. After growth is completed the spikes begin to appear, and whilst greatly diminishing the supply of water, I like to keep the air moist. A very little soil should be used, the best for this plant being a mixture of good peat fibre and Sphagnum Moss in about equal parts.

WM. HUGH GOWER.

**Cattleya Warocqueana** (W.).—From this gentleman I am in receipt of two flowers, the better of which, he says, comes nearer to the old form of *labiata* than any he has seen lately. One is a very fine form of *Cattleya Warocqueana*, having a broad light rose margin to the front lobe of the lip, which is nicely frilled. It is of a somewhat brighter colour in the sepals and petals than many of the forms, but it is the same as many of the varieties of this beautiful *Cattleya*. The other flower sent is poor, and, but for the season of the year, not worth growing now that we have so many fine *Cattleyas*.—W.

**Lissochilus giganteus.**—This is a magnificent terrestrial Orchid from the river banks in Western Africa, first found by Dr. Welwitsch, but I think it is to M. Linden, of Brussels, that we are indebted for living plants of it. It first flowered in Europe in Sir Trevor Lawrence's garden at Burford Lodge in 1888, and it was exhibited at the Temple show in May of that year. In the same season, but later, a plant was exhibited in flower at Glasgow. This had been grown by Mr. D. Tod of that city and had a spike between 7 feet and 8 feet high. Growing in a wild state it is said to attain some 16 feet in height. The plant flowered again in the fine collection grown



by M. le Duc de Massa in France, who says, respecting its culture, "that the compost is made up of sharp silver sand, loam, and leaf-mould, with cow manure added. From the end of October till May I keep it in the India house, then when I begin to heat my aquarium I place the plant in this, plunging the pot in water. During the resting season I always keep the compost a little moist. It must be repotted every year towards March or April." It is a large and very beautiful flower, measuring between 3 inches and 4 inches across, the sepals being small and reflexed. The petals broad, and forming quite a hood over the lip, are bright rose colour without, but on the inner side they are rosy lilac; the large lip is rosy lilac with darker veins.—*Orchid Album*, t. 457.

#### SHORT NOTES.—ORCHIDS.

**Dendrobium crassinode album.**—This plant has all the characteristics of the species, but the flowers are quite destitute of colour saving the orange blotch at the base of the lip.—*Orchid Album*, t. 458.

**Cœlogyne lactea.**—The flowers of this are white, borne some twelve together on the raceme, and the leaves are particularly noticeable from their thick coriaceous texture. It blooms at the beginning of the year, lasting long in beauty, and may be grown with other Indian Orchids.—*Orchid Album*, t. 459.

**Odontoglossum Sanderianum.**—From Mr. J. Crispin, of Bristol, comes a very fine spike of this plant, which is larger than any that I have seen. It is very nearly related to *O. constrictum*. This species was first flowered by Mr. Rucker many years ago in his celebrated garden at West Hill.—G.

**Odontoglossum triumphans aureum.**—This is a distinct variety, which flowered with Mr. Smee, of The Grange, Carshalton. The sepals and petals have blotches and marks of orange-yellow on a light yellow ground, and the white lip has a large blotch of soft light yellow on the anterior part, with a few smaller spots about the crest.—*Orchid Album*, t. 460.

### TREES AND SHRUBS.

#### DECIDUOUS TREES IN WINTER.

No tree plays a more conspicuous part in woodland scenery during the winter than the Birch, as the trunk and principal branches glisten in the sun like burnished silver, while the slender drooping spray imparts to it such grace and elegance, that it well merits the popular title of Queen of the Woods. When several are associated together, a great deal of individual variation is to be seen, while in the case of the recognised varieties that feature is even more pronounced. That weeping form Youngi, whose thong-like branches hang down abruptly, is very noticeable, but by far the most pleasing is that usually known as pendula, which is simply a form of the common Birch, with the minor branches and delicate thread-like spray more drooping than in that usually met with. A well-balanced specimen of this is charming, and on seeing it one can well understand why the Birch is such a popular tree with most artists. This will come fairly true from seed, though, of course, a certain amount of variation is to be found among the progeny. The Upright Birch (*fastigiata*), as erect as the Lombardy Poplar, is very noticeable among its pendulous relatives, but of course it is very stiff and formal compared with them. The North American Red or River Birch (*Betula nigra*) possesses many prominent winter features, but quite distinct from the common kind. This forms a free, bold-growing specimen, often divided into several branches at a little distance from the ground. The minor branchlets are not so numerous as in the other, neither are they so gracefully disposed. Indeed, it is in all respects a stiffer-growing tree.

Its most noticeable feature is the bark, which partially peels off and remains attached to the stem and principal branches in flakes, which impart a distinct yet wild and picturesque appearance to the tree. The old and semi-detached bark is of a reddish cinnamon colour, while the new which is thus exposed is a kind of brownish buff. This Birch succeeds best in a fairly moist spot, but it will also hold its own well in dry gravelly soils, though of course the rate of progress is much slower. The peculiar manner in which the Plane tree sheds its bark is well known, and especially conspicuous in the winter, while many varieties of our common trees wear a totally distinct aspect in the winter to their normal form. Thus the cork-barked Elm is very unlike our grand old English variety, as the corky excrescence along the branchlets cause them to appear much thicker than they really are, but the one with this feature most pronounced is the North American *Ulmus alata*, which well deserves its name of the Winged Elm. The striped Maple or Moose Wood (*Acer striatum* or *pennsylvanicum*), a good sized, somewhat round-headed tree, has the entire bark from the main trunk to minor branches of a greenish tint clearly striped with white, and very noticeable it is at this season. There is a form of the common Ash with golden bark and another in which it is striped, while the weeping Ash is very pronounced in character when devoid of foliage. Of this pendulous variety there is also a form with golden bark.

The bold and rugged arrangement of the branches in our old English Oaks can be well seen during the winter, when a good specimen forms a highly picturesque object. *Rhus typhina* (the Stag's-horn Sumach), with its sparsely branched head, loses a good deal of its beauty when the large compound leaves drop in early autumn; still, in many cases the inflorescence will remain attached to the leafless branches, and a rather singular effect is produced thereby. *Sophora japonica*, from the rich green bark of its young shoots, is particularly noticeable among the more uncommon trees, and in its weeping variety, whose shoots hang down for some distance, this feature is very striking. The North American Honey Locust (*Gleditsia triacanthos*) has the branches studded with large formidable spines, which give it a very uncommon appearance. No mention of trees with strongly marked winter features would be complete without the Golden Osier (*Salix vitellina*), whose rich yellow shining bark causes it to stand out as a most conspicuous object during a sunny day in winter. Of shrubs, the Dogwood (*Cornus alba*) is the best known and the brightest of all, unless it be its variety *sibirica*, whose bark is of a somewhat lighter and brighter tint. The Himalayan Bramble (*Rubus biflorus*), whose stems present the appearance of having been whitewashed, is very striking; while the warm, reddish brown bark of the clean grown shoots of *Berberis aristata* entitle it to a place in this list. T.

#### Coloured leaves for table decoration.

During the last two months I have found coloured leaves most valuable for dinner-table decoration. A few of the best I used were those of *Rosa rugosa*, which were of a very rich yellow hue. On some bushes in a shady situation they were far better than in the sun. The leaves, again, from a Maple we have in the pleasure grounds died off a particular shade of crimson and yellow. *Ampelopsis Veitchi* has been used with good effect. I find the leaves of some plants of this are far brighter than those of others, although growing side by side. The foliage of *Ampelopsis Hoggi* dies off bright yellow, and may be worth planting beside *A. Veitchi* for contrast. Strawberry leaves

I used with very good results. Keens' Seedling generally turns to a beautiful crimson and yellow, with black spots on them. These I placed two or three together with a single bloom of a *Chrysanthemum* of the same shade of colour in the centre. J. C., *Furde Abbey*.

#### TREE AND SHRUB NOTES.

**CALOPHACA WOLGARICA**, with its pleasantly tinted foliage and bright yellow, pear-shaped flowers, is well worth a greater share of attention as a shrubby and border plant than would appear to have hitherto been the case. Introduced in 1780 from Siberia, it would, judging from the very few specimens one meets with, evidently appear to be one of the neglected shrubs, of which, unfortunately, we have far too many already. This curiously named shrub is of low growth, rarely more than a yard high, and deciduous. Not many days ago I saw a specimen of this *Calophaca* grafted on a standard *Laburnum*, and the effect was charming, the yellow racemes of flowers showing well when thus exalted. It wants a dry place in which to grow, and when established shoots away freely till the height of 30 inches or 3 feet is attained, but this is about the greatest height I have noted. It is known, I believe, under the name of *Cytisus wolgaricus*, and the *C. pinnatus* I have examined would seem likewise to be identical with the above.

**ELÆAGNUS ROTUNDIFOLIA** is another far from common shrub, and which, if only for the silvery-tinted leaves, should certainly be found wherever hardy ornamental shrubs are in demand. That it is perfectly hardy has more than once been conclusively proved, and it has stood uninjured in a by no means warm corner for several winters past. It is a shrub of free, neat growth, and one that may readily enough be increased by layering. The berries, which hang on long stalks, are very ornamental, but the beauty and value of the shrub lie in its silvery foliage—silvery on the under sides at least—and neat habit of growth.

THE BROAD-LEAVED SPINDLE TREE (*Euonymus latifolius*) is deservedly worthy of special commendation, it being one of the showiest and most valuable of big-growing shrubs. Of the dozen and more species of *Euonymus* in cultivation, not to speak of the number of varieties, none can compare with the one in question as a good all-round useful shrub. Both grace and beauty in no small degree are possessed by the broad-leaved *Euonymus*, the long and lithe branches bearing quantities of the curious orange-red berries in the autumn and early winter. Few shrubs or trees when leafless in winter have a more attractive appearance than this *Euonymus*, this being caused by the unusually clean and reddish green bark. It is well adapted for planting by the margins of woodland paths, as it will succeed even beneath the shade and drip of large-growing trees.

**PHILLYREA VILMOBINIANA** may now be said to be perfectly hardy, for it has received no appreciable damage from the past two or three winters' frosts. The large, dark green, leathery leaves, which at first appear of a bronzy or reddish tint, render the shrub conspicuous, while the fragrant flowers still further add to its distinctive beauty. It makes good headway in light, friable, peaty soil, the young shoots being strong and firm. Where a shrub of distinct appearance is required, this *Phillyrea* will answer well, and may be used for a great variety of useful purposes, such as the front of the shrubbery or in groups on the lawn.

THE DOUBLE-FLOWED CHINESE CHERRY (*Cerasus serrulata*) grows to about 8 feet in height, and is decidedly one of the most useful and ornamental of its tribe, and well worthy of being brought under notice at present when planting is now being carried out. Of somewhat erect, but by no means stiff outline, and with stout branches, this Cherry, if only for its conspicuous and large double flowers, is well worthy of being added to any collection of shrubs. Introduced about 1822 from China, this particular form has



hardly been well received if we judge from the few specimens of it that are to be found in our parks and gardens. The flowers are at first white, but later on tinged with pink, and of unusual substance, lasting as they do for a great length of time.

THE RED BIRCH (*Betula nigra*) is just now very distinct from the reddish tint of the bark and stems and branches of the trees. Planted side by side with our native tree, the effect produced in winter by the white or silvery bark of the one and deep reddish purple of the other is remarkable, and worthy of being repeated in any ornamental grounds. Single specimens are not so effective as clumps of three or five of each kind, a fact that it is well to bear in mind with most trees. It does not appear to be too exacting about soil, that of very inferior quality having produced fairly good healthy specimens, while on gritty rock I have known it to do well. A. D. W.

#### SMALL CONIFERS FOR A COLD HOUSE.

THIS is a difficult subject to advise upon, as there are really few conifers of the size and habit desired by your correspondent that are available for such a purpose. The delicately beautiful conifer of the Larch tribe alluded to puzzles me, as there is really no conifer to which the description would apply. Most conifers whose normal height is from 2 feet to 4 feet are broad and bushy in outline, while at the end of an unheated structure it will be necessary to have quite hardy subjects. *Cupressus Lawsoniana erecta viridis* will in pots be some time before it gets too tall, but this is of a dense columnar habit of growth. The little narrow pyramidal-shaped *Retinospora leptoclada* with its greyish green foliage is very pretty and will retain its freshness for a long time in pots; while the Huon Pine (*Dacrydium Franklii*), with its slender partially pendulous branchlets, might, if the winters were not too severe, serve for such a purpose. If a slim habit of growth was not absolutely necessary, I should be inclined to name *Prumnopitys elegans*, a pretty little Yew-like bush that is fresh and cheerful at all seasons, and *Thujopsis dolabrata*, a very chaste Japanese conifer. A smaller form of this—*latevirens*—like one of the *Selaginellas*, but of a low, rather spreading habit, is a very beautiful conifer for pot culture. Of plants other than conifers may be mentioned the Chilean Azara *microphylla*, whose regular frond-like branchlets are clothed with small roundish leaves of a deep green hue. The smallest evergreen *Cotoneasters*, such as *microphylla*, *thymifolia* and *congesta*, which in winter are lit up by their little brightly-coloured berries, are very pretty; while some of the Japanese evergreen forms of *Euonymus* might be of service. The same may be said of that curious Privet (*Ligustrum coriaceum*), whose very thick leaves are of an intense deep green hue. After all, perhaps the best results would be attained by using some of the choicer and more moderate growing Ivies, as secured to a slight trellis they form very pretty screen plants, while there is a considerable amount of variety among them and all are thoroughly hardy. Unless in especially favoured districts, the Norfolk Island Pine (*Araucaria excelsa*) would, I am afraid, be too tender to winter in a satisfactory manner in an unheated house. H. P.

**Spiræa Bumalda.**—This shares with the white form of *S. callosa* the merit of being the latest to flower of all the shrubby *Spiræas*, for a little bush of it in a sheltered position has here (November 12) still a few clusters of its pretty pink blossoms. Though probably but a variety of *S. callosa*, it is certainly a very pretty *Spiræa*, of which there are several forms, among them one with variegated leaves; but the gem of the whole of them is undoubtedly Mr. Anthony Waterer's Beauty of Knap Hill, which was last year awarded a certificate by the Royal Horticultural Society, the blooms being much brighter in colour than those of the type. Besides this, M. Lemoine sent out last autumn a *Spiræa* under the name of *S. Bumalda ruberrima*,

which was announced as a hybrid between this last-named and the tiny *S. crispifolia*, or *bullata*, as it is often called. At one of the horticultural meetings held at Earl's Court during the summer I noted several little bushes of the ordinary *S. Bumalda*, which were grown in pots and full of blossom, and very pretty decorative objects they formed. As a body, the flowering season of the shrubby *Spiræas* is spread over a lengthened period, commencing with *S. Thunbergi* and the double-flowered *S. prunifolia* flore-pleno quite early in the spring, till in some cases autumn is well advanced. The foliage of this last-mentioned often dies off brightly tinted, and in this respect it differs from most *Spiræas*, as they are not remarkable for their autumn tints.—T.

#### ROSE GARDEN.

##### ROSA RUGOSA.

THIS vigorous, free-growing Rose may most appropriately be considered to have two seasons.



*Rosa rugosa* flowers loosely arranged. From a photograph sent by Mr. J. McWalters, Armagh, Ireland.

First there is the flowering season, which of itself is a long one, and then almost before the last blooms have faded the first of its beautiful waxy-like fruit will have assumed their brilliant colouring, varying from orange-red to deep red. These latter would last even longer than they do if it were not for the partiality the small birds have for them when ripe. For many weeks past in my own case (nay, months, for the fruits have been making a good show since early in September) these Roses have been most attractive. Having used some of the fruits for decoration at harvest festivals, I can testify to the good effect produced, whilst the attraction they have created has been as great. In home decorations also these may very advantageously be used, lasting so long in good condition. Having grown both the white and the crimson varieties of this Rose ever since they were first brought into notice, I can testify to their usefulness in a garden. The flowers will not last so long when cut as the double Roses, but this is not everything when flowers are so plentiful. The blossoms in a cut state afford such a pleasing change to the ordi-

nary run of Roses, as to create at once an amount of distinctive interest in them. By reference to the engraving which accompanies this article, the beautiful appearance of the foliage will at once strike a close observer as being so distinct and handsome; this it really is in fact, and of such a lasting character too. The foliage is very useful during the summer-time to accompany other Roses for this very reason. As to soil, it does not seem to be at all particular. In my case the plants were put into a peaty mixture which previously formed an old *Rhododendron* bed. In this they have always done well, growing in fact too luxuriantly. These plants were formerly dwarf bushes, but finding they were encroaching too much on other things, I selected one straight strong shoot from each, which was then turned into a standard, all the rest of the branches being cut away. I would only recommend this treatment where the room was all-important, because of the two I think the bushes preferable. Only recently I saw large masses of this Rose

in the woodland or wild garden at Mr. H. H. Gibbs, Aldenham Park, Elstree, where Mr. E. Beckett drew my attention to them. I see no reason whatever why this Rose should not be extensively grown in this manner. I have noted in my own case that seedlings come up spontaneously. H.

#### ROSE NOTES.

"RIDGEWOOD'S" remarks always interest me and probably most rosarians. In reference to those on page 478, I have never seen *Comtesse de Nadaillac* growing very robustly anywhere. Possibly in Mr. Burnside's garden at Birch Vicarage it grows better than at any place I have visited, but all his Roses seem to have very strong healthy wood. It is delightful to see his *Marie van Houtte* and other Roses. I have never seen such *Teas* anywhere. I believe the greatest exponents of *Nadaillac* are Mr. A. Hill Gray, of Bath, Mr. Burnside, Mr. Prince, of Oxford, Mr. Girdlestone, and I should think Mr. Berners. Of course Mr. B. Cant and Mr. Frank Cant both show it excellently well also. Horace Vernet is such a splendid Rose, and I admire it so much, that "Ridgewood" alarms me by his saying it dies in infancy. I have



grown it for some years in a sort of trial way, but this year, fired by the extraordinary exhibit of twelve Horace Vernet at our Croydon show by Mr. Prior, of Colchester, and also by the superb specimens I have seen grown by Mr. Colin Romaïne (whose great Rose it is), I have planted a good many (for me), and now I look forward to their being consigned to an early grave in my dust-bin, that is if "Ridgewood" be correct. He gives them two years at the most!

Pierre Notting used to grow splendidly with me, but as it requires a comet or jubilee year to develop its blooms, or a summer like 1889, I gave it up as a bad variety for a small grower. I agree thoroughly with what "Ridgewood" says about A. K. Williams. It seems to me also to be improving; anyhow I had the best specimens this year which I have ever grown, and I have taken our local N.R.S. medal in previous years for this variety; but my best show blooms of A. K. Williams were all over by the end of June, in the short burst of heat we had previous to the N.R.S. meeting at the Crystal Palace. I think we shall find Mme. Cusin and Mme. Hoste to be Roses which will give increased satisfaction as they are more generally grown, and they are first-rate for all purposes. Although Mme. Cusin was introduced in 1881, it seems comparatively a new Rose, its great merits being slow to become appreciated. Mme. Hoste was simply glorious this year.

Croydon.

C. J. GRAHAME.

#### FORCING ROSES.

It is not often that we meet with Roses that are being forced for early blooms growing in the same healthy and pleasing manner as plants that are not started until February. And yet there is little reason for this, provided one commences with properly matured plants and continues to treat them on the right lines. Perhaps there are few plants more disappointing than early forced Roses when badly grown. Partially ripened plants soon push into new growth, but it is almost always of a weak and puny character. Needless to say, it is impossible for such to produce blooms of satisfactory quality. To secure good Roses under the strain of early forcing, it is absolutely necessary to commence with well-matured wood and established plants. When either of these essentials is wanting, the results are certain to be disappointing. There is a further essential in forcing Roses successfully; that is, to start them gradually and with as little unnatural excitement as possible. If started in too hasty a manner, the sap in the wood is excited and put into premature activity. This should not be until the roots are able to produce a further supply. If you exhaust the sap in the wood by the production of new leaf-growth, you must expect a check of greater or less severity according to the state of the roots. Too much impatience in starting Roses and too high a temperature in the earlier stages are the chief causes of so many partial failures. Nor should one attempt to force weakly plants, as unless they have a good constitution it is hardly possible for them to produce blooms of any merit, especially when under the strain of early forcing. There is also a great deal in making a judicious selection of varieties, always choosing those that are naturally free flowering. It is also wisest to select kinds that are not too double, as they will expand more freely, and are much less liable to damp in the centre or to produce what are styled gummy buds. Many Roses that are practically useless during the summer, owing to their flying open so rapidly and possessing few petals, make the finest of all Roses for winter blooming. During this time they will not expand too freely, and will retain a close and pleasing shape for a long time. Of all flowers perhaps Roses in winter are the most appreciated, and with a little care and consideration it is by no means difficult to have them. I will not give a selection of suitable varieties, as they are now very numerous; suffice it to say that all free bloomers, of not too double and globular character, are well adapted for early or

winter forcing. I have known many batches of good pot Roses spoil for early forcing by being pruned and then stood in the forcing house at once. A very little thought will show the folly and unnaturalness of this. Summer does not burst upon us in a day. And yet that is practically what such treatment amounts to. All Roses intended for early forcing should be pruned without delay if not already done. By standing them in a close pit for a month or six weeks previous to removing them to the forcing house, you get the eyes plump and forward, and the sap about equally in action with the roots. A very little artificial heat is needed during the first month of forcing, letting the temperature increase gradually, and never exceeding 65° to 70°. The latter is quite high enough for Roses under the most highly forced conditions. Great care and attention will be necessary in the application of water, and perfect cleanliness must be secured. Drought at the roots, a few insects, or a slight attack of mildew make great havoc among early forced Roses. As the plants attain a fair amount of leafage, liquid manure is very beneficial and in many cases almost a necessity. Much better results will be secured if Roses are not forced until the days are well turned. Those possessing only a few ordinary greenhouses that are doing duty for a miscellaneous collection I would not advise to force Roses at all. Their best plan would be to wait until they come on in a more natural manner, simply affording them the heat and protection accorded to ordinary greenhouse plants.

R.

### SOCIETIES AND EXHIBITIONS.

#### ROYAL HORTICULTURAL SOCIETY.

NOVEMBER 15.

**INJURY TO PLANTS BY FOG.**—In accordance with the proposal of the scientific committee made at the last meeting, the council of the Royal Horticultural Society have passed the following resolutions in reference to the investigation of the nature and injuries to plants by fogs.

1. That the Royal Horticultural Society, through its scientific committee, having devoted considerable attention to the effects of London fogs on cultivated plants, is of opinion that the increasing prevalence of these fogs is causing great inconvenience and loss to horticultural interests within the metropolitan area; and as these interests are associated with one of the largest and most important enterprises of plant cultivation under glass carried on in any part of the world, it is a matter of the greatest importance that the circumstances connected with the chemical composition of these fogs, their origin and extent, the amount of sulphurous acid contained in them, as well as the diminution of light caused by them, should be carefully and exhaustively investigated.

2. This society, being also of opinion that London fogs are detrimental to public health, and are calculated to render London an undesirable place of residence for many months of the year, as they interfere with trade and public business, and cause serious loss to the community generally, invites the co-operation and support of kindred societies and all organisations interested in the subject, in a representation to the London County Council to institute an inquiry into the causes and circumstances of these fogs, with the view of reducing their injurious character, or if possible removing altogether the causes which have led up to them.

On the suggestion of the scientific committee the council agreed to set apart one of the propagating pits at the Chiswick Gardens for the purpose of carrying out experiments during the current winter to mitigate the effects of fogs on cultivated plants. It was also agreed to inform the Chiswick Board of this arrangement, and to request the superintendent to give what assistance he could in carrying out the suggestions of the officers placed in charge of the experiments.

Dr. Russell stated that he thought it would be of great importance with regard to the fog question if a comparative and simultaneous series of

determinations of the amount of light could be carried out at once, both in the city and outside London, in order to thus obtain a more exact idea of the enormous loss of light experienced in the city during the winter months. With the object of familiarising himself with the method adopted by the Manchester committee, he was experimenting with their process.

#### APPLES AT THE HEREFORD FRUIT SHOW.

If anything was wanting to dispel the idea that good Apples could not be grown in Britain, a visit to the late fruit and Chrysanthemum show held in the Shire Hall would have dispelled that illusion, as on all hands the exhibition under notice was considered one of the finest ever held both as regards quantity and quality. It also showed that we could produce as good or better quality Apples in this country than could ever be imported. I well remember the fine shows that used to be formerly held under the auspices of the Woolhope Club, the leading spirit of which was the late Dr. Henry Bull, a name all fruit growers should honour, as having done so much to rescue some of the finest old fruits from oblivion. The show here noted was a worthy successor, and showed the steady advance which had been made in the cultivation of the Apple, for which the climate and soil of the county are so eminently adapted.

The present depressed state of agriculture suggested to the public-minded citizens of Hereford and prominent gentry and landowners of the county, aided by a hard-working executive, that something should be done to arouse interest in the cultivation of a fruit so eminently adapted for the soil of the county, so as to bring more directly under the eyes of the public the quality of fruit that could be produced, and also to stimulate farmers to take up the cultivation of the Apple in a proper manner. Mr. Coleman, who with Mr. Barron acted as judge, said that the soil of Hereford was of the best possible, it being a deep yellow loam, overlying the old red sandstone formation, conditions which gave colour and flavour to the fruit. He also stated that even in the case of cider fruits the cider produced from Apples growing on the old red sandstone formation was vastly superior to that from the limestone, this latter being very thin and destitute of colour, and not keeping so well. The late Thomas Andrew Knight's theory was that it was not exactly the soil that made Herefordshire so celebrated for its cider, but the special varieties of fruit grown for the purpose. This has been proved to be entirely wrong, as the soil, and that alone, produces those constituents which enter into the composition of the fruit for the making of good cider.

One of the most interesting exhibits connected with the show was the fruit-packing competition, the conditions being that two packages in connection with each exhibit should be sent, one to be opened by the judges, and the other left intact. To show the extent of this portion of the exhibition, it took upwards of two hours to judge. Every point was taken into consideration—the kind of package, manner of packing, quality of fruit, &c. There were boxes, barrels, sieves, market flats with lids, pot hampers, &c. The market flats found the most favour, as besides being easy to open to show the buyer the quality of the fruit, the lids were quickly and effectually refastened. The bottom and top were padded with a thin layer of clean straw and lined with blue paper. The pot hampers were packed something similar, but had a straw cover only, this being kept in its place by wooden splints. These also the judges were particularly struck with, but on account of the straw covering they felt they could not give them the preference on account of the difficulty of refastening the top after opening—at least, not without some trouble. One lot I noticed was packed in wooden boxes, the fruits being laid sideways, and on the top of the fruit was a sheet of blue tissue paper. I was also particularly struck with the neat baskets set up by the English Fruit and Rose Co. These were flat wicker trays and showed the fruit off nicely.



The question of grading the fruit was brought prominently forward. A gentleman stated that an acquaintance of his, a large fruit grower, received double the money for his fruit now that he carefully graded it. In fact, he often received the same money for the smaller fruits as the larger, simply from being an even sample. I may mention that the varieties of Apples packed in the hampers, &c., were principally Blenheim and King of the Pippins. The latter looked very pretty, and there cannot be any question about its being a fine market dessert Apple.

As regards the question whether there is a market for well-grown British Apples, it is the same old tale. A gentleman who had made a special visit to Covent Garden Market to note the condition of the Apples, so as to give his views to the meeting, said at the luncheon that what he saw as English Apples were simply a disgrace to the country, whilst by their side was well packed and graded American fruit of excellent colour. The culture of Apples is in our own hands, but, as stated by Mr. Cranston, there must be a readjustment of railway rates so as to enable the grower to put his produce in the market with profit. There should be also an understanding between landlord and tenant. The latter cannot be expected to incur any outlay when his tenure is so uncertain.

Amongst many others the following gentlemen helped to make the Hereford show a success: Mr. J. Watkins, Pomona Farm, Withington; English Fruit and Rose Co.; Messrs. G. Bunyard and Co., Maidstone; Mr. C. Lee Campbell, Gleaston Court, Ross; Lady Emily Foley, Stoke Edith; Mr. J. Rankin, Bryngwyn; Mr. J. Pulley, Lower Eaton; Mrs. Evans, Moreton Court, &c. Y. A. H.

## NOTES OF THE WEEK.

**Crocus Scharejani.**—This vivid orange-flowered species, now in bloom under a sunny wall, is one of the most delightful of all the winter blooming kinds. It seems delicate in constitution, however, even on warm, dry soils.—B., Dublin.

**The Tea tree in Shropshire.**—One of your correspondents asks if the Tea Tree is hardy in England. I have had one here planted out in the open garden since 1875; it stands the winter well. I bought my plant under the name of *Thea Pekoe*.—T. M. BULKELEY-OWEN.

**The Winter Jasmine** (*Jasminum nudiflorum*).—This is rightly placed is one of the best and brightest of all winter-flowering shrubs. Growing amongst Ivy of various kinds it is now most lovely, and a mass of it mixed with the so-called Purple Ivy (*Hedera atro-purpurea*) would be a novelty in many gardens. We have it mixed with *Cotoneaster Simonsi*, and shall try and blend it with *C. microphylla* also. It is so easily increased by layers under stones, that a large stock is soon obtainable, and during dull wintry days its golden flowers are most desirable.—F. W. B., Dublin.

**Narcissus remopolensis.**—This variety of the variable *N. tazetta* has been fully in flower for several weeks on a warm and slightly heated border in front of one of our hothouses. It is one of Panizzi's species near to *N. italicus* and grows wild near San Remo. The only figure of the plant I know is in Bicknell's "Flowering Plants of the Riviera." As a hardy plant, it is the first to bloom of all the bunch *Narcissi*, opening its flowers outside just when *N. papyraceus* does so in a warm greenhouse. It bears four or five starry white flowers on a scape 12 inches to 18 inches in height. The cup is narrow and elongated or cylindrical and of a soft pale yellow colour, and the flower is delicately scented.—F. W. B., Dublin.

**Parc Tete d'Or at Lyons.**—This park, as recently alluded to in the *Field* and in THE GARDEN, is just what is there said of it, a bold and well-planted space near one of the finest and most picturesque of French towns, but artistically ruined by ugly plant houses and by carpet bedding, and by the cages for wild beasts and birds. From a purely botanical point of view it has splendid collections of plants, and on a boulder stone in the

rockery, I saw a vigorous tuft of that alpine rarity, *Eritrichium nanum*. In the Palm house is a plant of *Acanthorrhiza Warszewiczii*, perhaps unique in size and health; also a splendid specimen of *Phoenix humilis*.—B.

**At Marseilles.**—Here, in the region of the Aleppo Pine and the flowery Oleander, there is much good gardening. The Parc Borelli lies near the sea, but gives from some elevated points splendid views of the rocky Mediterranean coast and of the mountains behind. There were noble masses of a tall *Canna* (Geoffrey St. Hilaire) and splendid groups of *Arundo*, *Pampas* and *Eulalia* Grasses, but here, again, the carpet-bedding mania, and some weak and ridiculous designs on a grassy slope at the foot of a noble grove of *Pinus halepensis* worthy of a journey to see—noble old trunks upholding light and feathery heads of grassy green foliage against a clear blue sky were in evidence.—B.

**Snowdrops.**—*Galanthus octobrensis* opened its first flower during the last week of October and has been in bloom ever since. Our little tuft is stronger and healthier than ever this year, and bore four fine flowers. Another *Snowdrop* now in bloom is one from Corfu, kindly sent by Mr. J. Allen in 1889. It does not seem to be the true *G. coreyensis*, although flowering about the same time, and it appears to be delicate, as only one of three imported bulbs as sent here has survived. *G. Rachelæ* is just sending up its leaves, but of the more robust *G. Elæ* there are as yet no signs above ground. None of these autumnal *Snowdrops* seem to form clumps or masses as does the common *G. vernalis*.—F. W. B.

**Apple Egremont Russet.**—The first time I became acquainted with this Apple was at Messrs. Cheal's nursery at Crawley. I have occasionally met with it since, but never in better form than exhibited by the English Fruit and Rose Co. at the late Hereford fruit show. This Apple prefers a warm and well-drained soil, the old red sandstone of Herefordshire appearing to suit it admirably. Nowhere else have I seen Russets succeed better than in that county. It should be a useful Apple for Christmas, a time when it would undoubtedly fetch a good price. The Boston Russet is well known in our fruiterers' shops from Christmas onwards. The Egremont Russet should be tried for the same purpose by our market growers.—Y. A. H.

**Pear Marie Louise d'Uccle.**—I never liked this Pear for dessert, as even if it came juicy, which it does but seldom, it is of very poor flavour. For stewing it is an excellent Pear, and for this purpose I have been using it largely this season. I do not think that Mr. R. J. G. Read will ever find it of use for dessert. It is a good grower, enormously prolific, and when well grown a very handsome Pear. If it was only of as good quality as the old Marie Louise, it would far out-distance this old favourite. Marie Louise is, I believe, one of its parents, but only partakes of it partially in its outward appearance. It is, however, not so long and the stalk is shorter. On a cold soil even it bears most profusely. Last year I allowed the fruits to remain on the trees rather too long, with the result that they turned like Mr. Read's. This season they were gathered earlier, when those which I left over from stewing have become quite juicy and melting, but the less said about flavour the better.—Y. A. H.

**Apple Golden Noble.**—In the present age of fruit tree planting some of our good old kinds are apt to be thrust on one side, the variety in question being one of those. There is supposed to be some confusion concerning the nomenclature of Golden Noble and Waltham Abbey Seedling, but the two are quite distinct. The former is almost as round as an Orange, although flatter, and perfectly even in outline, the skin of a clear golden colour. Waltham Abbey Seedling is more conical and not so clear in the skin. The stalk of Golden Noble is shorter and stouter than that of Waltham Abbey Seedling. This latter point may seem of minor significance to some people, but more fruits are determined from the stalk end than the eye end. Golden

Noble is a splendid Apple either for market or home use. It forms a very handsome and prolific standard, a style it is admirably adapted for. It should be worked on a rather low stem. No pruning is necessary, as it bears freely on the ends of the shoots. It is also remarkably prolific on the English Paradise stock, and is in use from the time of gathering until February.—Y. A. H.

**Tritoma grandis.**—*Tritoma grandis* has been very fine this autumn. It commenced to flower a fortnight late (October 15). Plants with twelve to fifteen strong spikes of bloom have a very striking appearance; the orange-scarlet, glowing in a burst of sunshine, makes one forget winter is so near. Is it because, like the *Chrysanthemum*, it comes when flowers are so scarce that one prizes it so much? *Fuchsia Riccartoni* and even *Dahlia Juarezii* are still flowering here.—WM. ALLAN, *Ganton Park*.

**Acacia platyptera.**—This species may certainly be included in the half-dozen *Acacias* best adapted for cultivation in pots. Not only is it quite different in style of growth from any other species commonly cultivated, but it is the first of any note to flower; the *Acacia* season may, in fact, be said to commence with it. It is one of the comparatively few *Acacias* with winged stems; the only other species I can call to mind having this character is *A. alata*. Most of the *Acacias* in an adult state have no proper leaves, the functions of these organs being performed by leaf-like phyllodes, but in the species under notice the phyllodes themselves are almost entirely absent, their place being taken by the flat, foliaceous wings on the stems; these are about an inch in width and covered with short hairs. The flowers are bright yellow and spherical. The plant is of somewhat loose, straggling growth, but is easily brought into graceful form by one or two supports. It has been in cultivation for over fifty years, coming, like so many other beautiful Australian plants, from the Swan River region.—B.

**Mystacidium distichum.**—The genus *Mystacidium*, comprising about a score species, is very nearly allied to *Angraecum*, and, like the latter, is of African origin. The species here noted has indeed been known also as an *Angraecum*. It is a curious little plant, but is also a pretty one, flowering very freely during the autumn months. The leaves are very short and fleshy, scarcely half an inch long, and are closely imbricated on the thin wiry stems. These stems are from 6 inches to 8 inches long and produced in a tuft, the flowers occurring singly in the axils of the terminal leaves. Each flower is a quarter of an inch across and pure white, the large number compensating in a great degree for their small size. This little Orchid is a native of Sierra Leone, whence it was brought to this country in 1834. About five years ago a species of *Mystacidium*, *M. filicorne*, was introduced from Natal. It was a very pretty plant, equalling some of the smaller species of *Angraecum*. A considerable number of plants was imported, but not many seem to have survived—at least we have not seen it for some time. It bore pendent spikes of pure white and charmingly fragrant flowers.

**Metrosideros buxifolia.**—The genus *Metrosideros* is scarcely known in gardens except by name, the plant commonly grown as *M. floribunda*—a bottle-brush plant—belonging properly to the allied genus *Callistemon*. It possesses a few species of some horticultural value, and amongst them may be included *M. buxifolia*, also known as *M. scandens*. In the temperate house at Kew a specimen is growing up a tree stem, and is throughout the whole year very pretty and elegant. This, however, is due almost entirely to its small, dark green, Box-like leaves and singularly graceful manner of growth, its flowers being not at all showy. The stem to which it is attached is about 12 feet high and it has almost covered this, but a large proportion of its thin wiry branches hangs free. The leaves, which are closely packed on the stem, are half an inch long, elliptical and of leathery texture. It blooms during the autumn, the flowers being white and conspicuous chiefly for the stamens, as is the case throughout this and



allied genera. *M. buxifolia* is a native of New Zealand, and is described as climbing to the tops of the highest trees in that colony. An illustration of it appeared in the *Botanical Magazine*, t. 4515.

**Autumn-flowering Carnations.**—Being much interested in Carnations that have a habit of flowering in the autumn, I called at Messrs. Veitch's nursery partly to see the bed of Winter Cheer Carnations referred to in the pages of THE GARDEN as being still in bloom in the open border. Knowing this to be a fine winter variety for flowering in pots, I was greatly pleased to find it so good an autumnal one. It is of rather a dwarf habit, but sturdy and vigorous withal, and full of flower and buds in various stages when I saw it (November 18). I am looking out for border Carnations having this valuable characteristic. I have two in Celia and Pride of Penhurst, and should be glad to add to the number provided they are vigorous growers and sweet. A Carnation without fragrance has no charms for me. A gentleman who saw Celia in flower here and learnt it was so valuable for late flowers said, "You should grow Pride of Penhurst. I have it in flower from July to November in Suffolk in the open border in my garden." We had an exchange of plants last year, and I have had an abundance of flowers of the two varieties up to the present time (November 28); there is plenty of buds still to open. I should have had quite a wealth of bloom through October had not the unusual rainfall for that month rotted the flowers when opening.—WM. ALLAN, *Gunton Park*.

**Cestrum aurantiacum.**—The value of this plant for the greenhouse has on several occasions been pointed out in these columns, yet its beauty during the latter part of the year is so striking, and it is so different from anything else in bloom at the same time, that it well deserves further notice. It is very different from its fellow species, *C. fascicularis*, and is quite as well worth growing. It bears dense panicles of orange-yellow flowers with the greatest freedom from August up to November, and even then is only usually stopped by fogs. Individually the flowers are about an inch long, tubular, and slightly contracted near the mouth, as in *C. fascicularis* and *C. Newellii*. To obtain this plant at its best it should be grown in an inside border of rich soil and trained up a pillar or wall, or even a stake. It is a plant of dense yet graceful habit, and may be grown to almost any size up to 15 feet. It can be kept at the required size by yearly pruning, choosing some time between now and the beginning of February for the operation. The only other matter respecting its cultivation which need be mentioned is that it should have abundance of water during the summer. It strikes very readily from cuttings, which if put in early in spring may be used during the following autumn for shelf plants, and also for a season or two after. The plant is, however, too gross a feeder to be satisfactorily grown in pots, and should, if possible, be planted out. *C. fascicularis* with bright rose-coloured flowers is well worth growing, a remark which applies still more strongly to *C. Newellii* (which is a variety of it), whose flowers are almost scarlet in shade.—B.

**Apples from Cornwall.**—I herewith send you some Apples for your opinion. No. 4 is Sops of Wine, a great favourite here in Cornwall, the demand for this exceeding the supply. Our trees of this variety have borne remarkably good crops this season. No. 5, Orde's Apple; 6, King of the Pippins; 7, Cornish Gilliflower; 8, Cornish Aromatic; 9, Aromatic Russet; 10, Margil. The flavour of the last in my opinion very nearly approaches Cox's Orange. I am glad to say we are not troubled here with the spot and decay of Apples referred to by W. Iguldin in a recent issue of THE GARDEN. Our orchard is 4 acres in extent, and we have had a wonderfully heavy crop, the fruit clean and coloured above the average. I attribute part of our success here to the mulching of the roots during summer. Ours is a Grass orchard, and the Grass being so coarse in its texture is unfit for cattle feeding, so we cut with the scythes twice during the season, and in-

stead of consigning this to the rubbish heap we place it round the roots of the trees, this naturally helping to retain the moisture, and as it decays serving as manure. Although almost in the centre of a large Apple-growing district, our fruit fetches good prices, some of our Apples making as much as 7s. per 100. Although we have had such heavy crops the demand for them exceeds the supply, and that without sending any out of the town.—WILLIAM HICKS, *Camborne, Cornwall*.

\* \* A most interesting series of well-flavoured Apples, of which decidedly the best is Margil, as sent to us. It is a much neglected Apple, and we believe if well done that Cox's would not surpass it for table. Aromatic Russet is a handsome Apple, but as sent to us the flavour is very poor. Apples are so often sent not in their best condition, that it is not always fair to judge them, and no ill-flavoured Apple is worth growing for any purpose.—ED.

**Dendrobium aureum.**—Although the usual flowering season of this Dendrobe is the first weeks of the new year, it may frequently be seen blooming as early as November; by treating plants successionally, it may be had in flower for more than three months. In mere showiness it is superseded by several species of *Dendrobium*, but in regard to fragrance it is certainly second to none. No plant flowering in midwinter brings to mind so vividly the thoughts of spring with its Primroses and Violets as does this Orchid, whose blossoms have a strong fragrance resembling both. The species is spread over a good many degrees of latitude in a wild state, being found as far south as the Philippine Islands and Ceylon, and as far north as the Khasya Mountains. It was from the latter district that it was first introduced to cultivation by Gibson, the Duke of Devonshire's collector, in 1837. The flowers are each 2 inches across, the sepals and petals of a pale creamy yellow, and the lip of a deeper yellow, marked on the centre with brownish purple streaks, where also it is covered with a velvety pubescence. When well grown and ripened off, the pseudo-bulbs, on the upper half at least, are quite hidden by flowers. It may be grown the same as *D. nobile*, but finishes growth earlier in the season, and should therefore be removed to drier, cooler quarters sooner than is advisable for that species. A variety known as philippinense, not very often seen in cultivation, is distinguished by its much longer stems (perhaps 3 feet), but its flowers have not the fragrance of those of the typical form, although they are somewhat larger.

#### THE EARLIER OPENING OF KEW GARDENS.

A DEPUTATION from the Richmond Town Council lately waited upon Mr. Shaw-Lefevre, M.P., First Commissioner of Works, for the purpose of urging upon him that Kew Gardens should be opened to the public at 9 o'clock in the morning, instead of 12, as at present. Several members of the deputation having spoken, Mr. Shaw-Lefevre, in reply, expressed his sympathy with the general object of the deputation—that of utilising to the utmost such gardens and open spaces as that of Kew. The question of the earlier opening of Kew Gardens was an old story, but it was one that was not altogether free from difficulty. In 1879 it was the subject of a long discussion in the House of Commons upon a motion by Sir Trevor Lawrence, and it was then stated by the First Commissioner that the opening of the gardens at 9 o'clock throughout the year would entail an additional cost upon the management of from £1500 to £2000 a year. The Commissioner also alleged other arguments against it, and was supported by a considerable number of members of the House in the interests of science, it being pointed out that the use of the gardens in the early part of the day for scientific investigation was most important, and was a privilege that was highly appreciated. In 1883 he himself, as First Commissioner, went in'o the subject, and with some difficulty persuaded the Treasury to sanction an expenditure of some £200 or £300 for the purpose

of opening the gardens at 12 o'clock instead of 1, as had been the custom up to that time. The Treasury, in giving that sanction, especially warned the Department that the interests of the public generally rather than local interests must be considered in future. He had been recently further considering the matter and had referred the question of expense to a committee, which was now considering the labourers' wages at Kew and in the royal parks generally, and until he knew accurately what the real cost of the arrangement suggested by the deputation would be, he could not come to a final determination upon the matter. It was certain, however, that the expense would not be inconsiderable. It must also be borne in mind that there was a great interest in the other direction—namely, that of the scientific men who were allowed the privilege of frequenting the gardens in the morning, and Sir Joseph Hooker, when director, reported very strongly against that privilege being withdrawn. A large number of persons now availed themselves of that regulation, and he had received letters from gentlemen interested in the gardens objecting to the withdrawal of the privilege by the general admission of the public, and stating that it was of great importance in the interests of science that scientists should still have special opportunities of studying the plants. Among others he had a letter from an eminent scientific man, Mr. Alfred Wallace, a distinguished advocate of land nationalisation, who no doubt would have special views on the subject upon public grounds, and who said that he had frequently gone into the gardens for some days together for the purpose of being allowed to handle the plants and to make investigations of a minute character that would be wholly impossible if the public generally were admitted. He mentioned those facts to show that there was something to be said on the other side. He could only say that he would carefully consider the question after he had ascertained what the cost would be. He believed that the present Chancellor of the Exchequer had the same general sympathy which he had with the public movement in favour of open spaces. Both the public interest and the interest of scientific men should be fully considered.

The deputation then withdrew.

**Garden labels.**—Mr. Morris, at a recent meeting of the scientific committee of the Royal Horticultural Society, remarked on the difficulty of finding any material suitable for labels. They had tried a great variety at Kew, but the best in being most durable was a strip of lead with the name stamped upon it. He exhibited a sample from the garden of Mr. A. Cushney, Pains Hill Park, Cobham, dated 1774, on which the name "White Magdalen Peach" appeared to be as sharply indented as at first. It is said, however, that the lead of the present day, in consequence of its being purer through desilverisation, would probably not last so long.

**Gardeners' Orphan Fund.**—We are asked to state that the committee of this deserving institution have made arrangements with Mr. Innes Kinlaid to take a ticket benefit at Olympia during the fortnight commencing December 5. We trust that the funds may be substantially benefited.

**Tea plants in England.**—In reply to "J. B.'s" question I beg to say there is a large plant of *Thea viridis* standing in a sheltered nook in the pleasure grounds here. It measures over 6 feet through and 3 feet high.—JAMES MAYNE, *The Gardens, Victoria, B. Salterton*.

**Names of plants.**—T. Y. H.—Quite impossible to name, as owing to the bad packing the flowers were quite spoiled.—F. Norris.—1, *Begonia mitchellii*; 2, *B. myriostigma*; 3, send again; 4, *Selaginella stolonifera formosa*; 5, *Acalypha musaica*; 6, *Begonia Dregei*; 7, *Nephrolepis exaltata*; 8, *Dracæna fragrans*; 9, *Selaginella caulescens*; 10, *Dracæna rubra*.

**Names of fruit.**—E. K. B.—Apples: 1, Blenheim Orange; 2, Cellini; 3, Minchall Crab.—Mrs. Eason.—Apples: 1, Tower of Glamis; 2, Blenheim Orange; 3, Golden Pippin.—E. H. M.—Apples: 1, Red Strak; 2, Northern Greening; 3, Gravenstein.



## WOODS AND FORESTS.

## SEASONABLE FOREST WORK.

FOREST work generally is in a forward state, the weather having been mild and open; but in the case of planting no time should be lost before hard weather sets in. With the late, unusually wet weather, it may be well to warn planters against the practice of proceeding with the work while the soil is damp and sticky and while the pits, as in most instances they are, are full of water. No satisfactory work can thus be accomplished, and it is wise policy under such circumstances to refrain from planting until the nature of the ground and weather permit of the operation being properly performed. Not only is the labour attached to planting in wet sticky soil increased two-fold, but the work cannot be satisfactorily done, and the results are the opposite of encouraging. The soil should be in a nice friable condition and fairly dry, and the pits empty of water before a single plant is inserted. By chopping the turf finely and placing it in the bottom of each pit with a covering of fine earth, the whole will be in readiness when planting is engaged in, and the work will be got through with expedition and at the least possible expense. In planting place the roots, the strongest and most fibrous, to the windy side, this helping greatly to keep the trees in position and from being uprooted during stormy weather. Do not plant too deeply, a safe guide being never to place the plant deeper than where it stood when in the nursery border. To deep planting many of the failures in the formation of plantations may be put down, and under the guise of holding the plants steadily in the ground. There is a happy medium that should be observed in planting young trees with regard to the amount of soil that should be placed on the roots, but the safest guide, perhaps, is to follow the mark on the stem that is indelibly enough stamped whilst the trees are under nursery treatment. The pits, too, should be made wide enough to allow of the roots being spread out to their widest extent, for cramping and confining are evils that must be zealously guarded against. It is always well to have the pits larger than they are required, as the loosening of the soil gives the roots a chance of running more freely than would be the case in hard and unturned ground.

**TIMBER FELLING AND SELLING.**—Where plantations require thinning, the present is the best season for the work being taken in hand. But not only woods and plantations will require attention in this way, for hedgerows and field timber, as well as clumps in the park, will all need to be looked to and the trees thinned out if necessary. Field trees should be operated upon at once, so that the cultivation of the ground may not later on be interrupted. Be careful in felling this class of tree, the branches of which are usually widespread, that the remaining trees do not suffer in consequence, and should such be at all probable, the head and larger branches should be pruned off before the tree is felled. This often prevents serious damage and irreparable injury to the neighbouring trees. Sometimes in the case of field trees it may be necessary, so as to allow of cultivation, to uproot them, and in such cases the stem should be allowed to remain intact with the roots, so as to serve as a powerful lever. By placing a stout rope around the stem and as high up as possible, the tree can, after the

roots have been cut and the stump undermined, be thrown in any required direction, and after felling, the stem is sawn from the root. The root can then either be split into firewood or carted away to the rubbish corner. A cheap and ready method of disposing of tree roots is to dig a deep pit immediately behind them and into which they will fall when severed from the trunk. The hole must be of sufficient depth that at least 2 feet of soil may be atop of the root, thus allowing of freedom in ploughing. With hedgerow trees uprooting will rarely be a necessity, but top pruning must be attended to if the safety of the neighbouring specimens is at all endangered. Remove the trees from the fields as soon after being felled as possible, and either have them disposed of or conveyed to the home timber yard, or lotted about the grounds for auction purposes. This being the season at which timber is generally felled, and consequently to be offered for sale, the following prices that have lately been realised may be of value to those having such for disposal. The prices given may be taken as the standard for the south of England. Oak finds a ready market if good at prices ranging from 1s. 3d. to 2s. per foot, but for unusually large trees, say, containing upwards of 50 feet, I have been offered as much as 2s. 6d. per foot. Elm is still hard to get rid of, and the price offered, about 8d. per foot, is by no means a tempting bait. Even large clean trees containing from 40 feet to 100 feet fetch little more than the price here given. Beech at 7d. per foot is considered well sold, but the greatest demand for this class of timber is as firewood, and exceptionally good firewood it makes even when green. Sycamore will not remain long on hand at about 1s. 8d. per foot, but higher prices for the very finest trees will be got. Ash can always be readily sold; if not to the merchant, local demand will always keep up the price and allow of its free disposal at fair prices, according to the size and quality. Poplar and Willow may be classed together, the value of the timber being about the same. For that of fair quality, from 8d. to 1s. per foot is usually offered. Birch and Alder are used for the same purposes and realise about the same price per foot—from 9d. to 10d. Lime, Hornbeam, Plane, Horse Chestnut, and some other trees may be taken together at prices ranging from 8d. to 1s. per foot, but they are rarely offered in quantity, and the prices are fixed mainly in consideration of the quality and quantity. Sweet or Spanish Chestnut sells at prices ranging from 1s. 3d. to 1s. 8d. per foot, but the particular part of the country has much to do with the demand for this class of timber. Yew, Holly, Box, and other special woods sell at special prices, no fixed amount being given. Larch is still sought eagerly after, and the prices hold good at from 1s. 3d. to 1s. 6d. per foot. The timber of Scotch, Austrian, and Corsican Pines is at present of little value, and if it can be disposed of, one is thankful to get the meagre price of 6d. to 7d. per foot, but as often as not it is cut up for firewood, and that of an indifferent quality. Firewood (mixed kinds) we sell readily at 5s. per single horse cartload, not delivered, or sawn into logs ready for the fire at 10s. per load. Faggots large (havins as they are called in Kent) fetch about 15s. per 100, and small faggots (pimps) can be procured in quantity at the low price of 2s. 6d. per 100. The prices of faggots have been greatly reduced of late years by the manufacture of the small bundles of split wood. These split bundles of wood are fast ousting the faggots

from the market, the reduction in the quantity of these latter now supplied being very considerable, and that, too, even although the prices have of late years been much reduced.

A. D. W.

**The quality of timber** is greatly dependent upon the aspect in which the trees are grown. Where this is northern, the wood is generally soft; consequently it is better adapted for purposes of manufacture than for building. In this aspect the young trees suffer less from frosts in the spring in consequence of the vegetation being backward; but, owing to the tardiness of ripening, the summer shoots are frequently caught by early autumn frosts. An eastern aspect will grow trees of a good medium quality, fitted for the greatest number of uses; consequently this is considered the best aspect for forests of large size. As the temperature is moderate and the wind dry, vegetation is here fairly rapid. Upon a southern aspect the timber, though superior in lignification, is more irregular in form. Upon a western aspect the heat is generally considerable, but, owing to the frequency, the strength, and the irregularity of the winds the timber is often ill-shaped.—A.

**Pinus Laricio for exposed poor land**—This is one of the best conifers for planting on poor land in exposed situations with a view to a permanent crop of timber. We have a quantity of it planted out on a bleak plain in a thin, poor soil. This is growing away at a rapid rate, quite overtopping the Larch and Scotch Fir, and it appears to shape itself so well for a timber-producing tree, that I believe it will prove to be the best of all the Pine family yet introduced. It has other good qualities, too, for hares, rabbits, and boring beetles rarely injure it. It has, however, one drawback; it transplants badly, but this may be overcome by growing it on in a nursery and carefully shifting it every autumn until it is ready to plant out.—Y.

**The Holly and Yew** are two valuable trees. They will grow tolerably well in the shade and in almost any ordinary good soil; but in a rather dry, strong loam both do best, the Holly particularly. Though a difficult subject to transplant, I never remember the Holly to have shown any signs of distress from drought if the roots had had time enough to get hold of the soil; but the Yew occasionally suffers owing to the roots spreading out close to the surface. Hence the benefit trees growing on lawns and other exposed places receive from top-dressings, which should be placed over the roots as far as they extend. Still, though there are trees that prefer a dry, and others a moist situation, as a rule all timber trees prefer a soil free from stagnant moisture; hence the necessity of drainage in plantations, which may be carried out by means of open drains to a considerable extent, if the drains be cut in parallel lines at regular distances apart and kept open by periodical cleaning. I have known extensive woods drained in this way, when doing it otherwise would have entailed much expense.—S.

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No. 1099. SATURDAY, December 10, 1892. Vol. XLII.

"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—Shakespeare.

## ROSE GARDEN.

## NATIONAL ROSE SOCIETY.

EXHIBITING ROSES FROM HEAVY AND  
LIGHT LAND.

THIS is a subject of considerable interest, and it is one which is of great importance as bearing on a question which has yearly arisen in our National Rose Society's discussions, especially at their general meetings, one of which is about to be held on the 13th inst. The growth of the Rose itself is not so much the question which is discussed with us as the results in regard to the date the Rose blooms develop, that question being of great importance to our members, more especially those of us who exhibit at our metropolitan show; but it also affects the great majority of our members who go merely as spectators to the Crystal Palace meeting principally, and may have either good or bad exhibits set before them, according as the season has been propitious or otherwise. Although all sorts of side issues are brought in by the supporters of both parties, the main question practically remains one and always the same, viz., the best date for showing the Rose in perfection. The growers on light soils and in southern districts naturally wish the exhibitions fixed at early dates, and those who grow on heavy land and clay would like all Rose shows to be later than at present.

The question is said to be further complicated of recent years by the greater use of the Brier as the stock now adopted by our great professionals for the final production (I say final, as there are intermediate developments) of the Roses sent out by sale to amateur growers. It is said by some growers of great repute that the Brier stock has revolutionised the date at which Rose blooms are developed, and that our Rose seasons in consequence of this stock, which some bless and others vilify, are a full fortnight later than some ten years back.

There is something to be said on both sides, and it is difficult to take the *juste milieu* and say what is really incontrovertible out of a number of statements set forth on either side.

There can be no question that our seasons for some years past have been of the most perplexing character, and what such a great authority as Mr. George Paul sets down (in his remarks sent out in his annual Rose book) as the fault of the stock now used may more properly be placed to and accounted for by these unusual and variable seasons, which have blown hot and cold with a rapidity of changes that would have sadly perplexed the satyr so well known in Æsop's Fables.

But let us assume that in any year, even in 1893 it may occur, we have a season such as we had in 1887 or 1889—known respectively as the years of the Jubilee and the Shah's visit—where will the growers of the south of England and on light soils be then? I say, from the view of a southern grower, quite over by the end of June. Then I shall only be afraid, as one deeply interested in our society's welfare, that the expected triumph of the champions on heavy land will be a sorry one, as the principal exhibitors of the south will be unable to show in their proper form, and it will be a question

whether those of our growers who come from the north, or who grow their Roses on heavy land, will be able to make up for the gaps in the ranks of the greater army of southern growers.

This year was considered a late one, but most exhibitors were in good form by the end of June and beginning of July, and we were in the full mid-season of the big southern growers by the first week of July, and it cannot be denied that the N. R. S. meeting at the Crystal Palace on July 2 was the largest and best ever held by the society. Every grower of experience knows that there is a short pause between the blooming of the two principal crops of very big Rose gardens, and the second crop of these great rosarians came on again about the 12th. The later crop comes usually from maiden plants, and many exhibitors rely mainly on these, but it seems to me that an exhibitor who grows very large numbers should so arrange his Rose garden that he be prepared for a late or an early season. I only know two small growers who support the theory of a late date, and in one of these cases the amateur has ample space to act in the way I suggest.

To show the extraordinary variations of growth in the two most recent seasons in even one locality, I think I am not exceeding the limits of criticism when I state what occurred to two of our great rosarians in the last two years, and which is well known in the Rose world. Last year Mr. B. Cant, of Colchester, was the most successful rosarian in the early part of the season and won the metropolitan championship, but later on Mr. Frank Cant won the majority of the great events. This year exactly the opposite positions have been taken. At the Crystal Palace and Earl's Court exhibitions Mr. Frank Cant won the premiership for seventy-two varieties, although Mr. B. Cant took both the N. R. S. medals and other prizes, but later on Mr. B. Cant won most of the great events decisively. I believe both these gentlemen favour early exhibitions of our society. I mention thus pointedly an anomaly in Rose culture which has occurred between two great rosarians, whose nurseries lie in the same locality, because it is one which might occur elsewhere, and with amateurs also. I believe we shall find similar anomalies, variations in weather and eccentricity in the growth of Roses cultivated for exhibitions of our National Rose Society, in the future as we have had in the past, and that a change of date for our shows is not of such vital importance to growers in late districts or heavy land as they alone seem to think. In any case it is they who annually bring forward the question for discussion. An important matter for them is the fact, to which they do not hitherto appear to have given sufficient thought or consideration, that after next year there will be a succession of late dates for the Crystal Palace N. R. S. meeting, which no doubt will gratify them, and also may help to a solution of this very vexed question.

Croydon.

C. J. GRAHAME.

**Roses and manures.**—The note on planting Roses at p. 479 is important, pointing out the serious consequences of giving the roots of these plants too much manure. I would like to add a short note as to the value of cow manure when properly applied, especially on light gravelly soils. For years I have used cow manure in light soils at planting, but not in direct contact with the roots, as the manure is gathered into a heap the previous winter or spring and at that date the turf is cut and stacked, and being of a light nature I place a good layer of cow manure between each layer of turf, and by the following October or November

this is in splendid condition for planting. In light soils more food is required, and though I do not agree with placing a great mass of manure on the surface early in the winter, a small quantity to old Roses is beneficial, as this is washed down to the roots by the rains and the roots benefited, and they are also encouraged to the surface. I have great faith in mulching in the early part of the summer. I am well aware of the difficulty of mulching the Rose in the kept grounds or in neat flower gardens, but it can be done by removal of the loose soil that is at the surface and then applying the manure, this latter being in a decayed state and covering over with the soil. Of course, it is not necessary to remove the surface soil if not required or full of roots. In that case new soil may be used for covering. I have also used a slight cover of cocoa fibre. If mulching in the early summer with decayed cow manure is objected to, much may be done by using liquid manure. With Roses on turf, such as standards, and in poor soils, the turf should never come close up to the stem; a space should be left for feeding and also to prevent injury to the bark by mowing.—S. H.

## THE SO-CALLED HYBRID TEAS.

THIS is a section of Roses that is rapidly becoming of great importance, and it is a pity that there should be such a difference of opinion as to which belong to this group and which do not. How can a cross between a pure Tea and one of the Hybrid Perpetuals be a Hybrid Tea? Why not a Hybrid Perpetual also? As if a cross between these two it belongs to both sections equally. I have endeavoured to open a discussion on this point with the object of getting these charming Roses more definitely classified, but hitherto no one has replied.

The National Rose Society has decided that they be shown among the Hybrid Perpetuals, and be totally excluded from the Tea-scented and Noisettes. That very pretty new Rose *Gustave Regis* is out of its class altogether when placed among the Hybrid Perpetuals. To my mind there is no variety which seems to possess the characteristics of the Tea-scented section in a greater degree than *Gustave Regis*. Its habit of growth, foliage, and especially its charmingly long buds of canary-yellow with deep pink and carmine shades at the edge of its petals, all stamp it as a Tea Rose. I cannot help feeling that were one to exhibit this variety among a stand of Teas and Noisettes it would be a hard matter to disqualify the exhibit. Then let us take *Grace Darling*. What is there in this Rose less like a Tea than can be found in *Souvenir de T. Levet*, *Mme. Lambard*, *Alphonse Karr*, *Aline Sisley*, and others? If *Souvenir de T. Levet* is recognised as a Tea Rose, why is not *Triomphe de Pernet père*? It is a difficult question to answer if one is to be guided by appearances at all. I do not know the pedigree of *Souvenir de Thérèse Levet*, but *Triomphe de Pernet père* is the result of crossing *Monsieur Désir* with *General Jacqueminot*. I should be glad if some of your readers could give me the parentage of *Gustave Regis*; it was sent out by *Jos. Pernet-Ducher* in 1891, and is a charming Rose for cut flowers. Among this section of Roses we reckon some of our finest all-round varieties. For example, *Viscountess Folkestone*, *Lady Mary Fitzwilliam*, *Augustine Guinoisseau* (why, I know not, seeing that *La France* is classed with the Hybrid Perpetuals by all growers of note, and this variety is simply a sport from it, and as there has been no hybridising in this case, why should it be called a Hybrid Tea?), *Grace Darling*, *Cheshunt Hybrid*, *Camoens*, *W. F. Bennett*, and several more that are really good. They are equally free-flowering as the true Teas, but, unfortunately, they are not so free from red rust.

Now there are several Roses that resulted from crossing two Teas together, and it passes my understanding why any of these are classed with the Hybrid Perpetuals by the National Rose Society. Let us take *Kaiserin Friedrich* for an example. This is a cross between *Gloire de Dijon*



and Perle des Jardins—two pure Tea-scented Roses; yet we find this variety barred from being exhibited in a stand of Teas or Noisettes, and promoted (?) to the Hybrid Tea (syn., Hybrid Perpetual class, *vide* N.R.S.). Why is Kaiserin Friedrich a Hybrid Tea, and H. M. Stanley not? Both result from crossing two Tea-scented varieties, H. M. Stanley coming from Mme. Lambert crossed with Comtesse Riza du Parc. But the National Rose Society call this one a Tea! Pearl Rivers (Devoniensis × Mme. de Watteville) is another instance. The question is, what are we to call a Hybrid Tea? Cheshunt Hybrid, Bedford Belle and others are no more Hybrid Teas than Hybrid Perpetuals, and as long as La France, Lady Mary Fitzwilliam and others are to be shown among the last-named class, why should they not be styled Hybrid Perpetuals in preference to Hybrid Teas, seeing they have an equal right to either class?

On looking down the list of new Roses at the end of the National Rose Society's schedule for 1892, I am pleased to see that all that are crosses between Teas are classed as such, and it would be much better if our Rose growers could come to the same opinion and class them among Teas in their catalogues. Will some of your readers kindly tell me the difference between a Tea-scented Rose and a Noisette? How would they define the two classes, and what is it that makes Caroline Kuster and Triomphe des Rennes Noisettes, and not Mme. de Watteville, Mme. Cusin and others? The precise distinction between these two classes has often puzzled me somewhat. Maréchal Niel and Rêve d'Or are Noisettes, while Gloire de Dijon and Mme. Bérard are Teas. P. U.

#### ROSES INTRODUCED IN THE LAST DECADE.

RECENTLY, in taking a survey of the Roses of old and established repute and those of more recent introduction, I noticed the large number of really first-rate Roses which we have acquired in the last ten years. Although these varieties cannot be said, if taken individually, to excel many of the older kinds, yet collectively they are of immense service to rosarians, and in the list I have made out at foot it will be seen that hardly without exception there is a reputation already attached to every name there given. This list also emphasises a fact, which in a more general way I have recently stated in THE GARDEN and elsewhere, that our own hybridisers have in the last ten years made marked strides as contrasted with their position previous to 1882, and it will doubtless also be noticed with regret, because his loss to us is great, how frequently the late Mr. H. Bennett's name comes in as the raiser of varieties of great excellence. Another statement of mine is also fairly proved that continental rosarians are not progressing in Rose culture *pari passu* with our own growers, as the only great French professional growers who seem of late to have kept up their reputation are M. Guillot fils, of Lyons, and M. Pernet and Ducher, more especially the former firm of rosarians, and it is in the Tea Rose class that they excel. The names of other English rosarians of reputation besides the late H. Bennett are more frequent than those of any others of the French hybridisers, and I would specially mention Messrs. Dickson and Son, of Newtownards, Mr. Wm. Paul, and Mr. G. Paul as having even up to the present year introduced very high class Roses.

There are in all some forty-five Roses in the list I annex of new and good Hybrid Perpetuals, Hybrid Teas, Moss Roses, Bourbons, Teas and Noisettes, but probably in the period under review there were at least 150 so-called novelties introduced. From the large number of first-class new Hybrid Perpetuals and Hybrid Teas produced by English rosarians,

it may be assumed that our climate as a rule is better suited to the raising of this class of Rose than is that of France, but not so suitable to the hybridisation of Teas and Noisettes. This view would seem to get partial confirmation in the fact of MM. Guillot being still at the head of producers of new Tea Roses, they having given to the world the greatest number of new Roses of the highest quality and form in the Tea class, although their Hybrid Perpetual productions are few and of no importance.

Judging from the fact that the late Mr. Bennett introduced several Teas of the finest form, and also eight or more Hybrid Perpetuals of the greatest merit, it seems natural to think that if his life had been spared he would ere this have eclipsed all other hybridisers. Messrs. Dickson, of Newtownards, Ireland, seem likely before long to succeed in rivaling, hardly in excelling, Mr. Bennett's efforts in Rose culture, and as we are naturally anxious to surpass, as we already rival, the French in one of their most notable horticultural successes, we must all wish Messrs. Dickson "good luck" in their experiments. Any rosarian of experience will easily pick out the Roses which have achieved the greatest name in the list given, but I will select specially a few which are of the greatest celebrity. I may also say that a young rosarian who took the shorter list as an experimental one for the formation of a new Rose garden would have a good basis on which to start a career of Rose cultivation. I am aware that this is the opposite to the usual practice, but there is no reason why it should not be tried, as the varieties given are reliable, and a novice could subsequently add the Roses of the greatest reputation introduced prior to 1882. I need hardly say these are most numerous and contain amongst them some of our very grandest flowers, even the greatest of all; to wit, in their respective colours, such Roses as Maréchal Niel, Comtesse de Nadaillac, La France, Charles Lefebvre, Souvenir d'Elise, and Innocente Pirola, which I would dub one and all as the leaders of their divisions, the Maréchal taking the command in chief.

The choicest and most celebrated of the new varieties are the following:—

H. P., H. TEA, AND BOURBONS.	TEAS AND NOI- SETTES.
Earl of Dufferin	Cleopatra
Gustave Piganeau	Ethel Brownlow
Her Majesty	Edith Gifford
Margaret Dickson	Mme. de Watteville
Mrs. Paul	Mme. Hoste
Mrs. John Laing	Princess of Wales
Salamander	Souvenir de S. A.
Sir Rowland Hill	Prince
Victor Hugo	The Bride
Viscountess Folkestone	

All the foregoing are Roses which may be said to have already taken the highest rank, and also to be superb varieties. They are what we may call "medal" Roses, as I should say most of them have already achieved the distinction of winning the National Rose Society's medal, and in several cases of Roses raised by English rosarians its gold medal, the latter honour being the highest distinction which our society can confer on a new Rose, although it has happened, from the rules and difficulties connected with the exhibition of new Roses, that some of the best varieties now in existence could not be exhibited so as to obtain the blue riband of the N. R. S.

I may mention that in the subjoined specified list several Roses of great reputation, which have only of comparatively recent date come

prominently to the front, are not mentioned, as they were introduced in the years 1880 and 1881, and this article goes only critically into the last decade. Such Roses as Mme. Cusin, one of Guillot's triumphs, Susanne Rodocanachi, Ulrich Brunner, Pride of Waltham, Mrs. Jowitt, Mme. Isaac Perrière, and Duke of Teck came out in the years 1880 and 1881, and each on its day is as grand a flower and as desirable a Rose as any rosarian can wish to possess.

Name, year of distribution, and name of the raiser of the best Roses introduced since the year 1882 inclusive are given below:—

H. P. AND H. TEA.	DATE.	RAISER.
Augustine Guinoisseau	1889	Guinoisseau
Caroline Testout	1891	Pernet and Ducher
Danmark	1890	Zeinier Lassen and Dithmer
Duchess of Albany	1888	Wm. Paul
Earl of Dufferin	1887	A. Dickson and Son
Earl of Pembroke	1882	H. Bennett
Eclair	1883	Lacharme
Gloire de Margottin	1887	Margottin
Gloire Lyonnaise	1884	Guillot
Grace Darling	1884	H. Bennett
Gustave Piganeau	1889	Pernet and Ducher
H. Schultheis	1882	H. Bennett
Her Majesty	1886	H. Bennett
Jeannie Dickson	1890	A. Dickson and Son
Lady Helen Stewart	1887	A. Dickson and Son
Lady Mary Fitzwilliam	1882	H. Bennett
Marchioness of Dufferin	1891	A. Dickson and Son
Margaret Dickson	1891	A. Dickson and Son
Merveille de Lyon	1882	Pernet
Mrs. Geo. Dickson	1884	H. Bennett
Mrs. John Laing	1887	H. Bennett
Reynolds Hole	1883	Paul and Son
Salamander	1891	Wm. Paul
Sir Rowland Hill	1888	Mack
Victor Hugo	1884	Schwartz
Viscountess Folkestone	1886	H. Bennett
BOURBON.		
Mrs. Paul	1891	Paul and Son
Moss Rose.		
Zenobia	1892	Wm. Paul
TEA AND NOISETTE.		
Cleopatra	1889	H. Bennett
Climbing Niphotos	1889	Keynes, Williams and Co.
Ethel Brownlow	1887	A. Dickson and Son
Ernest Metz	1889	Guillot
Hon. Edith Gifford	1882	Guillot
Mme. de Watteville	1883	Guillot
Mme. Hoste	1887	Guillot
Mme. Moreau	1890	Moreau
Mrs. James Wilson	1889	A. Dickson and Son
Princess Beatrice	1887	H. Bennett
Princess of Wales	1882	H. Bennett
Sappho	1889	Wm. Paul
Souvenir de S. A. Prince	1889	G. Prince and Sons
Souvenir de Thérèse Levet	1882	Levet
Sunset	1883	Henderson
The Bride	1885	May (U.S.A.)
L'Idéal	1887	Nabonnand
Croydon.		CHARLES J. GRAHAME.

#### Carnations at Chrysanthemum shows.

—I have been struck, not by the presence, but by the absence of these popular flowers. A class for six or twelve plants in one or more varieties would, no doubt, bring out some growers. I am fully persuaded that Carnations will be grown in larger quantities than ever. With such splendid varieties as Miss Jolliffe Improved (pink), Winter Cheer (scarlet), and Mrs. Moore (white), there should be no lack of competition.—H. G.



## TREES AND SHRUBS.

CHERRIES AS ORNAMENTAL  
FLOWERING TREES.

THE present is a most appropriate season for drawing attention to the great beauty of the Cherries whilst in flower. Now is the time for planting them, and where any note has been made of their usefulness it will be advisable to secure the trees and plant at once. In my own case I have observed that after the double varieties attain a fairly good age, there is a tendency towards canker, as in the fruiting Cherries. Rather than allow a tree to remain when it has in a manner become unsightly, it is much better to cut it down and plant afresh, but not altogether in the same place without an entire change of soil. When a tree is seen to be on the wane it is just as well to plant afresh; then by the time the young tree is established, the old one can be removed without being greatly missed. The illustration depicts a young tree grown as a standard, which is by far the better plan. It will be noted on reference to the engraving that there is an undergrowth of foliage; this is as it should be, and exemplifies the advantage of the standards over dwarfier bushes. It is not, of course, necessary to keep to the double varieties, although whilst in flower they last longer in good condition. The single and fruiting kinds can also be planted for purposes of ornamentation as well, although methinks they are not so very often to be met with. For example, why should not the Morello Cherry be so cultivated? I have seen it thus grown in a most successful manner, forming beautiful heads. First there is the handsome display of bloom, then there is the fruiting season. We do sometimes see the weeping Ash on lawns; why not the Morello Cherry as well, and grown in the same way? In all probability the fruits would escape the birds more than when planted in the kitchen garden in those gardens of medium size, because the tree would stand by itself. The reason why standard fruit trees of all kinds are not more extensively planted in our shrubberies is not that they are not beautiful, surely? I think it is rather that because it has been so, so it must still be. A well clothed, but not necessarily a pruned tree of the Morello Cherry would upon a lawn be a beautiful object. It is easy enough to grow it thus. The soil need not be in any case of a rich character. I would rather have it otherwise. The following are useful double varieties to plant in shrubberies, viz., *Cerasus Avium multiplex* (the double form of the wild Cherry). *C. domestica flore-pleno* is a strong growing variety, but probably not so much so as the foregoing. *C. serrulata* (the double white Chinese Cherry) is, I think, one of the most useful of all; it flowers freely and is not so strong a grower. Of the singles note should be made of *C. Juliana* (St. Julian's Cherry) and its rose-coloured variety; also of *C. Padus* (the Bird Cherry) and its pendulous variety. Besides these there are the single varieties of the doubles first quoted, and last, but not least, the Morello afore mentioned, which should be chosen with clean well grown stems.

H. G.

**The Laurustinus.**—Having regard to the extreme paucity of hardy plants that bloom naturally in the winter, it is somewhat surprising that Laurustinuses are not much more frequently grown. How much more pleasing in form and beautiful now would fine bushes be on lawns than are so many of the dark, dingy, flowerless Pinuses so common in small gardens. I have seen several fine bushes of the Laurustinus blooming most pro-

fusely about Sarbiton, and in front of one garden was an old hedge kept in place by annual pruning, almost the entire top and front of which were full of bloom. It is really a wonder that small Laurustinuses are not commonly grown in pots for greenhouse decoration during the winter, especially in comparatively cool houses where tender plants fail to flower.—A. D.

**Dimorphanthus mandschuricus.**—Mr. Wood does well to call attention to this, but as regards its not succeeding on a stiff soil, he is in error. The soil in the pleasure grounds here is as stiff and also cold as it is possible for it to be, yet this tree succeeds well. Two years since I had occasion to remove a specimen to another position, and now I



Cherry tree in bloom. Engraved for THE GARDEN from a photograph sent by Mr. S. V. Harecourt, Malwood.

see there are several plants springing up from portions of roots no doubt left behind.—A. Young, Abberley Hall.

## GARDEN IMPROVEMENTS.

THE present open weather should be made the most of for laying down turf and tree and shrub planting. Where there is room for a good-sized tree, I think no one will regret planting the scarlet Oak. Not only is it effective when the leaves die off in autumn, but its large glossy leaves are attractive in spring and summer. I cannot understand why there is such a reluctance among planters generally to try novelties. There are a certain number of newly-introduced things that one does not know enough about, and which it is

necessary to plant with caution, but the well-known hardy ornamental trees and shrubs have been left out of this category. Take the case of Young's variety of the weeping Birch. It ought to be in every garden with a fairly pure atmosphere. What is desired in a Birch tree is one that will rise up a reasonable height and cast its drooping branches gracefully around. Some of the trees get stunted in the grafting and never rise to the dignity of trees at all. The purple and Cut-leaved Birches should also be freely planted where there is scope for variety. Then, again, what a graceful tree is the common Beech. Plant it on a knoll in the park in some isolated position or in the grounds, if they are extensive enough to

justify the use of trees of large size, and in the future a noble structure of tree life will be reared. I have only referred to the common Beech, but there are other Beeches still more effective as objects of interest and ornament. It is possible to plant too many dark-foliaged trees, but the purple or Copper Beech and the Fern-leaved Beech always attract attention when used sparingly. Then among Poplars there are noble trees. I have in my mind's eye an Aspen Poplar that I have known for half a century. In my earliest recollections it was large in girth, and so wide-spreading were its branches, that they had to be supported. It occupies that best of all positions for the Aspen Poplar, the banks of a lake of considerable size where the breeze causes a perpetual motion among the leaves. Other Poplars there are of equal interest to the planter who desires to create pictorial effects. The Abele and the new white Populus Bolleana with the free growing canadensis nova and its golden variety are all waiting for the planter's hand. I never care much for the Lombardy Poplar when it gets large and old; it has a weird-like aspect in the landscape, and should, I think, be used very sparingly. To the planter of Oaks there is much variety in noble growth and leafage. Besides the scarlet Oak already adverted to there are others of nearly equal interest: *Quercus concordia*, the golden *nigra pedunculata*, the black and others, including *Q. palustris* and *Q. pannonica*, a tree with large glossy foliage. Large groups of the common Dogwood and

the golden Willow are very effective when the leaves are down in winter, and there is an infinite variety in the tints of the bark and buds of deciduous trees in winter which is exceedingly interesting to those who observe closely. Among weeping trees, the weeping variety of the Mahaleb Cherry is a very graceful tree, and in warm situations the Catalpa syriaca and the Tulip tree are very desirable. Elms are noble trees, but their roots are very hungry, especially the roots of the Wych and the Huntingdon varieties, and should not, I think, be planted near anything choice or tender, as they are such fearful robbers. The broad-leaved Weeping Elm looks well on the lawn, but for the most part the Elms should be planted in the park, for which position they are eminently suited. One of the purposes for which trees are



required is to give shade in summer, and I think the Walnut is the most perfect shade tree; there is just sufficient foliage to temper the heat of the sun, but not enough, as in the case of the Horse Chestnut or Beech, to make the position dark and sombre. Besides, under the Walnut trees there are but few insects. There is something about the exhalations from a Walnut tree which the insects do not like, so the reader may rest in peace.

E. H.

## KITCHEN GARDEN.

### A GOOD EXAMPLE.

THERE is no disguising the fact that very many of the schemes adopted by various technical education committees have proved or are proving comparative failures. Especially is this the case in purely agricultural districts. Too often the subjects selected for lecturing upon have been or are still far too high-class to be of any real value or interest to the great majority of either farmers or working-men, and they failed to attend the lectures accordingly. The study of geology, chemistry, and kindred subjects is doubtless to be commended, but as far as the average inhabitant of country villages and small towns is concerned such studies have no attraction or value. What is wanted is far less theory and advanced science and more practical instruction upon topics connected with the land and what it can be made to produce. One series of lectures upon the more advanced subjects was quite enough for this district, and this winter the most we hear about is dress-making and cookery. At Warminster, in the adjoining county (Wiltshire), the gentlemen who took up the subject of technical education evidently early realised the futility of employing lecturers to discourse to scanty audiences, their idea being to gain and disseminate more practical information upon the cultivation of the Potato and thereby confer a direct benefit upon the locality. A series of experiments was conducted to a very successful issue, and as this is to be followed up by a course of lectures upon Potato culture, it will not be the fault of the committee if a great and lasting good is not derived by all who are willing to be instructed.

In all probability a more exhaustive series of experiments in Potato culture than those conducted at Warminster and two villages within driving distance was never carried out, and it is to be hoped something similar will be attempted next season in various other parts of the country. Naturally what answers well in one district or even in a single parish may not be equally satisfactory in others, soils varying surprisingly within a very short radius. It is only by local experiments that the best methods of culture, and more especially the most suitable varieties and manures can be ascertained. At Warminster the first proceeding was to select plots of ground within easy reach of all who were disposed to watch the experiments, and from these samples of soil were sent to Downton College to be analysed. Professor Munro, in addition to analysing the soils, also advised upon the composition of manures and the chemical mixtures to be used by way of a disease preventive, this advice being of the greatest assistance to the committee. Altogether forty-three half-perch plots were staked out at Warminster, these representing a similar number of distinct experiments, some of which were repeated at Heytesbury and Horningsham. It is not my intention, however, to attempt a description of all these experiments, but I will give a brief outline for the benefit of readers of THE GARDEN who may feel disposed to conduct

somewhat similar proceedings either privately or publicly. Ten varieties of Potatoes were grown, these consisting of White Elephant, Schoolmaster, Reading Russet, Webber's Early Beauty, Bruce, Reading Giant, Maincrop, Magnum Bonum, and Imperator. Some were planted on unmanured ground, these plots being compared with plots dressed with farmyard manure, soot, chemical manures as recommended by Professor Munro, and in other cases with one constituent omitted, and special mixtures as supplied by the trade. Imported seed was tried against that home-grown, moderately large sets against small, and cut against uncut. Planting at the usual time was compared with the recently revived notion that planting in June is advisable as a disease preventive, while wide planting was tested against medium distances and the other extreme. So many plots in each trial ground were duly dressed with sulphate of copper and lime, "sucrated" and otherwise, as a preventive of disease, the results being compared with adjoining plots not dressed, but in all other respects similarly treated. Each plot was so labelled as to admit of all interested in the experiments being able to watch what was being done, and from first to last the only important omission that has occurred to me was the non-trial of trenching or double-digging against ground ordinarily dug. It is to be hoped that in the next series of experiments this omission will be rectified. I do not assert that it would pay particularly well in all cases to trench ground for Potatoes, but I have lifted very heavy crops from newly double-dug ground, and consider that it is the best use to which it can first be put. Both systems of trenching ought to be tried. In many cases the plan of reversing the spit, poor subsoil being brought to the surface, would not answer well, but it would prove an "object lesson" to many gardeners and others who go to work in a reckless manner. Bastard-trenching is most to be preferred, the positions of the spits not being reversed in this case, but only the shovellings or a small quantity of fresh and, it may be, virgin subsoil being mixed with the surface soil.

When the Warminster experiments came to be tabulated, decidedly instructive, if not particularly unexpected, results came out. Of the varieties grown, Imperator proved by far the heaviest cropping, the weight of sound tubers being at the rate of nearly 30 tons per acre. Reading Giant came next, giving nearly 20 tons per acre, Carter's Maincrop being a good third, the weight in one instance 18½ tons, and in another 20 tons to the acre. Bruce and Magnum Bonum also cropped heavily, the former lifting at the rate of a little over 17 tons, and the latter 14 tons to the acre. White Elephant yielded at the rate of 15 tons, Schoolmaster 12 tons, Reading Russet 11 tons, Webber's Early Beauty 11 tons, and Beauty of Hebron 11 tons to the acre. It was found that somewhat close planting answered well in the case of early varieties, and also that the later varieties with strong haulm must have good room allowed them. Farmyard manure used at the rate of 32 tons to the acre (a rather heavy dressing, but in all probability the ground was previously poor and not very retentive) gave good results, the gain over unmanured plots being at the rate of nearly 3 tons per acre. Better results, however, attended the use of a mixture of superphosphate, kainit and nitrate of soda in equal proportions, applied at the rate of 12 cwt. per acre and computed to cost about £2 16s.; whereas the farmyard manure was valued at the rate of 5s. per ton, or £8 per acre. The combination of superphosphate, kainit, and nitrate of soda proved much superior to either Potato manures

as sold as such, dissolved guano and soot, but the omission of any one of the three was attended by a considerable decrease in the weight of crops. Soot applied at the rate of 1½ tons per acre and costing £4 10s. was attended by disappointing results, as it only caused an increase in the weight of crops of about 1 ton 8½ cwt. per acre over the unmanured plots. Fairly large sets gave the best returns, and it will be a surprise to a good many, though it was not to me, to learn that a change of seed was not attended by any benefit, but rather the opposite. It was also proved that June planting is a mistake; at any rate it answered badly in 1892. Beauty of Hebron was the variety selected for this particular experiment, and although the plot planted in June produced the greater weight of tubers, nearly one-third of the crop was diseased; whereas in the case of those planted early there were scarcely any diseased. It may be that these conditions would be reversed during some seasons, but, as a rule, February, March, and April are better months for planting than the early part of June.

Dressing the haulm with disease-preventing mixtures was perhaps the most interesting and instructive of all the experiments, and it is very satisfactory to learn that the results were most encouraging. In some instances the ordinary Bouillie Bordelaise, 2 per cent. sulphate of copper, and 1 per cent. lime was used, and in others the later French notion of adding molasses to make the mixture stick better was tried, the results being about equal. Sixty-eight perches were dressed with these mixtures, and a similar number were left undressed, and it was stated at an exhibition of the produce that the average of the not dressed portion was at the rate of 12 tons 10½ cwt. per acre; whereas the dressed portion was 15 tons 1½ cwt. per acre, or a clear gain of 2 tons 11 cwt., but at what cost did not transpire. It is only fair to add that some of the disease-resisting varieties, notably Magnum Bonum, Bruce, and Maincrop, did not show a great gain, but the difference in the case of Imperator, White Elephant, and Reading Giant was very marked, amounting to about 5 tons per acre. Only one variety gave signs of being injured by being dressed, and that was Reading Russet, there being a decrease of crop in this case amounting to about 18 cwt. per acre.

It only remains to be stated that the whole of the Potatoes grown in the experimental plots were exhibited in the Warminster Town Hall, all duly ticketed and labelled, with a view to their being compared by visitors, the opening ceremony being performed by the Marquis of Bath attended by the Technical Education Committee and various other gentlemen interested in the matter. W. IGGULDEN.

**Potato The Bruce.**—This is really a fine Potato. I planted 7 lbs. in the garden without any manure, and when I dug them we had 240 lbs. from the 7 lbs. They were of good size and hardly any diseased, although grown in a confined garden and planted thickly together. I had some cooked and they were very dry and good flavoured.—J. C. F.

**Jerusalem Artichokes.**—Although Mr. Tegetmeier may, as he is striving to, do something towards obtaining higher excellence of form in the Jerusalem Artichoke, as he intimates his process of selection will lead to, it is to be feared that there is little hope of any benefit resulting in the matter of improvement of quality of flesh. Some years have elapsed since it was gravely proposed to so far improve the hardy Artichoke that it would replace our disease-stricken Potatoes. The Potato has practically outlived its threatened extirpation and is plentiful enough, whilst the Artichoke has remained where it then was. Still that is no reason



why something may not be attempted if it be possible to improve the Artichoke and to render its tubers more acceptable as an ordinary vegetable. At present the tubers are exceedingly watery in texture and have an earthy taste. I take it for granted that the chief obstacle to the improvement of the Artichoke has been found in the difficulty of inducing it to flower and seed. Very rarely does it flower, and I have never heard of its seeding in this country. Even if it did flower and seed at all, M. Vilmorin mentions that some efforts made to improve the Artichoke from seed in France led to poor results, only one diverse form resulting having yellow tubers, the flavour of which, as is so commonly the case with yellow-flesh roots, was better, but it was a very poor cropper. The difficulty found in getting variety from seed is doubtless due to the fact that there do not seem to be any other forms that can be utilised for cross-fertilisation. The flavour of the tubers is said to be superior if baked still they do not secure public favour to any appreciable extent.—A. D.

**Good Peas.**—For several years I grew Triumph in quantity, and found it to be one of the very best of the medium height wrinkled marrow section. The ripe Peas harden somewhat smaller than do ordinary wrinkled seed, and thus more is obtained per measure than is the case with larger ones. The pods are of good size, slightly curved, and carry nine and ten Peas, which are of excellent quality. A variety that has attracted very much attention at exhibitions during the past year is Queen, and wherever found it always took precedence, even of the large handsome Duke of Albany. The pods are long, green, close-fitting and handsome, having a distinct straight base with a gentle curve on the top. It is one of the best shelling Peas I have met with, and is devoid of that broad puffiness found in the Telephone section. I do not know by whom these Peas were raised, but they rank amongst the very best in cultivation.—D.

**Time for sowing Peas.**—Whilst gardeners can always make sowings of first early Peas under glass either on turf or in troughs, or in pots for turning out into the open ground when convenient, the market grower has to regard the general condition of his soil and the nature of the weather. Few now care to risk a sowing so early as the few weeks before Christmas, finding that on the whole nothing has been gained and oftener much is lost, for should early-sown breadths suffer appreciably from weather or vermin, no later sowings can fully recoup that loss. On the other hand, if sowings be made at the end of January the seedling plants will be coming through early in March, and will then have all aid from the greater sunshine and increasing warmth. It not infrequently happens that the clumps or pots of Peas raised under glass and planted out on warm borders are overtaken by sowings made in January direct into the open ground.—A. D.

## FERNS.

### VARIEGATED FERNS.

#### THE PTERIS SECTION.

UNDER this heading there are now several decidedly distinct and ornamental Ferns, recent acquisitions having further added to the selection. The first varieties which I grew were *Pteris quadriaurita argyrea* (usually known as *P. argyrea*) and *P. quadriaurita tricolor* (as *P. tricolor*). In their way these two Ferns are not now even surpassed. Between the two there is, however, a great difference as to growth. *P. argyrea* (the silvery *Pteris*) is a free-growing plant, thriving well in 10° less temperature than *P. tricolor*; it is readily increased from spores, the young plants growing quickly into useful material. As small plants in 4-inch and 5-inch pots it is very ornamental, more so, perhaps, than when larger with the foot-stalks of the

fronds considerably longer. I have used this variety for several seasons in a conservatory, where it is seen to good advantage, wintering it in a cool house. It should, however, be kept in a temperate house to succeed with it in the best possible way. Another suitable mode of growth is to plant it out in a fernery where 50° is about the lowest range of the thermometer; when thus grown the increased length of the fronds is an advantage rather than otherwise. The brown scale is partial to it; in this respect it should be well looked after. In its culture loam may be freely used; in fact, loam, leaf-mould, and sand are about the best.

*P. tricolor*, as contrasted with the foregoing, is a much more difficult Fern to grow to perfection. As afore alluded to, it requires more warmth, at least that of the ordinary stove. In this respect it may be classed with the best of the *Gymnogrammas*. When this Fern is seen at its best, it is one of the most beautiful of its class. In its culture I have noted that it was partial to more shade than most varieties; if much exposed, the older fronds would be disposed to turn brown. I used to grow it best when partially shaded by other plants. When first introduced I had it of fair specimen size, but only by careful attention. My experience of it was that it grew best in peaty soil, quite in contrast to *P. argyrea*; it must also be potted firmly and not be given over-large shifts. It is seen at its best when still small or of medium size. I cannot altogether agree with the authorities who class this *Pteris* with the foregoing. It has decidedly much closer affinity, in my opinion, with *P. aspericaulis*, under which head it is found in the "Illustrated Dictionary of Gardening." *P. aspericaulis* is itself a rather shy-growing plant, and has the fronds more rigid than in *P. argyrea*; in this respect *P. tricolor* is its counterpart. Many have no doubt tried to grow *P. tricolor* and failed. If they have not tried it in more shade and in comparatively small pots, I recommend them to do so. It also requires a moist atmosphere and must not be allowed to suffer from want of water at the roots.

*PTERIS CRETICA ALBO-LINEATA* is a hardier Fern than either of the preceding, and, taken at all points, more useful also, although it cannot be considered so ornamental. It is grown in large numbers for market supply, being of good constitution, free growth, and very ornamental in a small state. It is calculated to withstand the temperature and atmosphere of living rooms as well as almost any Fern. I like it best myself before it throws up many of its fertile fronds, which are so dissimilar from the barren ones; in this respect it differs entirely from either of the two first named, these rising taller, it is true, but of the two assuming larger proportions; whereas in *P. cretica albo-lineata* they are very much narrower. When the spores of this Fern are ripe they fall upon and disfigure the others; to remedy this the plants should be freely syringed. It may be grown well in a cool house, and does not require much shade at any time. As to soil it is not at all particular; even if this be of only average quality it will not materially matter.

*P. MAYI* is a crested form of the foregoing, and a very beautiful variety. It is, I think, seen at its very best when still in small pots. The prettiest plants I have grown have been in 4½-inch pots; in this size of pot the growth is compact and dense, and it retains its fronds in a fresh condition very well; when larger the weight of the fronds is almost too much for the stems. Quite tiny plants of this Fern in 2½-inch and 3-inch pots are particularly interesting. The variegation is quite equal to that of the type, if not superior to it. It is quite as hardy, and may be grown in cold frames or pits during the summer months. In this man-

ner when kept close to the glass the most compact plants are to be had. I should advise all who are fond of variegated Ferns to add this variety to their collection if they have not yet done so. For small jardinières it is well suited, and would, I think, do well in Fern cases.

*P. NEMORALIS VARIEGATA* is not so much grown as either of the foregoing; it is distinct and of a vigorous growth, the young fronds being suffused through the centre of each pinna with a pinkish shade. As the fronds mature, this fades away to white, as in *P. argyrea*.

*P. PALMATA NOBILIS* (syn., *Doryopteris nobilis*) does not appear to be much grown; it is decidedly distinct. Like *P. Mayi*, it is, I think, seen at its best whilst still small. Its growth varies, the fronds being at first almost entire (heart-shaped); later on they partake more of a palmate form.

Besides the kinds alluded to already there are the new introductions of this season shown by Mr. H. B. May, of Dyson's Lane Nurseries, Upper Edmonton. These new variegated forms will, in my opinion, take their place in due course as undoubted acquisitions. Of these, I have myself been the most favourably impressed with

*P. TREMULA VARIEGATA*.—I consider this to be a valuable plant. All Fern growers know what a useful article is to be found in *P. tremula* itself. If the new variegated form proves as hardy, it will not take long to win its way. As noted thus far, it appears to be rather more compact in its growth, the fronds being of the two more erect; the silvery markings throughout are well defined, whilst it is in this respect well contrasted by the deeper green of the extremities. I shall watch this Fern with interest, believing it has a bright future before it. From the same source has been shown *Pteris REGINÆ*, which in its habit comes near to *P. serrulata*, but is of the two more elegant in growth, whilst it appears to be quite as vigorous. The silvery markings are decided, predominating above the narrow green edges.

*P. REGINÆ CRISTATA*, a crested form of the preceding, was shown at the same time by Mr. May, and save in that it is a beautifully tessellated variety it is its counterpart, its crested character, of course, making it somewhat more compact on the whole. These three new Ferns were all shown at the Fern conference at Chiswick on August 23 and 24 last, being duly awarded first-class certificates. Since then another form has been raised at the same establishment in

*P. NIVALIS*, in which the silvery variegation is even more marked, some of the fronds assuming an entire silvery shading, being also brighter as contrasted with the foregoing varieties. I am disposed to think, although it is of smaller growth, that it has some of the characteristics of *P. tremula* in it.

In all of the variegated forms of the *Pteris* family, the variegation appears upon the nerves or midribs, so to speak, and in bands on either side, the extremities being green. This seems to me to be a wise provision of Nature, for were the outer edges possessed of the silvery markings they would without doubt soon turn brown and cause a disfigurement to the fronds. The edges being green do no doubt aid in retaining the vitality of the fronds to a marked degree. Thus far, this genus has been the most prolific of any in variegated forms; no others can be said to approach it.

FILICES.

**The Bird's-nest Ferns.**—These are markedly distinct Ferns, and when well grown are splendid ornaments either in the fernery or when seen amongst other plants. There are two distinct varieties of this Fern, one having comparatively narrow fronds with the growth more spreading. The other has much broader fronds and is of a more erect growth. The first-named is catalogued as *Thamnopteris australasica*, the other as *T. nidus*, both being also found under the genus



*Asplenium*, to which in all probability they belong, one being a form of the other, but markedly distinct. The last-named (*A. nidus*) is by far the better kind to grow. It is whilst still in a small state quite an ornamental plant with its broad, massive-looking fronds. I have grown it as an exhibition plant on from the small state until the fronds measured quite 6 feet in length. It does best in a warm house, a stove being much safer in the winter than a greenhouse. Shade is also needed, whilst slugs and snails, as well as black thrips, must be very closely watched for and destroyed. A peaty soil and moderate potting suit it best. The soil should be rough (as used for Orchids), with some charcoal and broken crocks when it is not full of fibre; a liberal supply of water is also needed.—*FILICES*.

**Ferns for baskets.**—To the varieties of Ferns named by "A. H." (p. 429) as suitable for growing in baskets I would also add *Adiantum cuneatum*. I have now upwards of two dozen baskets filled with this. The baskets should not be often disturbed, once in two or three seasons being ample. The baskets I use are of wire and about 8 inches over. I also agree with "A. H." as to the value of *Nephrolepis exaltata*. We have in the conservatory four baskets filled with this Fern, each being quite 5 feet through.—*A. YOUNG, Abberley Hall.*

#### GOLD AND SILVER FERNS IN THE WINTER.

THERE is usually more harm done to these beautiful Ferns during the autumn and winter than during all the rest of the year put together. When the weather is dull, damp, and foggy the *Gymnogrammas* will require looking after closely to preserve them from decay. Where the fronds are large and the growth dense, this will be all the more likely to occur. Such plants want close watching; all the more so if they happen to be in a house that is predisposed to dampness. Those will be liable to suffer most which carry the heaviest coating of the farinose powder; for instance, *G. peruviana argyrophylla* is very apt to damp off, a small piece here and there. This in any case should be stopped by frequent examination removing the decaying pieces with a pair of Vine scissors, either a knife or the fingers not answering nearly so well. Old fronds turning yellow should be at once cut out entirely, and the others will be all the better preserved if drawn outwards in a careful manner. In houses which are somewhat flat, thus being liable to drip, a sharper watch still needs to be taken, or several fronds at once will be injured. When the weather is cold and frosty with an extra amount of heat in the pipes, there is the liability of the plants getting too dry at the roots. They are extremely sensitive in this respect. In the case of some of the *Adiantums* and *Aspleniums* it does not so very much matter if they be dry at times. Not so in the case of the Gold and Silver Ferns. The plants should, if the previous culture has been good, have plenty of roots, the pots not out of proportion to their size for wintering. Then the plants will take a liberal supply of water with no risk of an over-dose when looked after in a careful way. A good place for wintering Gold and Silver Ferns is the narrow shelf oftentimes to be found next the path on the front side in lean-to plant houses; under these narrow shelves the pipes will in most cases be arranged. Thus the position is a dry one, drier in fact than most plants like it, but not too dry for those under notice. Of course the watering in such a place is an all-important matter, but when so well within notice there is no real excuse for any omissions. The Gold and Silver Ferns, although they enjoy warmth, may also be used freely in the winter as decorative plants. They are not often seen shown in collections of table plants, but, all the same, it takes an exceedingly good plant of any other family to beat them. They are, whether it be a Gold or Silver variety, so very appropriate to the dinner-table when the latter is well laid out. It is possible that stray seedlings may in some cases be now of fairly good size; these might at once be

lifted with as much soil as possible and potted, keeping to as small pots as possible. These young ones will then with the turn of days start off into growth more freely by a long way for this early attention.

*FILICES.*

#### ADIANTUM LUNULATUM AT HOME.

"*FILICES*," writing on deciduous Ferns in *THE GARDEN* of November 26, states that *Adiantum lunulatum* requires a liberal supply of water, and, "even when dormant, it should not be allowed to dry up." Reading the above remarks reminded me forcibly of the conditions under which I have seen this Fern flourishing in a wild state, and to which I would wish to draw a little attention. "*Filices*" has chosen, I venture to think, a very interesting subject, as doubtless very many of the most lovely Ferns are deciduous and in consequence extremely attractive and interesting. We are apt to get tired of our groups of evergreen Ferns, however delicate and beautiful may be their frondage, but who can help being charmed by the delicate tinted fronds of our deciduous Ferns when they start again into life after a long season of rest, and almost of forgetfulness on the part of the cultivator.

*Adiantum lunulatum* holds a high place for beauty and gracefulness amongst the large family of Maiden-hair Ferns, but for some unknown reasons it is not often seen in collections. In the province of Malabar, in South India, it is found in great abundance at an elevation of 3000 feet above sea level. It is found in the Bamboo forests, where the annual rainfall does not exceed 80 inches, and where the hot and rainless season frequently extends to six months of the year. The plant is found in these forests in the richest profusion, appearing as if by magic on the approach of the first spring showers and gradually disappearing with the winding up of the south-west monsoon. It is found everywhere, growing out of the ground, clefts of rocks, amongst stones, and on the stumps of decayed forest trees, in the latter position its viviparous fronds showing to great advantage. During the season of growth the monsoon rains supply an abundance of moisture, and the Fern luxuriates in the dripping forests; but what I wish to call special attention to in connection with "*Filices*," statement that the plants, even when dormant, should not be allowed to dry up, is the period of rest or hibernation the Fern undergoes, which is a climatic privation of an extraordinary kind, and one which, instead of producing injury to the roots, would seem only to invigorate them for future efforts in the production of fronds.

During the period of rest the ground containing the roots of the Fern is deprived of all moisture by the burning sun and is literally baked. In addition to this the earth is licked by jungle fires, which destroy every decayed leaf and scrap of withered grass and other herbage, which if left might afford protection to the roots of the *Adiantum*. In fact, the aspect of the Bamboo forest tract for a considerable time before the advent of the spring showers presents a blackened and desolate appearance, and it takes a considerable stretch of imagination on the part of a stranger to picture to himself the scene of exquisite verdure which follows so quickly after the fall of one or two heavy thunder showers. It can easily be seen that the roots of the *Adiantum* lodging in such positions as clefts of rocks, forks of trees and decaying stumps and roots fare no better in the way of moisture or shelter than their companions in the earth, and the marvel is that any survive the ordeal and live to beautify the forests on each returning springtide.

In the evergreen forests of Malabar, where the annual rainfall reaches from 230 inches to 250 inches, and which merge into the Bamboo zone without any abrupt barrier, such as a range of hills, and give shelter to innumerable evergreen Ferns during the dry season, the *Adiantum lunulatum* is never found. Its habitat is rigidly defined, and although there is no apparent hindrance to its crossing the clearly marked line, it seems to prefer

the confines of the drier Bamboo forest and its long annual sleep. That a different mode of treatment may be adopted with advantage when the plant is cultivated in England I am not prepared to dispute, but the above are the conditions under which it is found wild in India, which are suggestive at least.

*Lygodium scandens* is another Fern found at the same elevation in Malabar, but under different circumstances. I agree with "*Filices*" in thinking it best to treat this Fern as deciduous; while under cultivation in England it is so extremely interesting to watch the gradual development of the young scandent fronds. In India, however, it is not deciduous, but is mostly found growing amongst low-growing shrubs on the outskirts of rice fields, which it completely covers with its beautiful frondage. These shrubs are evergreen, and although their roots do not reach the water of the swampy rice fields, they grow sufficiently close to derive some moisture from them. The roots of the *Lygodium* are at all seasons well protected from the burning rays of the sun both by their own fronds and the leaves of the shrubs which it so much adorns.

*J. LOWRIE.*

#### ORCHARD AND FRUIT GARDEN.

##### NOTES ON PEARS.

THE interest in the cultivation of Pears claimed by M. Charles Baltet is by no means confined to the growers of that excellent fruit in France, but is largely shared by a considerable number of both professional gardeners and amateurs in England, who are constantly on the look-out for new and reliable additions to the somewhat circumscribed list meriting that character. There are very few English growers who have not met with disappointment in growing Pears proved only on the Continent. The high development obtained by good cultivation and the superior climate of France cannot invariably be confirmed when grown in this country, except perhaps in its most favoured parts. A few comments on the list you have published may not be without interest to some of your readers interested in the cultivation of Pears. I am so well aware of the influences of soil, rainfall, and climate on the quality of Pears, that it must be understood that my remarks apply to north country localities. We are 2° north of London, not far from the centre of England, and at an elevation of 237 feet above sea level. Our natural soil is lower lias, and our annual rainfall is 25 inches on the average.

I will notice the sorts successively as they are named in M. Baltet's list, beginning with Doyenné de Juillet, which is probably a synonym of Doyenné d'Été as the description applies to it, and if so, the high opinion given of it may be confirmed. The next four, named André Desportes, Epargne, Beurré Giffard and Précoce de Trevoux, are unknown to me. Williams' Bon Chrétien, it appears, preserves its characteristics abroad as well as at home, having the demerit of being too strongly perfumed to suit all tastes and being evanescent after gathering. Dr. Jules Guyot I have not grown. Mme. Treyve is a Pear of accepted excellence in this country, as is also the next named, Beurré d'Amanlis. Doyenné de Merode, Triomphe de Vienne and Beurré Lebrun are sorts not included in my collection. I am in a position to confirm the good opinion expressed of Beurré Hardy; it is a fitting souvenir of an excellent pomologist. The next, named Fondante des Bois and Louise Bonne d'Avranches, are strangers to me; not so Beurré de Capiaumont, which has the merit of a productive habit and colour, but it only ripens here in hot



seasons and is generally used as a stewing Pear. De Tongre or Durondeau is a good juicy and refreshing Pear, and Doyenné d'Automne is a handsome, well-flavoured fruit of medium size. Probably from the description given of it, Colmar d'Arenberg is a synonym of Beurré d'Arenberg; if so, it is a Pear that may be commended as a juicy, refreshing, and prolific kind. Antoine Delfosse should claim the notice it has not yet obtained from us if the character assigned it can be maintained in this climate. Duchesse d'Angoulême is a well-known Pear, but with me has no claim to any merit but size; it is flavourless and I have discarded it. President Mas should be a good Pear, but it has not yet found a place in our gardens. Beurré Bachelier has failed with me, producing only green, flavourless fruit. Charles Ernest is an utter stranger to me. Not so the next in the series, Beurré Diel, which is occasionally melting, but more often hard and fit only for stewing, yet I have heard it eulogised grown in Kent as a Pear of high character. Beurré or Mme. Millet never fairly ripens even on an

It will be seen that out of M. Baltet's list of thirty-nine kinds I have only been able to select fifteen as known to be reliable in this part of England. I wish so much we could make an arrangement by which all these unproved kinds could be tested, not indeed in the "Garden of England" (Kent) or Chiswick, or even in favoured Hertfordshire, but in this north midland district and in the cold counties north of us. —W. INGRAM, *Belvoir*.

—Many of the names in M. Baltet's list of best Pears in last week's GARDEN sound strange to the ears of the majority of English growers. Some that we look on, and I think rightly, as among our best are not mentioned, whilst many are included which we certainly cannot place in the front rank. Any hints on Pears, especially such as hinge on the really good and the indifferent sorts, are, however, well timed at the commencement of the planting season and useful to intending planters, for after securing a number of varieties, it is annoying to find many of them of little use for the purpose required. The selection of twelve of the very best varieties persistently advocated some two or three seasons back in THE GARDEN was a

cess of the fine-looking fruit with much interest, thinking it a very toothsome looking sample, but from a dessert standpoint we never get beyond the appetising appearance. I send it to the kitchen as soon as it shows the slightest sign of colour, and as it is useful for this purpose, one or two trees might be included in collections, for it is a variety of admirable constitution and very free. This is making capital headway as a cordon, and others doing equally well are Louise Bonne, Glou Morceau, Beurré Diel, General Todleben, Winter Nelis, and Conseiller de la Cour. Both the last-named and Van Mons Léon Leclerc are good and remarkably handsome November Pears, not quite first-class, but decidedly better than the three named at the commencement of these notes. The remembrance of good fruit of Chaumontel from old trees induced me to try this in cordons, but it is not at present a success; annual growth is very weak and spindly and the fruit very small. This description, so far as the annual growth is concerned, is also applicable to Doyenné du Comice, Josephine de Malines, and Olivier des Serres.—E. BURRELL, *Claremont*.

### THE MOST POPULAR PLUM.

If the truth could be arrived at as to which is the most popular Plum in cultivation, the verdict would be given in favour of Victoria. No other variety possesses so many good qualities as this fine old Sussex Plum, and it is very certain that it has been by far the most extensively planted during the past ten years, or, say, since the fruit-planting fever has set in. It is a veritable rent-payer. While the other varieties are growing into large and serviceable trees the Victoria is producing enough fruit to help, if not to wholly meet current expenses. In common with other early and heavily productive fruits, trees of Victoria rarely attain a large size, nor are they ever likely to do if allowed to bear as much fruit as may set on them. In the orchards it forms a medium-sized, somewhat spreading standard, and for this reason, and also from the fact of its precocious habit of bearing, it is just the sort to plant in rows midway between varieties and kinds that attain a much larger size and are slower in coming into full bearing. It is as low or medium height standards that this variety should be grown, the habit of growth not readily lending itself to bush or pyramidal training. The Victoria is also well worthy of a place against walls of any moderately warm to comparative cool aspect, a long succession, lasting, say, from the middle of August till the middle of September, being had by varying the sites of the trees. As a poor man's Plum it has no equal, and if landlords are called on or feel disposed, as I maintain they ought to do, to provide the poorer tenants with fruit trees, a trained tree of Victoria for the cottage walls and a standard for the open should be among the first selected. Hereabouts the trees seem to thrive fairly well everywhere, a moderately strong loamy soil evidently suiting the variety. It is not particular, however, as to soil, only the trees ought not to be impoverished at the roots, or an early failure is inevitable. Overcropping is the mistake most often committed with this variety. If there is any fruit at all, and it is not often it fails, this is almost certain to set in great clusters. The fruit ought to be early thinned out, this operation being rather severe if the crop is heavy and should not be delayed till the natural process or premature dropping commences. One thinning is not enough. When the Plums are changing for ripening some ought to be used in pies, and when colouring, a heavy thinning should take place, the fruit then being quite saleable and fit for making into preserves. Not being overlaid, the trees will swell the reserved fruit to an extra



Fruiting branch of the Victoria Plum.

east wall. Beurré d'Hardenpont I have grown for several years; it is fairly good, but not of first quality. Passe Colmar is juicy, but insipid and only second class. Nouvelle Fulvie has never justified the encomiums passed upon it, but I have only had fruits from a pyramid-trained tree. Royal Vendée and St. Germain d'Hiver I do not know. Passe Crassane I was induced to try from a long acquaintance with an old favourite, the original Crassane, but, far from surpassing its namesake, it has never proved fit for the table. Olivier de Serres is a Pear of undoubted excellence when obtained of decent size; its russety skin and peculiar shape and its eccentric habit of growth prevent it growing in favour. Josephine de Malines is always melting and of high culture in this garden, and well deserves the praise bestowed upon it. With the Duchesse de Bordeaux and Doyenné de Montjean I cannot claim knowledge, but I should like to form a closer acquaintance with what M. Baltet styles the queen of the fruit-room, Doyenné d'Hiver. Doyenné d'Alençon I grow and value, also the concluding name, viz., Bergamote d'Esperen, cannot be excluded from Pears the trials of our north midland climate.

step in the right direction, but, as several correspondents pointed out at the time, it is hardly advisable to confine planters to this limit, for the reason among others that a best variety grown for a particular season might by no means be at home in all soils and situations.

To enumerate a few in the above-named list which I do not think could be recommended for dessert (I allude solely to outdoor planting), Beurré Hardy is fairly juicy, but quite flavourless, and the same must be said of Beurré Bachelier and Passe Colmar. All these bear about the same relation to good fruit of Marie Louise, Beurré Superfin, and Doyenné du Comice as in Apples a Sussex Sweet does to Cox's Orange or a Cornish Gilliflower. Hacon's Incomparable is another juicy, but insipid Pear. Conflicting reports are often to hand respecting Duchesse d'Angoulême and Beurré Diel; the former is of no use here either from old trees or cordons. Beurré Diel is rather better from cordons, but it can hardly be classed above a first-class stewing Pear. Our earliest stower is Marie Louise d'Ucle, concerning which a note appeared in last week's GARDEN chronicling an experience identical with my own. When planting a wall with cordons three years ago I was strongly recommended to give it a trial, and was very well satisfied with the capital crop of fruit obtained from half a dozen trees. I watched the ripening pro-



large size, the quality also being far superior to that of fruit gathered from heavily cropped trees. Fully-developed, well-ripened Victoria Plums are really quite good enough for dessert, and will always sell readily. I. M. H.

### BLACK CURRANTS.

WHEN well grown, the Black Currant is not only one of the most useful of fruit, but also one of the most remunerative. Of late years some growers have had a serious evil to contend with, viz., the Currant bud mite. Bushes or buds affected are easily noticed in the early spring, the buds having a rounded or swollen appearance instead of bursting out into leaf. The remedy for this is either to pick off the swollen buds and burn them or cut off the affected shoots. Syringing the bushes in the autumn with some insecticide is also resorted to as a safeguard. Happily, however, this pest is only local, so that it is within the grower's power to stamp it out. The Black Currant will succeed well on almost any soil and situation; it has also its likes and dislikes in this respect. For instance, in the west of England it may be seen thriving to perfection in the valleys of the Severn and the Teme. I have often been struck with the growth there made, the annual shoots from the bottom partaking more of the character of Willows. The above proves that the Black Currant is a gross feeder, and where it does fail, it must be for the want of adequate support or faulty pruning. The worst soil to contend with is a stiff clay, but even on this the bushes will succeed well if attended to as regards rich top-dressings.

As regards pruning, all that is necessary is to thin out any old bearing wood to allow room for the younger, which should be encouraged to grow right from the bottom. In the case of the Black Currant, all the lower buds are retained when the cutting is made, so that the future bush will partake of the character of what is termed a "stool." To produce a good stool, the bushes after planting should be cut down to within 2 inches or 3 inches of the ground level. I have renovated old bushes by completely cutting them down to within a few inches of the ground-line, and with the assistance of a good dressing of manure and burned garden refuse the after-growth has been remarkably strong. The burned refuse and manure form good material for top-dressing, which is very important, merely laying it on the surface to the depth of 2 inches, not forking it in in the least. It is not often that time can be afforded to apply a soaking of liquid manure or sewage, but where it can be given, there cannot be any question as to its value. I have often been struck with the heavy crops of fruit sometimes seen in cottage gardens where the bushes are growing on the brink of a brook or ditch. Where there is a choice of position, that which is low and moist and partially shaded is the best. The varieties of Black Currants are not many, Lee's Prolific being, perhaps, the best of any. Carter's Black Champion is also good, it also having the merit of not dropping so quickly after being fully ripe. Black Naples is also a good variety. Y. A. H.

The Blenheim Pippin. - I have observed what are prominently marked as English Blenheims shown in a few shop windows at 3d. per lb. Taking the bushel of sound fruits as containing 40 lbs. of fruit, that would make the shop sample to be at the rate of 10s. per bushel. That is, of course, a first-rate price, and as Apples go they can hardly be sold cheaper. In the provincial towns, and indeed anywhere it is rare to see Cox's Orange Pippins offered at all. These fruits doubtless find their way to the best class dealers, who reserve them for special customers and prices. Very recently an old Middlesex neighbour told me that he had obtained 30 bushels from five or six old Blenheim trees in his garden, and was selling the best at 6s. and the smaller at 5s. per bushel. I saw the samples, and the price was comparatively moderate as compared with the retail price at per

lb. If only forty such trees as this grower possessed were growing on an acre of ground the relative crop would have been upwards of 200 bushels, and sold at 5s. per bushel would have given a return of £50. That certainly would be a very satisfactory result, and few Apples could do better. When it is remembered, too, that Blenheim Pippins fruit perhaps more frequently than do other varieties on large trees; that the trees may bear with some occasional thinning of the branches and manuring of roots for some fifty or sixty years, and often longer, it is difficult after all to find any other kind of fruit or indeed any product that would in the end prove to be more profitable. That we have not nearly enough of Cox's Orange Pippin Apples grown is certain, and there is room for the planting of thousands of trees. These, however, like a soil that is fairly deep, but not too strong or retentive. The Blenheim will do very well on a strong soil, but it will also do admirably on chalk or gravel if the upper strata of soil be fairly deep. Looked at from the point of view that there is a strong need for more first-class Apples in the market, and the demand for these, even with Canadian fruits very plentiful, will certainly increase, I think there is good reason to believe that many suitable sites planted with Blenheim Pippins as standards at the rate of forty to the acre, and Cox's Orange Pippin as half standards planted in rows between the others and rather more closely, would in time pay well. Of course, the Cox's would begin to be productive first, and by the time the Blenheims needed more room would have fairly well repaid for themselves and ground. That would be, perhaps, in fifteen years. Then the Blenheims would begin to crop heavily, and would prove to be a profitable speculation. - A. D.

Apple Baumann's Red Reinette. - This Apple is not so much known as it deserves, its high colour, firm flesh, and good keeping qualities making it a general favourite. The first time I saw this fruit staged was at the Apple congress at Chiswick in 1883 from fruit grown in the Royal Horticultural Society's Gardens; it was then shown in fine condition, and since that date has proved itself worthy of extended culture. On the exhibition table it is well known. It is above medium size; indeed, when specially grown, it is a large fruit with a deep crimson skin next the sun, very firm flesh with a slight acid flavour. The tree is most prolific, bearing in a small state, and is well adapted for growing either as a bush or as a pyramid. I have it growing also as a single cordon on the Paradise stock, and in this way it bears very freely. To get good-sized fruits thinning is necessary; it is also important to fully expose the fruit so as to get the rich crimson colour well distributed round the fruits. It is useful either for cooking or for dessert. I have never known this variety fail to crop either as a bush or a cordon. - G. WYTHES.

Apple Dr. Harvey. - At page 461, Mr. J. C. Tallack comments favourably on the above Apple. My reason for calling further attention to it is on account of its resemblance to two other fine varieties, i.e., Waltham Abbey Seedling and Wormsley Pippin. My first acquaintance with Wormsley Pippin was in Herefordshire. It is supposed to be a seedling raised by Thomas Andrew Knight. At that time I showed it to, amongst others, the late Mr. Haycock, Mr. Bunyard and Mr. Lewis Killick, all of whom I supplied with grafts. At the Apple congress held at Chiswick I saw several dishes of Dr. Harvey, which Mr. Killick told me the committee considered synonymous with Wormsley Pippin. In the report of the Apple Congress, Dr. Harvey is said to very much resemble Waltham Abbey Seedling, a variety supposed to have been raised early in the present century. - Y. A. H.

Highly-coloured Apples. - There is always abundance of well-coloured Apples at various west of England Chrysanthemum and fruit shows, but I never remember to have seen them so generally rich in colour as they were this season. Ribston Pippin was scarcely recognisable in some instances, the colour being equal to what is sometimes seen on selected fruit of American Mother. The spring

Ribston or D'Arcy Spice was also beautifully coloured, especially as shown at Bradford-on-Avon. Cox's Orange Pippin was neither so plentiful nor rich in colour as usual, though a few very good dishes were seen. Neither did Adams' Pearmain show up to the best advantage, but King of the Pippins was very good, the fruit being of good size, clear in the skin and prettily coloured. Kerry Pippin was very highly coloured, and the Nanny also almost equalled American Mother for richness of colouring. Margil was well up to the average, and I saw numerous showy dishes of Blenheim Pippin, some fruits being so bright red in colour as to convey the impression the form was distinct. Court Pendu Plat was never better coloured than it is this season, while Lord Burghley was richly coloured, if somewhat dull in appearance. Such russet varieties as Cornish Aromatic and Cornish Gilliflower had but little colour, but there seemed to be more of the russet about them than usual. Kitchen Apples, including some few that are also available for dessert, were also beautifully shown, and never before have I seen Warner's King with sufficient colour to make the fruit attractive. Hollandbury grown on a brashy soil was particularly bright in colour, the Emperor Alexander being also prettily striped, or rather more so than usual. Bismarck at Weston-super-Mare attracted much attention, and so also did a grand dish of Baumann's Red Reinette. At Wells one of the finest and handsomest dishes of Peasgood's Nonsuch ever seen was exhibited, the fruit in this instance being gathered from a wall tree in the Palace Gardens. Mère de Ménage was "all colour" at several places, and Beauty of Kent fully deserved its name. - I.

### VINES FAILING.

ABOUT the month of July last my Grapes, of which there was an average crop, began to ripen, the wood and the leaves began to turn brown. Some bunches have since ripened, and the remainder, though they did not wither, have neither ripened nor fully coloured. The same thing happened with me a few seasons ago, and thinking that it arose from the border being soddened and wet, I had the Vines raised and the bottom of the border laid with Portland cement with a sewer at the outer edge to carry off the water. In your issue of November 19 (p. 454) "Practical" advises not to mulch, as it tends to sodden the border, while in the same issue (p. 459) "H. W. W." states that outside borders should be covered at once, as frost does serious injury to roots of Vines when unprotected. May I trouble you to say in an early issue what you think is the cause of my Vines not ripening, and if I should now cover the border. I should mention the Vines are planted in an outside border which is 15 feet wide. They are covered with about 2 feet of clay sloping off to about 1½ feet at the outer edge. They are Hamburgs and Foster's Seedling. - INQUIRER.

\* \* If Vines are covered by, or even planted on the surface of 2 feet of clay, it matters little whether the borders are protected or not, as they will fail to do well in such an extraordinary rooting medium. Loam of a clayey nature is certainly to be preferred for Vines to any light, spongy soils devoid of clay, but I never expected to hear that anyone would be so unwise as to use clay pure and simple. Even a strong clayey loam requires a free admixture of old mortar rubbish, rough rather than otherwise, small brick ends being left in, burnt soil, and ashes, and half-inch bones, or otherwise it is almost certain to run together badly, all warmth and air being soon effectually shut out from the roots. Clayey loam being of a very retentive character is apt to become far too rich or manure-sick, and in this sour state is anything but congenial to Vine roots. That the roots do fail to act properly in "Inquirer's" case is very evident, and nothing short of again re-making the border will restore the Vines to a healthy, profitable state. This can be done now or at any time up to the end of March, Vines lifting readily just when breaking afresh. All the clay must be forked away from the roots right up to the stems, and after



having all dead portions cut out and broken ends cleanly cut over, the roots ought then to be re-laid in a fresh border. Very old roots will form fresh fibres more readily if scored or pricked at places with a knife. In all probability a border 6 feet wide would more than hold all the roots there now are, and would be ample to support the Vines for the next three or four years. If only a strong clayey loam is available, only a turf 3 inches or less in thickness should be skimmed off this, and the bulk may be greatly increased by the addition of an equal proportion of good garden soil. The latter alone will grow Vines well, and if good fibrous loam is not available, "Inquirer" had better use that than any clayey fibreless loam. Turf should be roughly chopped up prior to being used, and to every six cart-loads of this or mixture of soils add 2 cwt. of half-inch bones and one load made up of mortar rubbish, burnt soil, and ashes from a garden smother or slow fire made of garden rubbish, all being mixed well together. The last-mentioned ingredient is peculiarly root-inducing, and should also be freely distributed about the old roots as these are relaid in the fresh compost. It is advisable to make the border moderately firm and to bring the roots well up to the surface, taking care, however, to distribute them thinly, the topmost being covered with about 2 inches of soil. If this important work is done before March, severe frosts might penetrate the new soil and further injure the already crippled roots; but this could be prevented by means of either a covering of straw litter or, better still, a good thickness of half-decayed leaves. Leaf-soil, in addition to affording sufficient protection from frosts, does not sour the surface of a border and repel the roots, but, on the contrary, attracts the latter, abundance of root fibres soon taking possession of it. A mild hotbed formed on the border a short time in advance of the top-growth of newly-lifted Vines would most probably hasten root-action considerably and a loss of crop be prevented. Any unhealthy Vines that have been partially or wholly lifted ought to be lightly cropped the following season, or otherwise the recovery will be very slow.—W. I.

#### NOTES ON STRAWBERRIES.

In reply to the following questions concerning Strawberries—

- 1, *Best kinds for flavour and bearing in your district;*
- 2, *Best early and late kinds for open-air culture;*
- 3, *New or little-known sorts you have found worthy of cultivation;*
- 4, *Mode of treatment to secure the best and most regular crops;*

we have to thank correspondents in all parts of the kingdom for replies.

—Some eighteen varieties in all have been tried, and without expressing any opinion as to the merits of those sorts only introduced during the last two years, I should pin my faith on our soil for *bona fide* dessert purposes to La Grosse Sucrée, Green's President, Sir Joseph Paxton, Waterloo and Filbert Pine, with Noble thrown in as a first early, for whatever may be thought of its lack of flavour, only those can ignore its claims who can afford to grow a plentiful supply of pot fruit for late picking. Of the sorts that do not succeed or are not appreciated here, I may mention British Queen, Dr. Hogg, Mr. Radclyffe, Frogmore Late Pine, and Helena Gloede as not taking kindly to our soil; whilst James Veitch and Auguste Nicaise have been discarded as flavourless and insipid. Noble has a mark against it for a similar cause, but at present we cannot afford to dispense with its services. I hope the notes from various quarters in response to the editorial appeal may tell us of a variety of good flavour that will also compare favourably with Noble in earliness, constitution and size. I grew Black Prince

as a first early for several seasons, but unless a lot of time and labour can be bestowed on this variety in thinning trusses and blooms, the fruit is never of sufficient size to meet modern requirements. There seems a great demand from the kitchen the last few seasons for Strawberries to mix with some other fruit for cooking, and I find Vicomtesse a capital variety to meet these demands. It is one of the earliest, a prodigious cropper, of very fair flavour, and, if kept hard picked, has a longer season than any other Strawberry I know. For preserving, there are few better sorts than the old Elton Pine, unless there is a special request for the Grove End Scarlet. In approaching the subject of the best and most profitable system of culture, no one should lay down hard-and-fast lines or express a too decided or marked preference for either annual or three-year beds, so much depends on soil and situation, and still more on the requirements of respective varieties. My experience of the sorts grown here may be briefly summed up thus: By all means renew annually Noble, La Grosse Sucrée, Filbert Pine and Waterloo; they are at their best the first year after planting. But to practise the same treatment with Vicomtesse, Paxton and President would be folly. These are not at their best the first year; a far heavier crop both in size and quantity is taken the second and third seasons. They might stand longer, but I have never tried the experiment. They are cut up immediately after fruiting the third time. For the group that is to remain in the ground three seasons I use old forced plants. For annuals, strong runners are pegged on squares of turf as early as possible. In both cases a border cleared of early Potatoes is utilised. It is well dressed with for choice manure from the cow-yard, the soil being naturally rather light and dry with a porous subsoil, and the cow manure is at once cool and holding. A wide trench, that the manure may be well buried, and then deep spits are the rule for digging. So soon as the surface is dry the border gets a light treading. Plants that are not to remain more than the one season go out at 18 inches, and old forced stuff at 24 square inches; a surface mulching, and the operation is complete. For after treatment I never touch Strawberry beds with fork or hoe. They are hand-weeded when necessary, and the three-year plantations heavily mulched with good half-rotten manure early in autumn.—E. BURRELL, *Claremont*.

—The most abundant cropper with me is Héricart de Thury. Sabreur perhaps as good. This is a most distinct sort; it throws its trusses out as no other sort does, and the fruit lies in heaps all along the sides of the foliage. President is always good. Sir Charles Napier does not crop regularly, from what cause I am unable to determine. Auguste Nicaise is a thoroughly good main crop sort. I grow Noble, Harris's A 1, and Captain as early sorts. Noble is the best cropper and the earliest. Harris's A 1 lighter in colour, no better, and not so good a cropper. The Captain is a good showy, firm fruit, coming in close on the heels of Noble. Waterloo is a fine late sort, but of rather a poor constitution, certainly a valuable Strawberry and so very distinct; very showy on the table. My mode of treatment is as follows: Lay first runners; plant as early as possible in rows 3 feet apart by 1 foot between the plants; pick off all runners and blooms the first year. I get a crop of Onions, two rows, between the lines the first year; in the following season the crop is enormous. I litter them down with anything I can get just as they are coming into bloom. In the autumn the line is stretched on each side of the rows, and the spade run along to cut the runners off, when runners and weeds are all dug in together, and the ground kept clean after with the hoe. I never cut off the old foliage, as I think it detrimental to the health of the plants; it serves to protect the crowns during the winter. I make a new plantation every year and destroy the three-year-old one. For early fruit I lay the first runners, plant early 18 inches by 12 inches, and crop the first year. In this way I get Noble very early on a south border, and good crops too. After fruiting I take out

every other row. But these rows, though bearing enormous crops the next year, are not so early by nearly a fortnight as the one-season plants. I have always found this system of cultivation to answer admirably. R. LLOYD, *Bracknell Asylum*.

—Sir Joseph Paxton I depend upon for the main crop in the open air. It never fails to produce a heavy crop of large fruit, well flavoured and highly coloured. It is also, in my opinion, one of the best for travelling. I have sent it long distances by parcels post and always hear of its arrival in good condition. Our soil is a heavy loam of about 18 inches deep, resting on a bed of clay. Before planting I trench the ground about 2 feet deep. I then give, in the following spring, a good dressing of lime or burnt refuse, forking the ground well over and sowing a crop of early Peas, Turnips, or any crop that will come off early. After which it receives a good dressing of well-decayed manure, which is dug in and the Strawberries planted; by this mode I have very good results. James Veitch is the latest Strawberry here. Grown under a north wall, and by propping up the fruit, I can keep it in good condition far into August. Black Prince is the earliest. La Grosse Sucrée is the earliest and best here for forcing.—T. CANNING, *Aldenham Park, Bridgnorth, Salop*.

—With regard to Strawberries, out of fourteen or fifteen sorts which we grow the best kinds for flavour are Keens' Seedling, Dr. Hogg, and Sir Joseph Paxton. For bearing, King of the Earlies, Vicomtesse Héricart de Thury, and President. Best earlies are John Ruskin, King of the Earlies, Keens' Seedling, and Sir Joseph Paxton, ripening in the order named. Best late, Dr. Hogg, Latest of All, Loxford Hall, and Eleanor. The latest introductions of merit are John Ruskin, Loxford Hall, and Latest of All. Our mode of treatment is to lay down and destroy about one-third of the whole crop every year, double digging and well manuring the ground if not previously done, treading and rolling to firm the soil, and planting in August. By these means we have a full crop every year of fine fruit for dessert or preserving.—W. M. ALEXANDER, *The Poles, Ware, Herts*.

—Our best Strawberries for flavour combined with good bearing qualities are President and Vicomtesse Héricart de Thury; but seasons affect the flavour of these less than any others we grow. British Queen does not do well with us, though we try a few every year in the hope of getting a season to suit it, but our soil is too light to do it well. Our best bearers are the two first mentioned kinds, added to Sir Joseph Paxton and Jubilee. The best early we have is Noble, and the best late Jubilee; neither of these, however, is quite first-rate for flavour with us, though Noble is far from bad flavoured and a decided acquisition. It is of far better quality here than Sir Joseph Paxton, the latter being in my opinion very much over-rated, for though it is handsome, free, and a good kind for packing, the flavour is decidedly poor and inferior to that of many other midseason kinds. If Noble had never been used for forcing it would bear a better character than it does to-day, and I venture to predict that it will be extensively grown when newer and higher praised kinds are forgotten. Unfortunately, we have had to give up the good old Keens' Seedling, as it is soft, and all our Strawberries have to be sent away. As a late kind Jubilee may probably be superseded, but up to now it is our best, being an enormous cropper, a good traveller, and of passable, but not really good flavour, though it is at least equal in this respect to Eleanor or any other really late kind I know. Others have praised it for its good flavour, but I cannot yet do so. If flavour is to be greatly considered, then our season closes with Sir Charles Napier, which is a grand kind and generally liked, though some object to its acidity, while others prefer it to any other. I have found that none of the newer kinds I have tried are likely to supersede older ones. John Ruskin has not yet struck me as likely to be much grown, but it may improve with the advent of a better season. Waterloo is so late it will not grow here. The Captain is tender, and lost all its flowers by frost, so will not be tried again. Jubilee, as mentioned above, succeeds well,



and must be grown until another combining its good points with better flavour can be found. The treatment the plants have here varies with the kinds grown, but all appear to like heavily manured and well-trenched ground trodden very firm. We prefer to follow early Potatoes if possible with Strawberries, but we also plant a good many on the Onion ground, and this generally has been well manured for Celery the year previous. The ground is not dug after the Onions are cleared off, and the plants are generally pot layers. Noble and most of the early kinds we treat as annuals, planting them thickly (15 inches apart) on a south border. Our general rule for main crops is to fruit the plants for three years and then to clear them off, but President often does well longer than this, as also does Vicomtesse, the latter giving a lot of medium-sized fruit excellent for preserving. The plants are usually mulched twice a year, once early in spring with good short manure, and again when in flower, this time with almost clean litter, this being placed high up round the plants, acting as a support as well as keeping the fruit clean. As soon as possible after the fruit is off, the plants are cut round and all the mulching removed, leaving the ground quite bare for the autumn and winter; losses or injury by frost are rare. The first year after planting we occasionally take a light crop of some kind from between the rows, which are 2 feet 6 inches apart, but if the crowns are extra strong and good this is not done. Pot layers for forcing and planting out are taken from young plants, and the beds are planted in August. My selection of the four most useful would be Noble, Vicomtesse H. de Thury, President, and Sir Charles Napier, and if for home use Keens' Seedling should be added.—J. C. TALLACK, *Livermere Park, Bury St. Edmunds*.

The earliest and most prolific varieties are King of the Earlys and Vicomtesse H. de Thury, the former well worth a warm sheltered border for yielding an early supply, and the latter a well-known and prodigious cropper which rarely ever fails. As an early forcing variety it is at all times trustworthy. The flavour, too, is good. President does equally well for later supply, yielding good, firm, solid fruit, and a sure bearer. Other sorts that do well here are Sir Joseph Paxton, Sir Charles Napier, and Marguerite, but the flavour of the last does not encourage increasing the stock of it, nor indeed that of Keens' Seedling, whose fame is fast on the wane. I prefer keeping to a few good sorts and planting in different positions for prolonged supply.—R. BLACKSTOCK, *Bosworth Park, Leicester*.

The best kinds of Strawberries for flavour and bearing with me are the following: Sir Joseph Paxton, British Queen, Dr. Hogg, Princess Alice, Elton Pine, Vicomtesse Héricart de Thury. Best early and late kinds for open-air culture are Black Prince, Princess Alice, Keens' Seedling, Sir Joseph Paxton, British Queen, Dr. Hogg, Vicomtesse Héricart de Thury, Elton Pine, and Eleanor. I have not tried any varieties of recent introduction. As soon as the runners are ready in June, I place the strongest and best in 3-inch pots previously filled with good fibrous loam; then when the pots are full of roots I separate the runners from the parent plants, and place them all on a good bed of ashes as thickly as I can stand them, which prevents them from getting scorched by the sun, and they are more easily watered. Then about the middle of August I plant them out in beds 2 feet apart each way in ground that has been previously prepared by being well manured and dug during the preceding winter. Then about a month before the plants are put out, the ground is just pointed over about 9 inches deep with a fork, when nothing remains but to choose a fine day to put the plants out. Then in the following spring about the middle of April the beds are hoed through, and a little salt is sprinkled between the plants and long stable litter is afterwards placed between the plants, rain washing any nourishment out of the manure into the roots, and by the time the Strawberries are fit to gather the manure has become white and clean for the fruit to rest

upon.—W. SHEPHERD, *Greenhurst, Capel Dorking, Surrey*.

We stick to our old standard varieties, which include Keens' Seedling, Vicomtesse, James Veitch, British Queen, Oxonian. Laxton's Cardinal amongst new kinds I think will come to the front as a really good Strawberry. Although we get plenty of new varieties giving size and appearance, we do not get the most essential, that of flavour. We want the old Queen's blood impregnated more into our new kinds of Strawberries. Let us have a little more quality and less quantity. My method of culture is different to many cultivators. I plant on unmanured ground and mulch heavily in winter, and fork in lightly in February, and although our soil is very light and sandy, we never water, and yet we always get good crops.—G. BLOXHAM, *Brickhill Manor, Bletchley*.

There is no Strawberry in existence superior to British Queen for flavour, but, unfortunately, this kind is a shy bearer and does not thrive or succeed everywhere. That enthusiastic amateur, the late Mr. Archer, of Malvern, made this kind a speciality with invariable success, berries scaling an ounce each of the most perfect flavour. This kind is useless for market, as the purchasing public prefer being guided by the eye in the matter of Strawberries, as with Grapes, preferring Noble, Paxton, James Veitch, or some other coarse, but showy variety. Noble and John Ruskin are the earliest kinds, being a fortnight in advance of older varieties, that is, those having any pretensions to size and colour. Time is also gained in ripening as well as quality improved by layering the earliest runners in pots and planting out as soon as fit on a thoroughly well-prepared and sheltered border. Amongst new kinds Waterloo ranks high and flavour good. A. F. Barron is a good midseason variety; so is Commander, having extra long foot-stalks, but subject to mildew here. Latest of All is wrongly named; otherwise an excellent Strawberry, having apparently British Queen blood in it. Oxonian cannot be discarded for a late, although Jubilee has proved much later and stands the damp weather; really good up to August 10 for dessert. Stirling Castle is a kind grown largely for jam on account of colour and firmness of flesh. We find Noble best for early borders, La Grosse Sucrée for forcing, President for midseason, with British Queen for choice dessert, Vicomtesse Héricart de Thury for preserving, with Oxonian and Jubilee for late gatherings. These are our sheet anchors out of a score of varieties. A small quantity of plants is planted yearly especially to give runners for propagating, as by planting out early prepared runners quite a year is saved and the best and finest fruit secured. Destroy every third year, taking care to well manure the ground before planting. Half-inch bones ground fine are found a good holding stimulant, with a little nitrate of soda at swelling time.—W. CRUMP, *Madresfield Court*.

The best kinds for flavour and bearing, I find, are Garibaldi, President and Dr. Hogg. The best early and late kinds for open-air are Noble, Garibaldi, President, Market Favourite, Elton Pine and Frogmore Late Pine. Of little-known sorts, I have found John Ruskin, Competitor and Waterloo useful sorts. Two useful varieties in many places (Sir Joseph Paxton and Bothwell Bank Seedling) I cannot get to fruit here. I have a number of other varieties, some heavy croppers, such as Newton Seedling, Duke of Edinburgh, &c., but of only second-rate flavour. I generally plant on newly-trenched ground heavily manured, 2 feet between plants, take all runners off immediately crop is gathered, mulch with rotten manure, which I fork lightly in in autumn.—J. SHORT, *Hummersknott, Darlington*.

The best kinds for flavour and bearing here are Vicomtesse Héricart de Thury, La Grosse Sucrée, Aromatic, Sir J. Paxton, Countess, Sir C. Napier, Dr. Hogg, Sir Harry, and Frogmore Late Pine. The best early kinds are Vicomtesse Héricart de Thury, La Grosse Sucrée, and Noble. Owing to the dry season the last-named has been firmer and of better flavour than usual. The best late kinds here are Lord Napier, Frogmore Late Pine, and Water-

loo; this last is certainly the best and most distinct introduction during the last ten years, and should be included in every collection. It is a strong grower, fruit large and handsome, flesh firm, flavour brisk and slightly acid; the only objection that can be taken to it is the colour, which is rather too dark, and gives the fruit a dull metallic appearance when dished up, especially under artificial light. Of new sorts, Latest of All has done well here, and appears to be the most desirable novelty. So far as I have been able to judge, the others do not call for any comment.—O. THOMAS, *Royal Gardens, Windsor*.

The best kinds for flavour are Vicomtesse Héricart de Thury and President. The best croppers are Vicomtesse Héricart de Thury and Cockscomb. Vicomtesse Héricart de Thury and Noble are the earliest, the latter being of better quality than I had expected. Eleanor is the best late kind. Our beds are planted in rows 2 feet apart, and always rooted out after the third year.—G. W. MARSH, *Arle Court, Cheltenham*.

The best kinds for flavour here are Vicomtesse Héricart de Thury and President. Sir J. Paxton also does well, but not equal in flavour to those mentioned. Noble and Vicomtesse Héricart de Thury are our two earliest; Oxonian and Elton Pine the two we depend chiefly upon for a late supply. Waterloo does fairly well, but is a weakly grower. For our earliest supply we annually plant a warm border with rooted runners in August or September, and from these we gather nearly a fortnight before the older plantations.—C. HERRIN, *Droghmore, Maidenhead*.

## GARDEN FLORA.

### PLATE 887.

#### CLIMBING SOLANUMS.

(WITH A COLOURED PLATE OF *S. SEAFORTHIANUM*.)

This is a useful stove climber, being easily managed, a quick grower, evergreen and free flowering, and the flowers are very attractive, as the accompanying illustration shows. Although the plant is scarcely, if at all known in gardens except at Kew, where it has been an attractive feature of the Begonia house roof, it has been introduced into England several times, as is shown by the figures of it published at the beginning of the present century, and again twenty-three years ago, when it was known under the name of *S. venustum* (see *Botanical Magazine*, t. 5823). The species is a native of the West Indies, being common in Trinidad, where it climbs bushes and trees in the same way as our native species, *S. Dulcamara* (the Bitter-sweet), does here. It is quite as useful in a warm house as *S. jasminoides* is in the conservatory; in fact in its freedom of growth and flowering these two species are very similar to each other. In 1870 there was a large plant of *S. Seafortianum* growing against the roof of the large Palm house, where, according to Sir Joseph Hooker, it flowered in November. It had been grown at Kew for a considerable period, but, unfortunately, all record of its origin was lost. From the temperature at which it flowered under cultivation, it was then supposed to be a native of Brazil. So far as is now known, it is limited in its distribution to the West Indies. For clothing

\* Drawn for THE GARDEN in the Royal Gardens, Kew, by Miss Hamilton, June 4, 1892. Lithographed and printed by Guillaume Severeys.





SOLANUM SEAFORTHIANUM.







pillars, rafters, or training against the side of a house, *S. Seafortianum* is a most valuable plant. Cuttings of it strike root very freely.

*S. WENDLANDI*, of which a coloured plate was published in Vol. XXXVII. of *THE GARDEN*, is the handsomest flowered of all *Solanums*. It requires liberal treatment in a stove and plenty of head room, the shoots growing as rapidly and as vigorously as Grape Vines. The flowers, which are lilac, shaded with deep purple, are from 2 inches to 3 inches across, and borne in immense pendent racemes a foot or more in diameter. In the Water Lily house at Kew this *Solanum* has flowered freely, and produced a magnificent effect all through the summer for the last three years. It has also grown and flowered freely planted out at the warm end of the succulent house (No. 5). This species is practically deciduous, and it appears to like dry treatment during the resting period, that is, in winter. The stems are thick and very succulent when young.

*S. PENSILE*, a climbing stove species from South America, was introduced to Kew in 1887 and figured in the *Botanical Magazine*, t. 7062. It grows very freely, has dark green leaves and loose terminal pendulous racemes of bright purple flowers, larger than those of *S. Seafortianum* and with considerably more red in them. The above three species are first-class stove climbers.

*S. JASMINOIDES* is a most useful plant in the greenhouse, as it will grow almost anywhere and produce its graceful bunches of milk-white elegant flowers all the year round. It deserves a place in every greenhouse. W. W.

## THE WEEK'S WORK.

### HARDY FRUITS.

**PRUNING PEARS.**—The weather having lately been mild and fairly fine, many doubtless have already made good progress with the pruning and nailing of wall trees. Those who have not commenced this work ought to do so and to persevere with it whenever the weather permits, or otherwise there will most probably be too much to do in the spring for all to be properly performed. The start should be made with Pears, and if there is not a mulching of ashes or straw litter in front of the trees, let boards be used for standing upon, unduly trampling upon wet fruit borders having a most injurious effect. In the case of strong, well-established trees, and which, say, have covered nearly or quite as much wall space as they will ever do, pruning is a very simple operation. It is these trees, however, that very often are too lightly pruned. If owing to a too sparing use of the knife the spurs are allowed to project 6 inches or more from the main branches, then much of the benefit that ought to be derived from the walls is lost. The fruit spurs ought to cluster round the branches and spring out not more than 3 inches from the wall, and in consequence be less liable to injury from frosts, the fruit also attaining a larger size and ripening better. Trees largely furnished with long, ugly spurs ought to either have these gradually sawn off to within 1 inch of the branches or else foreshortened to a back break much nearer the wall. In most instances this would be duly followed by a strong break of young shoots and fruit spurs, and which the cultivator should take good care to keep more within bounds in the future. Supposing the trees were summer pruned, spurs being left to a length of about 2 in., the latter ought now to be further reduced to a length of 1 inch, in some instances, or where short spurs already exist in goodly numbers, to be cut quite hard back. Nothing is gained by crowding the spurs; therefore thin out where they smother each other when in leaf. If fruit buds are scarce, leave some of the short shoots there may be with a fruit bud at the end intact, cutting these back after the fruit has been gathered from them next season. Where there are any strong shoots available for furnishing blank space, lay these in to their full

length. Ordinary shreds are of little service in securing strong Pear branches to the walls, those made of Bedford cord, buckskin, leather, and other trimmings being far more durable. Wrought-iron nails are also to be preferred to the ordinary brittle cast-iron wall nails.

**YOUNG PEAR TREES.**—More judgment has to be exercised in the treatment of these. It is possible to be too free with the knife when pruning these, though not when the spurs are operated upon. For reasons already given, all single growths not required for laying in should be freely cut back to a bud within 1 inch of the branches, the aim being to cause a good break next season. Where this was done last winter, thin out the shoots resulting if at all crowded, leaving any which promise to develop fruit buds to their full length and the wood growths 1 inch long. Older spurs should be treated as advised in the case of old trees, unhesitatingly foreshortening any that come out too far from the wall. All those horizontally trained should have the leading growths laid in to their full length, the only exception being the central growth. The latter should be shortened to a well-placed bud three courses of bricks from the last pair of side branches, and next summer it ought then to be possible to select and lay in two more side shoots and a central one for extending the lead upwards. Also freely shorten the leaders of fan-shaped trees wherever more branches are required for furnishing blank space. It is a mistake to shorten the leaders of cordons generally, unless very small and one or two more growths are required for laying in. If the young shoots are pruned at all, it must be done rather severely or to about one-third of their length, or the chances are the lower parts will be naked. Not pruned, they will break regularly throughout their entire length, and a fair percentage of the breaks may develop into fruit buds. Young trees swell very rapidly; therefore remove all old shreds that pinch or unduly press against the bark. Horizontally trained trees in the open and also cordons should be treated much as advised in the case of wall trees. Pyramids and standards should be pruned similarly to Apples as described below.

**APPLES.**—More of these are grown against walls than formerly, especially where extra fine exhibition fruit is desired. Horizontally trained, fan-shaped and cordon trees should be pruned as recommended in the case of Pears, the advice to keep the spurs well back to the branches in particular being acted upon. Very fine fruit is frequently borne on the points of short shoots, and all these, therefore, should be closely examined before cutting them off. The topmost branches on espalier-trained trees are very apt to become the heaviest, a thicket of spurs quite smothering those on lower branches. Keep these within bounds on the younger trees, and freely thin out the spurs on older trees. Till the trees are well formed it is advisable to keep pyramids carefully staked upright, the leader also being kept straight. Shorten the latter to about one-third of its length; this will lead to the formation of more side shoots and a fresh leader. Side branches should be also shortened back if more shoots are required, otherwise they had better be left to their full length, only those not required for furnishing being cut back to a length of about 1½ inches. Young trees kept hard pruned require to be root-pruned rather severely in order to bring them into a fruit-bearing state; whereas those allowed to develop more naturally seldom require this treatment. Pears are more easily grown in a strict pyramidal form than are Apples, but varieties differ considerably in their habit of growth, pegs and tar twine being frequently used for bringing some of the branches down to a more horizontal position. Bush-shaped trees are the most easily trained. Cut out the leader of a pyramid as received from a nursery, and allow the side branches to grow more upright. The latter would soon commence bearing fruit if not pruned, but in some instances would not be stiff enough to support a heavy crop. This difficulty can be got over by using a few stakes, or if preferred the branches could be pruned to about half their length and allowed to extend more gradually, being stouter

accordingly, but they would be much slower in coming into bearing. Keep the centres of all the trees, whether young or old, open, thinning out the branches where they cross and unduly shade each other, most of the lateral growths being freely cut back. Trees that are large enough and in a fruitful condition should have all leading branches cut hard back, but where hard pruning is constantly followed by thickets of wood growth, leave all the best placed young shoots and early productiveness will be the result. Leaving young shoots to their full length thinly all over either unproductive or stunted old trees will put new life into them, that is if there is any such thing as accomplishing this. A considerable number of large old trees there are of varieties not worth growing, and these ought either to make room for young trees of superior sorts, or else be headed down and regrafted.

W. IGGULDEN.

### THE KITCHEN GARDEN.

**WINTER TOMATOES.**—What is wanted now to ensure the continuous ripening of Tomatoes where they have been prepared for winter fruiting is a steady heat. Where the night temperature ranges about 60°, a few degrees extra may be given by day, especially if coupled with sun heat. Whenever the weather is not actually cold and frosty a little ventilation will be beneficial. The roots of plants that are both swelling off fruit and also ripening others must be kept working freely by affording weak supplies of liquid manure if they should be growing in pots, but any attempt at over-gorging them with stimulating food will end disastrously by the foliage turning a sickly yellow. Plants that are not too confined at the roots may be allowed to become much drier at the roots before either water or stimulants is applied. Others in comparatively small pots may have a surface-dressing of loam, pulverised horse manure and wood ashes to keep the surface roots working freely.

**SEAKALE CUTTINGS.**—As the crowns are taken up for forcing, it will be advisable to reserve all the strong thong-like roots for forming stock for forcing, as root cuttings are far better than seedlings for producing strong crowns for forcing. I have now grown the Lily White for supplying the earliest produce after three years' experience with it, and, moreover, find it as hardy as the older variety in our exposed garden. Every root of this latter should be preserved that is likely to make a cutting. All strong roots of the old kind should also be retained, and although comparatively small roots may be saved where the stock is likely to be short, the larger ones are preferable. Pieces about the thickness of the finger are the best.

**SEED POTATOES.**—Too much care cannot be bestowed on the preparation or storing of seed Potatoes, especially the earlier Ashleaf varieties, as on this depends whether they will turn out satisfactory when planted. Now is the time to retard the sets, for if these should be at all huddled together in a mass or kept too warm and close, early sprouting will take place to the detriment of the first or primary sprout, and which must be retained if satisfactory results are to be achieved. If not already done, the tubers should be either spread out in a single layer in shallow boxes or wicker trays, and if room is scarce, stand them on end thick end uppermost. The boxes may also if so desired be stood on top of each other, but with strips of wood between to allow air to penetrate. They are best stood in a semi-light place, which must be dry and cool. It is when growth commences that the boxes must be placed out thinly, when the more light the better, also a free circulation of air, when the resulting sprouts will be sturdy and purple in colour.

**POTATOES IN POTS.**—A few early dishes of new Potatoes often come in very acceptable early in the season, for which purpose culture in pots is the best course. They do not take up much room, as generally at the turn of the year space is available in vineries or Peach houses about then being started. Another advantage of growing these very earliest Potatoes in pots is that it does not interfere with the pits and frames for the ordinary forcing



of this and sundry other crops. Not that the seed-tubers need be put direct into the pots at once, as these are better for being started preparatory to being potted. For instance, a sufficient number of tubers (the best varieties for the purpose being the invaluable Sharp's Victor and Mona's Pride) should be placed in a shallow box, merely filling in the interstices with sifted leaf-soil, afterwards placing them in an intermediate temperature, also keeping them fairly moist, when growth will not be long in starting. Two sets should be placed in a 9-inch or 10-inch pot, taking care that the pots are well drained, the soil consisting of three parts turfy loam to one of old Mushroom bed manure. The pots may be placed on the floor (if better space is not available) until the growth appears, when they must be stood well up to the light.

A. YOUNG.

## PLANT HOUSES.

**PALMS.**—NOTES ON WATERING.—These princes of the vegetable kingdom often suffer from one of two causes. If it be not that of sufficient warmth, it will possibly be that of insufficient moisture at the roots. When the plants are well rooted, as they should be at this season, they will still take a liberal supply of water. To allow them to become dry at the roots is simply a slow process either of killing them or of rendering them so unsightly as to be of but little use. It is in the stove where the plants will dry up the quickest, and if so be they are very much pot-bound, they must be looked after daily, seeing at the same time that they are thoroughly soaked. Once watering them is not in many cases sufficient for this purpose, for it may happen that the roots have forced up the soil, so that no average amount of water can be given at any one time. Palms, unlike Tree Ferns, do not at once show the results of an oversight in watering, but it will appear in due course all the same. There need not be any fear of injury by keeping them watered liberally so long as they are healthy at the roots. Although in most cases any stimulating agent in the form of natural or artificial manures is not advisable whilst but little growth is being made, in the case of Palms it will be found an exception to the rule. These plants require it to sustain them in health and vigour, more particularly when they have drawn out the chief virtues of the soil. For this purpose I have used "Standen's Gardeners' and Amateurs' Friend," an artificial manure of a highly concentrated character. A dusting of this over the surface of the soil about once a week will greatly assist them, a pinch between the thumb and two fingers being enough for the largest plants at one time, others that are smaller being treated in proportion. When this is applied the next watering should be done steadily through a pot with a fine rose upon it. Greenhouse Palms may be treated in a similar fashion, but these will not take quite so much water; nevertheless, do not let them suffer. Where plants for special reasons are retained in extremely small pots, then I would prefer to stand them in pans as a safeguard against drought. Those who may happen to have plants of *Stevensonia grandifolia*, *Verschaffeltia splendida*, or any other tropical Palms should look to it that they do not suffer by a low temperature; for these, 60° at night should be the very lowest.

**NEPENTHES.**—Growers of these handsome subjects should give their plants close attention still. In the summer they may be watered very freely indeed, whilst now with a comparatively drier atmosphere caused by additional heat in the pipes, they will still take a good supply. If growing in baskets, a light top-dressing of Moss (*Sphagnum*) will benefit them; frequent waterings having left the roots in a measure exposed, a little thrust lightly between the sides of the baskets will also be advisable. If up to now the plants have been hanging near to the glass, it will be much safer to lower them somewhat, or in the case of a sharp and continuous frost they will feel the cold.

**OTHER FOLIAGE PLANTS.**—Of these, the Marantas will still take a liberal amount of water. These are moisture-loving plants, feeling the effects

of drought at the roots very soon indeed. They should not be stood in too dry a place, or the thrips will be found troublesome. Where the plants are of extra size with a dense growth, some of the older leaves may be conveniently removed, as too much shade is imparted to other things. The Pandanus family, on the other hand, will bear to be kept fairly dry, large plants of the green-leaved varieties taking the most; in any case, however, it is better not to overwater them, particularly the variegated varieties. The stove Aroids, as the *Alocasias*, *Anthuriums*, *Dieffenbachias* and *Peperomias*, should be watered in a cautious manner. In these instances there will be but little growth in progress now, consequently less need of water. The plants have a good amount of stored-up vitality in them; hence they may safely be kept fairly dry, whilst, on the other hand, by the very nature of the soil (and the roots also), too much water will tend towards decay. Crotons should not be kept dry by any means. If these have filled their pots with roots, they will, like the Palms, bear a liberal treatment. Of course, plants that have been cut back, with not any or but little foliage on them, must be treated more carefully. Crotons in full leaf when allowed to suffer many times will cast their foliage prematurely and be more exposed also to the attendant evils of red spider, thrips, &c. *Dracenas* come under nearly the same category as the Crotons; of the two less water is needed in the case of large plants. Plants of *Cissus discolor* may now be treated the same as *Allamandas* and other such like deciduous plants, hardly any water being given them. The *Aralias* will not require any large amount of water, the stronger growers taking the most; in the case of any contemplated cutting down a little later on even less should be given. The stove and greenhouse forms of *Asparagus* should be treated according to the temperature in which they are being grown. If in the stove they will take a fairly good amount, in a temperate house less, and if in the greenhouse, even less still. By thus varying the treatment according to the temperatures, the plants may be maintained in correspondingly good health. Small plants of such decorative material as *Fittonias*, *Bertolonias*, *Sonerilas*, and *Tradescantias* should have a fairly warm place, so as to retain them in as fresh a condition as possible by the assistance of moisture, nothing approaching drought being permitted. *Billbergias*, *Tillandsias* and *Vriesias* with the variegated Pine-apple (*Ananassa sativa variegata*) should all be kept on the dry side at the roots, whilst where one part of the stove is drier than another, give them that place in preference. In the case of these plants injury from drip should be guarded against, turning the plants over when any water is found lodging in the hearts of the plants.

J. HUDSON.

## CHRYSANTHEMUMS.

## CHRYSANTHEMUMS AS SHOWN.

ON page 465 "Forward" starts a subject that is to be hoped will be productive of some good. There is no mistaking the fact that there is a great sameness about the majority of Chrysanthemum shows, and unless something is done towards adding to the variety and attractiveness of these displays there must inevitably be a falling off in the number of visitors to them. Those long arrays of cut blooms are particularly monotonous, and being brought so closely together the enjoyment of the crowds who try to spend a few seconds looking at them is marred. Why will those responsible for the arrangements insist upon having all the cut blooms on one or two tables? Is it because it has never occurred to them to do otherwise? Why not engage judges competent to judge by points and distribute the cut blooms among the classes for small pot plants? If there is not enough of the latter, either borrow the requisite number from an enterprising or interested nurseryman, or

provide more classes for small Palms, Ferns, and table plants generally. Local exhibitors would in many cases be only too pleased to surround their stands, on three sides at any rate, with Maiden-hair Fern in pots, and the effect would be most pleasing. Having to study growers from a distance is one great hindrance to any radical reform, but in very many instances local men are fully capable of providing enough to make an attractive display. The exhibits from local gardeners may not in all cases be particularly high class, but they are far more fully appreciated by the bulk of visitors who do not as a rule profess to be good judges of what they see. It is only by sustaining the enthusiasm of local owners of gardens and their gardeners that the average society can long keep afloat, and if the best prizes are to be taken by professional exhibitors and strangers to the neighbourhood, formality of arrangement of cut blooms and discouragement to local growers must prevail. I write "must" advisedly, as some different method of staging cut blooms may yet be generally adopted.

Enlarging the boards is by some thought a step in the right direction, but I doubt it. Certainly the additional inch or so allowed to each bloom does improve its appearance, but has any exhibitor besides myself tried what could be done in the way of confounding the judges? At one show I staged what I considered a really good lot of Japanese blooms on boards measuring 28 inches by 21 inches. The back rows were fully appreciated by the judges, but not so the front row. In the latter was a perfect and for the variety fairly large bloom of Mrs. Alpheus Hardy, which I fondly expected would receive the full number of points. Instead of that, the judges (neither of them present-day growers) considered the stand greatly weakened by it. Sarah Owen, Mme. Laing, Eynsford White, and Mme. Baco also failed to fill up sufficient space to please the judges. Next day the whole of the blooms were again shown elsewhere, but on the old or smaller boards. This time they won, beating some of the premier prize-winning blooms shown against them on the preceding day, and yet the senior judge acted at both shows. When going over the "ground" with him he expressed surprise at the reversion of positions, but understood the case better when I pointed out the size of the board. He was misled by appearances, as doubtless several other judges at other shows were who had not tested for themselves that it was possible to make blooms look smaller than they really are by giving them too much room. Enlarging the boards will simply have the effect, as Mr. Herbert Fowler predicts, of encouraging the cultivation of coarse varieties at the expense of more refined forms, whose only fault is that they do not sufficiently cover the boards to please inexperienced judges.

I am all in favour of showing Chrysanthemums with a good length of stem and foliage somewhat on the lines laid down by "Forward." The boxes of Moss will not do, however. They would have to be of far greater dimensions than is the case with Rose boxes, and in not a few instances Moss fit for the purpose cannot be procured. If the larger-sized stands are ever generally adopted, then ought a few leaves to be insisted upon in all cases where the flower-stems are not too long and naked to admit of this being done. It would be scarcely possible to show any leaves with Kioto, for instance; though if that led to the discarding of that most uncertain variety, no harm would be done. Showing the flowers with leaves attached would be the salvation of several front-row varieties



which otherwise will be condemned by exhibitors, and as an exhibitor not averse to long journeys am not against the proposed change. If larger boards and longer stems come into vogue, then the days of those clumsy cupboards will be numbered, travelling boxes and loose boards best meeting the case. What I would suggest by way of a change is that framers of prize schedules should offer good prizes for the best display of cut blooms arranged on a table and given space, quality and general effect being the leading features. If this did not lead to a free use of Hyacinth glasses or some other receptacles for holding blooms with long stems and foliage intact, with small Ferns and Palms interspersed, then all I can say it ought to do. Local growers would not have matters all their own way. If the prizes were worth striving for, exhibitors from a distance would try for them nearly as much as they do under present circumstances. It is astonishing what a number of neat Ferns, Palms, and such like can be packed in a case, and these being supplemented with plenty of fresh Moss, local growers would have all their work cut out to win premier honours. Since the shows were over, all our cut blooms have been arranged both on stands and in glasses, many of the former with long stems being added, the whole being associated with Ferns and other greenery, this private display being open to the general public for about a fortnight. The effect of my proposal has, therefore, been well proven, and there is no doubt about the exhibition being fully appreciated, a local charity benefiting considerably by the money collected. Cut blooms with from 12 inches to 18 inches of stems and foliage last remarkably well, and, if need be, I would unhesitatingly pack them flatly and closely in boxes for a long journey. The Japanese especially would only require a good shake up and to be placed in water directly they are unpacked. I also fail to see why blooms should not be shown in this way in connection with groups of Chrysanthemum plants, and which in far too many instances present a miserable appearance near the front. They are occasionally smuggled in, taking the form of make-believe plants in small pots, but not being in water flag quickly and disqualification follows.

WEST COUNTRY EXHIBITOR.

#### Propagation of Chrysanthemums (J. H. C.)

—It is not wise to have cuttings struck so early as your correspondent appears to have done. I do not approve of them being put in before the month of December, as plants raised earlier often give trouble in April or earlier by producing bloom buds instead of growth shoots. This is a serious matter when the bulk of the plants show these premature flower-buds, and little can be done besides cutting them down to near the soil to induce them to make a fresh start. Often the growths made after this give a lot of trouble. Cuttings inserted any time after the first of the present month until the end are quite early enough, as if the plants receive generous treatment during all the stages of their growth plenty of time is allowed. Commence by inserting the weaker growing sorts first—that is, if all cannot be put in at the same time.—E. M.

**Chrysanthemum Mrs. James Carter.** Another name by which this variety is known is Thistle, and a very appropriate one it is, as the flower resembles very much in shape some of the Thistles, and even more the yellow Sweet Sultan. It can, as far as I am aware, be classed with no particular group, but may perhaps be best described as a very small-flowered variety of the Japanese section with narrow thread-like petals. In the catalogue of the National Chrysanthemum Society, &c.,

I see, classed as a Japanese, but this last is a most convenient and elastic term that covers numerous distinct forms. Mrs. James Carter is of good free growth, with flowers of a clear straw tint, while there is a second of the same class (Alice Carter) in which the blooms are reddish-brown tipped with gold. If not disbudded in any way, the clusters of flowers have a very pleasing effect when cut.—T.

#### CHRYSANTHEMUM GROUPS.

ONE would be disposed to think that those who compete in this class would really show some signs of improvement. In only one instance this season have I seen a marked advance in the use of much dwarfer plants in the front, so as to give a finish as well as to hide the pots of larger plants. This was at the Crystal Palace in the trade group for Japanese varieties. The arrangement in this respect in this particular instance was admirable on the whole; the gradation in sizes from the very dwarfiest of not more than 1 foot in height up to others of 6 feet or more at the back was well carried out. The blooms were of first-rate quality and very fresh, two indispensable adjuncts to a group of this kind. By quality I do not mean to infer huge flowers as shown in a cut state, but rather those of medium size. This group even would have looked better if it had not been arranged in such a uniform manner. Had one of those arrangers of groups who so successfully compete at the Brighton show had the handling of these well-grown plants, he would undoubtedly have improved it by breaking it up, so to speak, into what might be termed smaller groups, yet all forming one, or by massing the colours, at the same time avoiding too formal a facing. At the Brighton shows the groups for years have been quite a pattern of tasteful arrangement and finish. Again, at Hull they are well carried out, where I am glad to see that the first prize-winner of the two previous seasons has again been successful. Two years ago I had the opportunity of viewing this group, and I thought then that he would be a bad one to beat. At Hull plants of fine foliage are introduced into the groups, and that with marked effect. What is done there might be done at other shows also with decided advantage. At Chrysanthemum shows there is never too much foliage in proportion to the flower; in fact, it is altogether the other way as a rule. Turning more particularly to badly arranged groups, I am very much surprised to still see the utter want of finish to the fronts and sides. To see the pots so conspicuously is bad enough, but when these are dirty it is even worse. Then there are the sticks, which often show up as if competing with the blooms for supremacy. There is really no excuse for this utter want of taste on the part of the exhibitors. Sometimes one actually sees plants in the front stuck upon pots rather than making any attempt to keep the facing as low as possible. All classes for groups should have a proviso that the front be finished off with dwarf Ferns, green Moss, or other foliage material. As far as this part of the work is concerned, the fault lies more in the framing of the schedule perhaps, but even then surely the exhibitors themselves could suggest the alteration. Several times this season I have seen groups nearly as high at the sides of the back of groups as in the centre, instead of falling away from 2 feet to 3 feet. This is often more a question of well thinking out the arrangement beforehand, and then providing a sufficient number of pots for raising the plants. The entire subject of grouping wants due consideration for months beforehand, just as the specimen plants do. If this were done more than it is and dwarf plants duly provided

in time, the result would be far more satisfactory. Overcrowding the plants still in a large measure prevails; this seems to be a failing that is of the greatest difficulty to suppress. In some instances a better selection of colours would be a marked improvement. A good cultural test as well as that of arrangement would be provided by limiting the number of plants, according to the size of the groups. A dozen plants well grown would make a nice group, small, of course; in larger numbers up to three dozen the effect would be better, it being understood that the plants are not to be crowded, but provided with an undergrowth of Ferns, &c. I have seen this limitation of numbers carried out in a most successful manner. It is not mere numbers which are required, but a less quantity with more quality and effect.—PLANTSMAN.

—Groups either entirely of Chrysanthemums or in connection with fine-foliated plants form a conspicuous feature at all the autumn exhibitions that I visit. Each place provides some feature distinct from another, and not always an improvement nor desirable. The great bulk of societies offer their principal prizes for groups composed entirely of Chrysanthemums, but in such cases the most effective arrangement is not always obtained. True, huge masses of flower are assured, because in that case the exhibitor who can pile together the largest amount of bloom with good quality is certain to win. It is questionable if this is the best manner of utilising the amounts annually dispensed in prizes for groups. Where cut blooms receive a large share of encouragement, there seems less reason to ask for such a mass of flower in the groups. If the plan adopted by the Hull Chrysanthemum Society was more generally followed, I think the autumn exhibitions would be more interesting to visitors and give a much wider range for variety. I do not mean that all societies should follow the example of the society quoted in regard to the amount offered in prizes for groups but they could imitate it in the style of the group. Prizes of less value would bring representative groups of Chrysanthemums and fine-foliated plants. The most interesting groups annually seen at the November shows are those arranged for the prizes offered by this north country society. There are other reasons besides that of the question of cost which militate against high-class groups of the Hull standard at some shows, the main one being the question of space; very few societies are so well off in this respect as the Hull executive. Many societies have to be content with small groups for this reason alone, and it is absolutely necessary that a fair amount of space be allotted to each group to provide an effective arrangement on the mixed principle. If some societies were to curtail the space at the disposal of their visitors for the purpose of enlarging their groups, they would suffer considerably. Even a leading society like Kingston would find it exceedingly difficult to add a combination class to their schedule on account of space if they wished to do so. It is therefore only fair in reviewing the shortcomings of societies in the matter of grouping that all these details should be taken into consideration.

The conditions which govern the Hull groups are these: A challenge cup value twenty guineas is offered, in addition to a cash prize of £6, for first, which is a sufficient inducement to anyone to put forth his utmost effort. The space to be filled is 100 square feet, the leading feature is to be effect in arrangement. Chrysanthemums are the only flowers used, these to be interspersed with fine-foliated plants. Perhaps the style of group is chosen which affords the means of producing the best effect—a semi-circle, the back of the group being against a wall. Abundance of space is also allowed between the groups, which enhances their appearance. It will be admitted that all conditions are here favourable for producing a pleasing effect. Mr. G. Wilson, gardener to Mr. James Reckitt, Swanland Manor, Brough, the winner of this handsome prize now for the third time, was, as usual, distinctly ahead of all others. Some idea



what the arrangement was might be of interest to readers. The wall at the back of the group was covered thinly with virgin cork, which was mainly concealed by greenery of a dwarf character. From these pockets of cork rose well-grown plants of *Eulalia japonica variegata* as well as other Grasses, tall and graceful. The few Chrysanthemums used were of the Japanese section, not more than 4 feet high, the blooms fully up to exhibition size, while the foliage left nothing to be desired. Vivand Morel and W. H. Lincoln were conspicuous varieties. A really good Cocos Weddelliana occupied the central position. From a groundwork of Moss and Ferns arose remarkably well-grown and highly coloured Crotons on single stems, the varieties having leaves of a weeping character; they were so disposed as to show off to advantage every leaf. Each of the remaining four groups exhibited defects somewhere; some had too few, while others had too many Chrysanthemums; others had a weak arrangement of foliage plants in the front—a too free use of one kind of plant.

At York the groups this year were very much too crowded to be effective. The fine-foliaged plants were so arranged that just the tops of the Crotons, for instance, were peeping out of a mass of Chrysanthemums. The groups here in the principal class are circular in form and arranged on the floor of the large hall. It is necessary, then, that all sides should be alike; the space is not large enough to obtain an artistic effect. In such groups if the plants are not placed fairly close together, it is difficult to hide the pots; therefore the exhibitors are not wholly to blame for defects arising out of the unsuitable character of the group space. The conditions here for a group of Chrysanthemums only to occupy a space not exceeding 80 square feet may be accountable somewhat for the close packing of the plants, cultural excellence only being the basis of merit. The exhibitor who has the greatest number of good blooms under such a condition then really scores a point, because apparently it is more trouble to produce double the number of blooms than a limited few. The first prize group really did contain magnificent blooms, but they were so huddled together as to render an inspection critically of each out of the question. Beyond obtaining a good mass of bloom, what other object is gained, I would ask, by such a group?

Perhaps the best effect as a whole is obtained by the manner in which the groups are arranged at the Torquay show. One large room in the bath saloons is set apart for this section. Non-competing groups of Chrysanthemums and miscellaneous plants are arranged at the sides of the room, the middle being devoted to the competitive exhibits. Circular groups limited in height as well as in diameter are arranged in three rows the whole length of the room except that in the middle row. The circular groups are alternated with square ones; these are confined to miscellaneous plants. The plants are raised 1 foot above the floor; instead of being at right angles with the room they were placed diagonally, which varied the effect. The manner of arrangement not only produced a good effect as a whole, but provided an interesting promenade for the visitors. The groups themselves were not of a very high order of merit, if I make one exception. In that case the plants were remarkably well grown, having blooms that would have done credit to many a first-prize stand of cut blooms. The foliage was really remarkable, being large, beautifully green and right down to the pot. What surprised me very much was the extremely large pots the plants were growing in; the bulk of them were 12 inches in diameter. The plants in this group were not only a credit to the cultivator, but the manner in which they were arranged was a feature to be copied. Every bloom was afforded sufficient space to show itself.

It does seem strange that in a Chrysanthemum-growing centre like Liverpool, better groups are not there seen than is the case. I can only class them as the worst that came under my notice during a lengthened tour of Chrysanthemum shows during the present season. Neither are the plants

well grown or disposed, points which go a long way toward ensuring success or otherwise. How often do we see plants much too tall for grouping employed? When exhibitors will persist in using plants fully 5 feet high for the front of a group, such treatment cannot do other than make Chrysanthemum groups of that character hideous to persons of taste, and do much towards condemning the practice of grouping Chrysanthemums at all.—E. M.

**New Chrysanthemums.**—Last season there was one new Japanese flower (Vivand Morel) that stood out far and away superior to the rest of its year. This season that honour may be given to the variety Col. W. B. Smith. It has every good quality of a Japanese Chrysanthemum—distinct and beautiful in colour and form, a good grower and free bloomer, not too tall, and at its best during the proper time, November. A few kinds of last year which have hardly reached expectations are Mrs. Libbie Allen, J. S. Dibbens, President Harrison, Harry E. Widener, Mr. E. Beckett. On the other side, varieties not greatly esteemed at that time, and which from further trial are extra good, include John Dyer, G. C. Schwabe, W. K. Woodcock, Emma Dorner, Amos Perry.—S.

**So-called sports in Chrysanthemums.**—Attention was very wisely directed to the above subject in a recent issue, for certain it is, seeing the craze now-a-days for new varieties, that all such should be well considered before receiving any special award. At the Teddington Chrysanthemum show the other day, blooms of two colours were shown by Mr. Coombs from plants of Vivand Morel. The one set of blooms was nearly white—blooms, so far as size is concerned, fit for any exhibition. All were cut from one plant. In this case crown buds had been selected. The other set was from terminal buds, the colour deep mauve. There are two very remarkable things here; first, the great change of colour from distinctive buds, and also the fact that both sets of blooms were perfectly fresh and fit for exhibition on the same day, as in the case of those flowers from terminal buds, growth some 18 inches long was made after the crown buds appeared; so that while the crown buds must be almost at a standstill, a sort of express speed must be maintained with those plants intended for the production of terminal blooms.—E. J.

**Chrysanthemum Mme. Pierre Louis Blancard.**—This French raised incurved variety is well worth growing. To those who are not well acquainted with varieties the blooms of Mme. Pierre Louis Blancard may appear too much like poorly coloured ones of Princess of Wales, which it somewhat resembles in colour. The petals of Princess of Wales are decidedly pointed; in this new sort they are blunt. The build of this French sort is good—in fact, more so than in Princess of Wales as seen during the present day. The foliage and habit of growth are also quite distinct. If an exhibitor should by chance stage a poorly coloured bloom of Princess of Wales and a good one of Blancard, and the judges be not acquainted with the new variety, he would certainly run a risk of disqualification. There is another way of utilising this French variety with a good prospect of success. It is naturally rather late in flowering; grow it well and it would then perhaps take the place of Princess of Wales, which gets rather thin towards the end of the exhibiting season.—E. M.

**A well-arranged Chrysanthemum show.**—Any arrangement out of the ordinary way deserves to be taken note of, for in many cases—most, in fact—it seems to be the greatest difficulty to strike out a fresh course. It cannot, perhaps, be always done as well as in the case now being alluded to, because of want of space. At the Twickenham show, the large hall was used mainly for groups and other plants. The groups were arranged on either side with sufficient space between each for them to be seen to advantage, these intervening spaces being mostly taken up by baskets of mixed plants, for which prizes were offered. The platform at one end was faced with

cut-flower arrangements in vases, bouquets, &c., with plants to back these up, but so arranged as to afford sufficient room for the musical performers. At the opposite end were to be seen on each side of the entrance, table plants, Primulas and Bouvardias, with some fruit. The chief feature, however, was the disposition of the remaining space. In the centre was a tastefully arranged circular group, the rest of the floor being utilised for the comfort of the visitors, as in a concert with chairs, there being plenty of room for promenading as well. The entire absence of tabling except at the back end was a great improvement, the straight lines of which give so much appearance of formality, which cannot be easily remedied were these tables are present. The effect in this large hall was excellent, whilst I feel certain the visitors would appreciate the comfort secured by less crowding. The cut blooms were placed in a separate room with some of the fruit; thus, as regards the former of these, around which would to a large extent be gathered the experts discussing the merits and demerits of each stand, there would not be that likelihood of distraction otherwise probable where the musical part of the entertainment was being carried on. Another room was given up to fruit and vegetables also. Thus, although the effect as a whole would not be so good, this breaking-up of the show affords far more comfort for the visitors, whilst the arrangement of the productions is also facilitated.—H.

**Staging Chrysanthemums.**—“Forward” displays some want of practical knowledge of the varieties and their manner of growth when he says “The stripping away of the leaves of the Chrysanthemum facilitates the cupping of the blooms.” He evidently does not know that many varieties have peduncles from 10 inches to 1 foot long, and some nearly 2 feet; how would he stage such as these with foliage? With the present size of blooms he would require even bigger stands than are now suggested to show off the foliage as well as the blooms.—OBSERVER.

#### SHORT NOTES.—CHRYSANTHEMUMS.

**Chrysanthemum Miss Lilian Cope.**—As we detest the big coarse Etoile de Lyon forms we rejoice to learn that the so-called sport Miss Lilian Cope is of no value. We hope the sport is not far distant when we shall see Comdor, Et ile de Lyon, and all its forms elbowed out of cultivation and exhibitions by more refined varieties.

**Chrysanthemum Lilian E. Bird.**—This is one of the most distinct of Japanese Chrysanthemums, and for that reason it should be generally grown. The petals are of a fine wiry character and have a whorl-like habit or form, so that the blooms look as if they were in constant rotation. It is not a large-flowered variety, but is rather refined, colour flesh white and very pretty.

**Chrysanthemum Lord Alcester.**—One of the handsomest and deepest blooms of this popular incurved was that shown at Wimbledon on the 15th by Mr. Mease, of Downside Gardens, Leatherhead. Not only was the flower perfect in form according to the Chrysanthemum ideal, but it was fully 4½ inches in depth, and was a long way the premier bloom of the show. There is a soft creamy hue about this flower that always makes it pleasing.

**Chrysanthemum Gastano Guelphi.**—In spite of the number of white varieties now obtainable in the Japanese section, this being so distinct in character must take a prominent position even in a small collection. The florets are narrow, but the peculiar manner in which they curl at the points renders it a striking novelty. It is not one of the huge coarse flowered varieties which we ought not to encourage, but the blooms on fairly well-grown plants are of medium size and peculiarly interesting.

**Chrysanthemum Robert Petfield.**—Any addition to the incurved section which possesses sterling merit is sure to command attention, not only amongst exhibitors, but by the general public. What the origin of this variety is I know not, but it is a decided acquisition, which I should advise exhibitors to acquire without delay. The colour is lilac with a faint purple stripe in the petals, which are slightly pointed, but of much substance, incurring thoroughly.—E. M.



## FLOWER GARDEN.

## GLOBE FLOWERS.

(TROLLIUS.)

ALL the species of Globe Flowers, though varying considerably in height, are of compact habit, and with them such things as stakes, or other modes of support, need never be resorted to. They may be grown in beds, borders, on lawns, by the side of ponds or streams, and anyone not possessing a garden may grow them well enough in deep pots. All are of a dense habit of growth, the foliage and flowers rising from an underground crown, which does not possess the

before the dry early summer sets in, the damages unavoidable in the operation. When divided in March, a few dry days, accompanied by sunshine, will cause the foliage to be uncomfortably prostrate on the ground, and the blossoms are equally certain to be puny and short-lived. They may also be propagated by seeds, which in vigorous well-established plants are produced freely, and generally retain, with marked persistency, the specific characters. It is to be noted, however, that the seeds rarely vegetate the same year that they are sown, but come up vigorously the following spring, and, if carefully attended to, will make fine flowering plants the second season after vegetating; the

rence throughout the upland meadows of Europe, and is by no means an especial native of Britain alone.

## PURPLE IN FLOWERS.

I AM afraid that enough has been said about "Purple in Flowers," and if any of your readers have gone through the correspondence, they must be sick of it by this time. But I must ask your permission to add just a few lines to it, and I shall then under any circumstances leave the subject alone. I have followed Mr. Engleheart's example in consulting a friend, and I have shown the different letters to him. He is the most scientific man in Ryde, though he is not an Academician. He sees nothing to object to at all in the first letter I wrote to you on September 17, and says that it is notoriously the case that colour is being specialised more and more every day. That is all that I expressed and all that my letter amounted to. The purpose for saying it was that it showed at once how a flower can now be called violet which used to be called purple. There was no occasion to add to this, and it would have been very pedantic if I had done so. It would have been silly if I had said I wish you all to understand that I quite take in the difference between genus and species, and this violet flower can still be called purple from a generic point of view. We are never accustomed to speak in that sort of way—at any rate, I am glad to say I am not accustomed to speak in it, and I characterise it as being both unnecessary and absurd. I assert that Mr. Engleheart first of all read into my letter a declaration which I never made that purple is no longer a generic term in these days, and having done that to his own satisfaction, he proceeded to ground on it a homily upon colour. The language I used bears naturally a very different interpretation, and a different interpretation was the only thing I was thinking of. I have insisted on this before, and I think it would have been more graceful of him when he read my words to this effect if he had said, "Oh! then there is an end of the whole matter: if I have misread you on this point, there is nothing more to be done." It might perhaps have been better if I had written more guardedly, and at the outset I had made his construction perfectly impossible; but I have not time for considering how any possible objector can find a handle for twisting and turning, and the whole thing spoke for itself. Purple from one point of view is a specialised colour. Purple from another point of view remains just where it was.

And now I must respectfully say a word to "Academician." He writes from a very lofty eminence and distinguishes between educated (which he puts between inverted commas) and uneducated persons. In that he is wrong, so far as their part in this controversy is concerned, for it is a very commonplace one indeed. A distinct point should be borne in mind. The ladies and the milliners were appealed to, not as being judges about such dreadful things as genus and species or the usages of language, or anything of the sort, but merely in this way: "Do your eyes agree with mine about a particular flower, i.e., about *Solanum Torreyi*? Do you see that it is violet, or is it something else?" They were asked to say nothing more than that. If they had said it was not violet, it would not have altered my views about some elementary principles of logic; but I should have thought myself defective in vision, and while I continued to hold exactly the same notions about genus and species which I do hold at present, I should have replied to them. "Alas!



*Trollius europæus*. Engraved from a photograph sent by Miss Wolley Dod, Edge Hall, Malpas.

rambling proclivities that mar the value of many an otherwise good herbaceous plant. The roots are numerous and deep-searching, especially in a border where perfect drainage removes the water-level to a considerable depth. The flowers present considerable variation in colour, from a pale yellow to deep golden, almost bordering on vermillion. All the species are spring or summer bloomers, and are at their best in April, May, and June. Occasionally in old-established plants a few autumnal flowers are developed in September and October, but these depend alike on the season and the strength of the plant itself. They may be most readily increased by division of the roots, which operation should be performed either in September or in March; the former is to be preferred, as the plants have then an opportunity, during the remaining portion of the autumn, of making fresh roots and thoroughly repairing,

plants will not, however, attain full development until the fourth year or even later. They grow freely in any soil, are partial to a good stiff loam overlying a cool, moist subsoil, but, if cultivated in a dry situation, should have a good supply of manure, not only to act as a stimulant, but as a mechanical and moisture-retaining element in the soil; for it should be remembered that the mountain meadows they affect are almost invariably supplied with cool water springs below, which enable the plants to withstand the burning heat of an uninterrupted day's sunshine without showing by flaccid leaves any indication of exhaustion. The Mountain Globe Flower (*T. europæus*) (here figured) is the species with which we are all familiar. Its height is about 15 inches; the blooms are of a lemon-yellow colour, forming a perfectly globular flower from 1 inch to 2 inches in diameter. This plant is of common occur-



alas ! I am losing my eyesight. I must say no more about this matter, for I fear I am getting blind." Your readers cannot fail to see that there is a difference here.

But I must revert to my friend Mr. Engleheart. The fact that he has so much travestied my words deprived a great part of his last letter of any interest for me. All he says about *Tropæolum speciosum*, red, vermilion, &c., is, of course, perfectly right, but it is *apropos* of nothing which concerns me or what I have written. The friend to whom I have referred above very truly says that this question of "Purple in Flowers" is a perfectly interminable one. It is a tangle which at this present time admits of no possible elucidation whatsoever. The reason for this is that there are no data to go upon and no fixed standard which can be used. I felt the awkwardness of the whole matter when I was writing the letter of November 5. I had the most perfect assurance of what is and what is not correct in the business, but it was far from being easy to make that clear to another person, and so I imagined that I could take no better course with Mr. Engleheart than to fling the poets at his head and to bury him under them. I tried on purpose to get through the business without the use of any technical terms, so that no fresh controversy might be raised; but I conceive that Mr. Engleheart's last letter has given me all that could be desired. He says in one place, "Besides, a flower can often only be described by the generic term purple when it is of some peculiar tone of purple not easy to specify further." In other words, it cannot be accurately described at all, and what is more important to me even than this is that the discussion is so narrowed by this admission that I think it need never have taken place. When Mr. Engleheart tells us that a generic term purple does duty for a specific term because there is oftentimes none other to be found, he approaches so nearly to, if he does not quite touch, what I have said all along, that he leaves very little to quarrel about.

A generic term used specifically ! I have only said that purple is specialised; he only says that purple is used specifically. I think he is really on my side much more than he is against me. When he talks of contradictions on my part he forgets that apparent contradictions may be oftentimes cleared up if they are taken in the right way. It would not be at all difficult to show that he contradicts himself if he were to be judged with the same eagerness to condemn that he shows towards me. The other two or three points that he notices are of extreme triviality, and they do not touch the main contention at all. I say one thing, and by consequence he says another. I have now only to apologise to you for the space I have occupied about a matter which cannot have much interest for anyone. I will promise you not to do it again. I little thought when I only wanted to show that I had given the right flower to "J. M." that I should be led such a dance as this; but I know from what I remember of old that the nearest mention of purple in flowers is sure to agitate someone; there never fails to be a rise at it when the subject is mentioned. I only thought I had provided against it in this case by the distinct limitation I put in. But, before I conclude, I wish metaphorically to shake hands with Mr. Engleheart, and to part in a friendly way with him about this affair. He has taken up a lot of my time, but if he has found any amusement in it, I suppose it has done some good. He may have the benefit of the last word if he chooses to take it. I can only say that, though

I shall offer no written reply, I feel towards him just as I did before, and if he likes at any time to come and pay me a visit, I will, if he cares for it, talk to him about "Purple in Flowers" till we are both of us as purple in the face as *Calandrinia umbellata* itself.

One more word about purple in flowers and I have done. I only wish that those who speak hardly of this particular colour could look out of the window where I write. Mr. Elwes was quite surprised by the vision when he paid me a visit last week. *Exogonium purga*, which is of the exact type of colour that causes all this trouble, seems to have been put there just now to speak a word in its own defence. A hundred blossoms may yet be seen on it on a sunny day. When the leaves are being scattered all over the lawn and the trees are well-nigh bare, this glorious climber does its best to hold the winter at bay. Ought we to criticise it? Is the purple generic, or is it specific according to the ideas of the present day? Is it gruesome? I care not one jot when I look at the beautiful flower what others say regarding it, and I am really thankful that my colour instincts are so poor, that I can enjoy it heartily. Purple in flowers is a troublesome thing when it wastes a lot of time, but purple in flowers one may be thankful for on the 21st of November when it keeps the garden gay.—H. EW BANK, *St. John's Vicarage, Ryde*.

Your correspondents have struck a very important note. Doubtless in most walks of life the adjective "purple" will conveniently do duty for any admixture of its two component colours. In dealing with flowers, however, every shade is eagerly seized upon and stereotyped in the mind by attaching to it some recognised hue often taken from other flowers of more persistent grade of colour. Thus insensibly a standard is set up in our minds, and flowers being in this respect a law unto themselves, assert their dominion by standing sponsors to the colours, often calling them after their own names. We must here, of course, except purple, now under such a severe cross-examination. When, however, any well-known authority in specialising the colours of some twenty or thirty different species deliberately puts one down as "purple," are we to suppose that his genius suddenly fails him, and that, baffled and perplexed, he falls back on a mere generic term?

Violet is the most energetic colour in Nature. How is it caused? In the length of 1 inch of a ray of violet light there are 57,500 distinct waves, all travelling at the rate of 192,000 miles per second. Reduce these miles to inches and multiply that figure by the above number of waves per inch, and the result revealed is that the retina of the eye receives the awful bombardment of 699 million million separate ethereal blows each second. This alarming intelligence being at once telegraphed to the brain by a private wire, called the optic nerve, produces there, not instant death, but the harmless and pleasing sensation of a violet colour.

Red, the most sluggish colour, gives us 474½ million million distinct impacts per second. Your readers have doubtless noticed in this connection the chromatic order in which their flowers fade from recognition as regards colour when daylight is failing. The lazy reds are the first to blacken in the twilight; the yellows keep up the struggle for existence a little longer; while the energetic blue of the *Gentian* will nearly respond to the faint light of the stars. Now, what "pitch" is to sound striking the ear, colour is to light striking the eye. The former in any combination and sequence can be scored and every semi-tone is named. Why not the latter? In both cases it is a simple question of a given number of vibrations per second, one conveyed by hundreds to the ear, the other by millions of millions to the eye. We have something more than analogy here. A few false notes will mar the sweetest harmony. Our flowers now

mutely teach us many lessons, but when science has done for colour what she has for sound, they will become articulate.—H. B.

**Christmas Roses.**—These I note already pushing up their flowers, and should the weather prove mild for a week or two longer they will with us be in bloom. The foliage is still fresh and green. This will in some measure protect the flowers, which I note are being produced very freely on the common white variety. The weather should be watched, and if it is found desirable some little protection be given them. If there are several plants near enough together, a light will be a suitable covering, with a mat or two on the top at night and boards for the sides. When the plants are scattered, there is no better protection than the ordinary garden hand-light with the movable top. These are extremely useful in this and various ways amongst flowers, as well as in the kitchen garden. Where there is any contemplation of potting, the work should not be any longer deferred. After potting, a cold frame is all that they require; warmth, at any rate, is not needed. I should hope that at the next meeting of the Royal Horticultural Society there will be a good display, prizes being offered for them on December 13.—G. H.

**Autumn-planted Pansies, &c.**—The weather during the past month has been favourable for getting this work done, and whilst it is still open no time should be lost in completing anything in this way. Planting after a frost is not at all desirable; it should most of it have been done a month or so ago. The plants then have a good chance of partially re-establishing themselves before severe weather ensues to try them. In planting, it is better to make the ground firm around each plant; when the soil is loose and light, the frost acts upon the plants to a greater degree. Both Pansies and Forget-me-nots stand the winter well as compared with late-planted Wallflowers. The latter, if planted at all late, do not so readily recover their fresh-looking appearance. Rather than rely too much on Wallflowers, I prefer Primroses and Polyanthuses; but, taken altogether, I would plant Pansies the most extensively. They have one marked advantage if planted at a fair distance apart, in that the summer bedding plants that grow taller than the Pansies can be dotted between them. In this way I have had very effective beds without the connecting link between spring and summer bedding being broken. This plan is not adopted so frequently as it might be.—H. A.

**Pulmonaria saccharata** (the Lung-wort).—Those who are looking for a hardy plant with handsome foliage the summer through, with the advantage of an extremely early crop of flower in the spring, will do well to turn their attention to this variety. Its beautifully marked foliage (grey spotting on a dark green ground) is very distinct, whilst its growth is also very compact. This herb-like plant is worthy of more attention, thriving well in dry and comparatively poor soil, being at the same time readily increased. Here is a plant that might well take the place of one or more tender exotics for summer bedding.—G. H.

**Muhlenbeckia complexa.**—This must be classed with the hardiest of New Zealand plants, for though occasionally injured during the winter, it recovers so quickly and grows so rapidly afterwards that in a short time no trace of the injury is to be seen. It is a near ally of the *Polygonum*, and forms a half-trailer, half-rambler, whose long wiry brownish-coloured stems are clothed with tiny pale green leaves. So numerous are the shoots and slender twigs that they will soon form a dense mass, which is very difficult to penetrate from the interlacing of the thong-like shoots. Its ornamental qualities are far superior to those of many subjects that are more generally grown, for on the bolder arrangements of rockwork it has a fine effect when draping a ledge or in some such a position, while as a wall plant it is very satisfactory, and when once established will need no fur-



ther attention than the occasional trimming in of a few of the principal shoots. I have also seen the trunk of a dead tree turned into quite an attractive object by means of this Muehlenbeckia. The flowers are insignificant, while the berries which succeed them are not at all showy. As with most of its allies, this is readily propagated by means of cuttings, or where there are established specimens, rooted suckers, or shoots can often be detached.—T.

## ORCHIDS.

### LÆLIA EXONIENSIS.

THIS, one of the earlier of the hybrids raised by Mr. Dominy, is certainly one of his great successes. *Lælia exoniensis* is a beautiful hybrid, the exact origin of which is unknown. Some writers assert that it is a cross between *Cattleya Mossiae* and *Lælia purpurata*, but I cannot see what there is about the plant to suggest *Cattleya Mossiae* as a parent. Others give the parents as *Lælia crispa* and *L. purpurata*. With this I agree. In growth it is about intermediate between *L. crispa* and *L. purpurata*, and the flowers each measure some 5 inches or 6 inches across, four and five of these being borne together on one scape. The sepals are plain, the petals much broader, beautifully frilled and lobed on the edges; both white, suffused with a tinge of rosy blush, which is deeper in some varieties than in others. The front lobe of the lip is of a very deep shade of rich magenta-purple, with a narrow border of pure white, and the throat is golden yellow, veined with purple. I am more convinced every day that the remark made in a letter to me quite recently by Mr. E. H. Woodall, of Scarborough, is quite correct. He says there is more in air and situation than is generally believed, and the least taint of smoke is injurious to some Orchids accustomed to such exquisite purity of air in their native habitats. *L. exoniensis* will grow well in a basket or in a pot, either of which must be well drained. The soil should consist of good brown peat fibre, from which nearly all the fine soil has been shaken. To this may be added a small quantity of chopped Sphagnum Moss. The whole should be made firm and the plant be placed upon the top of the soil, elevated slightly above the pot, which will ensure the safe and speedy running away of the water. During the growing season the plant requires a good quantity of water to its roots, but this should not be overdone, and a liberal amount of moisture in the air. In the winter, its resting time, much less is requisite, but do not at any time allow the plant to become so dry that its pseudo-bulbs and leaves suffer. Rather keep it a trifle cooler than usual instead of the extra drying. It likes at all times an abundance of light and air, and therefore I prefer basket culture for it, because when so treated it can be hung up near the roof-glass, from which position I would remove it in very severe weather.

WM. HUGH GOWER.

**Dendrobium chrysanthum album** (*J. Macrae*).—It is quite possible for a white variety of this species to exist, more especially as now albino forms of most of the different species from time to time appear, but I have no hesitation in saying yours is not a white variety of the species here named, and for which you send it, but the plant named *D. aqueum* by Lindley some fifty years ago, and recently figured in the "Orchid Album," t. 407, as *D. album*. Whilst your flowers have lain

here I have received flowers of *D. album* from Mr. Cypher, of Cheltenham. After mixing your flowers with his it is impossible to find any difference, the fact of its being similar in habit and from its retaining its leaves whilst flowering has misled you. It thrives well under just the same sort of treatment as *D. chrysanthum*.—W. H. G.

**Orchids from Bristol.**—I am in receipt of some beautiful *Cattleya* flowers from Mr. J. Crispin of this city. He sends me a photograph of a plant he has of *C. labiata* having twenty-one flowers open upon it. Whether it is the true plant or not I cannot judge from the picture, but some blooms sent for the species appear to have the character of the old form more distinctly marked than many which I have recently had. With the above also come a fine spike and a good variety of *Dendrobium Phalaenopsis Schroederianum* and also a flower of a lovely *Miltonia*, which I should call bicolor superba. The *Lælia* I take to be *L. pumila*.—W. H. G.

**Dendrobium leucolophotum** (*G.*).—This is the name of the Orchid which you send. The flowers when they reached me were a dirty brown through carelessness in packing. To put a flower in a letter and send it for name is not giving a fair chance to arrive at a just conclusion. This plant, introduced by the Messrs. Veitch, was described by Reichenbach some ten years ago. The flowers are pure white, slightly stained with light green at the base of the lip.—G.

**Orchid flowers from Cheltenham.**—From Mr. Cypher, of the Queen's Road Nursery, I have received some flowers, among which were a very nice form of *O. Alexandra*, a bold flower and nicely spotted, some extra good forms of *Oncidium crispum*, intensely dark in the sepals and petals, to which the yellow border affords a striking contrast; also the sweet and pretty *Trichosma suavis*, which Mr. Cypher says he has flowering in great quantity. I wonder if he has observed the fine form amongst his which I saw with Mr. Tautz when he had his collection at Shepherd's Bush. In this the petals were coloured the same as the lip, and made a showy and pretty flower. Some flowers of *Epidendrum radicans* from a plant that had been in bloom since last March, *Dendrobium album* in good form, and a good marked form of *Odontoglossum maculatum* were also included. There were also grand flowers of *Cypripedium punctatum violaceum* (Chantini of the Continental growers), *C. aurum*, and a good form of *C. Lee-anum superbum*, also *C. Spicerianum*, and the old and well-known *Roezli*, which, although not a gay kind, is yet the parent or one of the parents of a good many highly prized garden hybrids.—W. H. G.

**Ceologyne Gardneriana** (*T. O.*).—This plant I used to grow and flower abundantly in the Kingston collection in 1855-58. Gibson used to claim to be its introducer, but it was originally discovered by Wallich. "T. O." offers an apology for only sending two flowers, saying he could not spare the whole spike. This I can well believe, for its nodding spikes with many pure white flowers are very elegant. The end of the lip is of a lemon-yellow, all the other parts of the flower being of the purest white. The pseudo-bulbs are flask-shaped, large, and furrowed with age, supporting a pair of broad, strongly-nerved leaves, which are dark green. I used to grow this plant in the *Cattleya* house, but I found the warm end of the cool house suit it better. It should be shaded from the strong sun and kept nicely moist during the growing season. It should not be dried in the resting season, for naturally it is constantly in a moist state, so that drying it is sure to weaken it and prevent it from displaying its splendid racemes at this, the dulllest time of the year.—W. H. G.

— This, one of the very prettiest of the family when strong and vigorous, is, nevertheless, somewhat looked down upon by many Orchid growers, perhaps because the distichous flowers are each furnished with a large brown bract at the base, and because the flowers do not open well. The

pendent raceme, some 9 inches or 10 inches long, bears a two-ranked set of blooms some twelve or fourteen together, each flower being 2½ inches long and of the purest snow-white, saving the lip, which is bright lemon-yellow at the tip. Several spikes of this plant open together form an admirable picture.

## SHORT NOTES.—ORCHIDS.

**Oncidium tigrinum** is a fine old species. It is quite a cool house plant, too, thus enabling many amateurs to grow it. It will grow and bloom with the coolest of the *Odontoglossums*.—W. H. G.

**Cattleya Warocqueana.**—Several of my readers send me flowers of this variety, all saying what a pretty *Cattleya* it is. The flowers show a pretty wide range in the varieties, some being very richly coloured, whilst others are poor.—G.

— A flower of this variety comes from Mr. Woodall, of Scarborough. It is the richest and darkest form I have seen. Mr. Woodall also tells me that *Cattleya aurea* as well as *Vanda corulea* have been grand with him this season. Mr. Woodall's forms of *V. corulea* are the finest I have ever seen.—W. H. G.

**Dendrobium Phalaenopsis.**—J. Deacon sends me some flowers of a fine form of this plant. Amongst them are some exquisite varieties, one in particular being very fine. It has the sepals and petals pure white tipped with rosy purple; the side lobes of the lip are also pure white, whilst the middle lobe is bright rosy purple.

**Odontoglossum gloriosum.**—"T. A. J." sends me this, asking if it is *O. Pescatorei*. You say the plant is but a small one, but as it grows stronger it will make a long branching panicle, bearing some fifty or more flowers, which from their Hawthorn-like fragrance are very pleasing. It is not so effective as *O. Pescatorei*, nor so useful for button-holes, &c.—W. H. G.

**Lælia autumnalis alba.**—This, which is very rare, is now flowering with Mr. Williams at Hillyway, the flowers large and of the purest white, saving the yellow on the disc of the lip. The plants in flower are from a batch which was imported for the white-flowered form, and thus far all have proved true. This appears to be a stronger-growing form than is generally seen.—W.

**Cattleya labiata.**—The Hon. Miss Winn, Nostell Priory, sends me a very fine flower of this species, the lip being of a velvety magenta-purple hue, with a lilac border, the throat yellow veined with deep purple. This form which I have received from Nostell Priory quite convinces me that we have the true plant again in our gardens, and that it is quite different from *C. Warocqueana*.—W. H. G.

**Cattleya Bowringiana.**—I am in receipt of flowers of this species from Mr. F. M. Burton, Highfield, Gainsborough. They are of a very dark colour and of good size for the species. The sepals and petals are of a rich bright rosy purple, and the lip a much darker rose-purple, with a dark maroon band in front of the white throat. It is an exceptionally dark and bright form.—W. H. G.

**Oncidium tigrinum with white flowers.**—"J. C. B." sends me blooms of this plant. I received from several correspondents last year the same thing, some being purer white than others. This has the lip pure white, the sepals and petals resembling the typical plant, and it retains the perfume of the species. I do not think it is any improvement upon the old *tigrinum*, because I consider the fine yellow lip is a great feature.—W. H. G.

**Oncidium splendendum.**—J. Burrows sends me a branch of this species bearing four flowers. He says, "I have not got *O. tigrinum* in bloom yet; are not the flowers sent very like those of that plant?" The flowers of the two kinds come very near, but the growth is very different; indeed, they have nothing in common. This being the case, I cannot understand why some people make them only varieties of each other. This plant thrives well under basket culture in the temperature of the *Cattleya* house.—W. H. G.

**Zygopetalum Mackayi.**—Several of my readers have sent flowers of this plant for an opinion, but I see nothing exceptional in any of them. I lately saw a very fine form of this Orchid in Mr. Bull's nursery. It was bearing two spikes with many flowers. Its large lip was white, profusely marked with short lines of bluish purple. "J. H." sends flowers of what I



have always been called *Z. Mackayi intermedium*, the flowers being of a paler colour and also smaller than in the typical species. It is curious that none of the flowers sent have any perfume. J. Gregory when writing to me some time ago mentioned that he had a plant the flowers of which were sweetly scented.—W. H. G.

## STOVE AND GREENHOUSE.

### IVY-LEAVED PELARGONIUMS.

THESE useful plants may be grown like other Pelargoniums, with the support of four dark green sticks, round which the long shoots are trained, or used as trailers for window-boxes, or even as basket plants (see illustration), in all of which positions they do well. These Pelargoniums are also suitable for window culture, and may be grown to great advantage placed on brackets in the woodwork of a bow-window, from whence they trail downwards, showing their beautiful blossoms to great advantage. An old plant, slightly cut back and repotted in spring will go on blossoming for many weeks, only requiring another shift and the removal of some of the lengthy sprays to start again later on. They are thus almost continuous flowerers, and they will bloom even in the depth of winter when grown in slight heat with a sunny aspect. The double and semi-double varieties are considered the best, many of the blossoms rivalling in beauty those of the French varieties from which they derive their descent. Those of a magenta tint are not so desirable as the clear rose and carmine shades, which harmonise so much better with the rest. Magenta is a singular colour in this, that no other shade of red or blue looks well with it. Unless a plant with flowers of this tint can be grown alone, it is, therefore, best avoided. Among Ivy-leaved Pelargoniums the following will be found the best: *Mme. Crousse*, pale rose and maroon; *Louis Thibaut*, clear bright rose colour; *Mignon*, a dwarf variety with salmon flowers; *Souvenir de Charles Turner*, brilliant pink and violet; *Beauty of Castle Hill*, salmon, shaded with rose, very fine; *La Rosière*, very double, soft rose; *Liberty*, bright cerise, with large flowers; *Prince of Wales*, shaded purple; *Murillo*, velvety purple, with large flowers; *Newton*, fine vermilion-red; *Galilee*, large trusses of bright pink flowers; and *Sarah Bernhardt*, pure white, with maroon veinings. Ivy-leaved Pelargoniums are easily propagated by cuttings or slips during the summer, and should be grown on into large plants, repotting them in good ordinary compost as necessary. As the flowers are borne mostly at the terminal points, it is well to cut these back after flowering to induce the side shoots to break freely. Liquid manure or soot-water, during their flowering season, will benefit the plants and keep the foliage handsome. Directly the leaves begin to turn of a lighter shade of green, the plants will require repotting or a liberal top-dressing. R.

**Torenia.**—These are called by "H. P." in THE GARDEN of Nov. 5 "a pretty class of procumbent-habited free flowering plants," and adds that "*T. asiatica* is seen to the greatest advantage when treated as a basket plant." With this latter remark I am inclined to disagree. I do not think that any plant of a naturally lowly trailing habit can ever be seen to its greatest advantage when suspended in a wire or wooden basket from the roof of a stove or greenhouse. To my mind, this is a most outrageous position for the lovely *T. asiatica* to be placed in. Can it be wrong to imitate Nature in choosing a position in the cultivation of any

plant? I think not; and the *T. asiatica* being never found in Nature in any other position save trailing along the ground amongst Grass and other herbage, I maintain that it cannot be seen to the greatest advantage when hung up to the rafters of a hothouse. On the Neilgherry Hills, in India, I have often been charmed and delighted by beds of this plant in cool, damp positions sending out its trailing shoots in all directions amongst the Grass and studding the greensward with its beautiful violet-blue blossoms. In the adjoining woods might be seen clinging to the branches of trees Ferns of many kinds suggestive of blocks and baskets in a state of cultivation; other plants, too,

dant supply of water, any failure in this direction and consequent checking of luxuriant growth having an injurious effect upon the size and beauty of the flowers.—J. LOWE.

### WINTER-FLOWERING BEGONIAS.

THESE do not in some gardens find that favour which they deserve. It is probably caused by the rage existing for what may be termed cut material. They are not the best, I readily admit, for this purpose, but they are not bad by a long way. They do not travel so well as many things; therefore, that is also in a measure against them. When,

however, the flowers can be arranged in water without any delay, they will stand very well. Grown as some grow these Begonias in too much heat and moisture is also against them. Even upon the plants then the flowers will not last nearly so long, this ensuing through the susceptibility to damping off; whilst if these plants are used for cutting, the flowers will not stand well. These Begonias require a drier atmosphere with some warmth, it is true, but not nearly so much as stove plants receive on the average. Where Cyclamens, for instance, are now flowering well with a gentle warmth, there these Begonias would thrive far better than in the stove itself. When the plants cannot be accommodated in a house to suit them, then the better plan is to grow them in pits with a little air on all day in mild weather, and even at night also at such times rather than excite them with too much warmth. The roots must not be allowed to suffer, while, on the other hand, too much water must not be given them. The best safeguard is well-prepared plants by previous good treatment in the summer, the plants having filled their last shift with roots. Late potting and over-potting are two decided mistakes, both tending towards a too sappy growth rather than flower. Plants more than two years old are not desirable unless they be grown for special purposes, as the covering of the walls in lofty houses, places for which many kinds are admirably adapted, or for training up pillars where the tall-growing sorts are quite at home.

As small plants to flower well in 4½-inch and 6-inch pots, or at the most in one size larger, the old-fashioned *B. insignis* is still one of the very best. In the smaller pots this variety will flower in quite a dwarf state. In the larger the growth will be somewhat stronger, throwing out laterals which all flower profusely. Its colour, too, a pleasing soft pink, is most attractive. *B. Knowsleyana* makes a more compact plant in the larger pots, being the more disposed of the two to branch out at the base. The flowers are larger and more of a pinkish white in colour, but the trusses are generally smaller. This and *B. insignis* can be readily raised from seed, which should be saved early, and be sown in the spring or from cuttings in the spring. *B. semperlorens* and *B. s.*



Ivy-leaved Pelargonium in a hanging basket.

including the splendid *Impatiens Jerdonia*, adorn the limbs and trunks with their gay blossoms far from the ground, but the modest *Torenia* is content to abide by its more humble position. This is its true habitat, and those who strive in its cultivation to imitate the plant's natural likings will, I think, not fail to be amply satisfied with the results. A very effective way for its cultivation is to grow it amongst a bed of *Lycopod*; the leaves of the *Torenia* and the *Lycopod* mingle with a good effect, and the blooms of the former in goodly numbers peering from amongst both yield a charming result. In its native habitat it flowers during the monsoon rains; to have it in perfection, therefore, in a state of cultivation it requires an abun-

dant supply of water, any failure in this direction and consequent checking of luxuriant growth having an injurious effect upon the size and beauty of the flowers.—J. LOWE.



rosea both make excellent plants for the winter, either cuttings or seedlings making good plants, too luxuriant growth being especially guarded against. Another capital kind is *B. Digswelliana*, of dwarf growth with its flower trusses produced very freely and well above the foliage. As a decorative plant, this is one of the best for the winter season. *B. manicata* is one of the best for flowering late in the winter or early in the spring, when it makes a capital plant for the conservatory. Cuttings every spring after flowering or old ones kept on for large plants for two or three years give the most serviceable stock. This, too, is a very useful kind for cutting to arrange in slender trumpet-shaped vases. *B. Moonlight* is of a pleasing colour and makes a good addition to the winter varieties; under this name I am referring to one which was raised by Col. Trevor Clarke and grown at Chiswick some years ago. *B. prestoniensis* is more of an autumn variety than a winter one. It is not much grown now, but some few years ago I well remember nice bushy plants of it being exhibited. Its flowers are a very bright red, very distinct and sweetly scented.

Those beautiful varieties of the tuberous-rooted section, embracing the species *B. socotrana* and the hybrids raised therefrom, as *B. John Heal*, *B. Adonis* and *B. Winter Gem*, are all extremely useful, lasting so long in good condition. The duration of the individual flowers is also remarkable; in this latter respect they withstand the fogs well. Of this section *B. Adonis* is one of the most profuse flowering and vigorous growers, whilst as a dwarf plant *B. Winter Gem* is simply what its name denotes. The culture of these *Begonias* does not receive that attention it should. As compared with the usual run of tuberous *Begonias* they require more warmth; this of itself is indicated by one of the parents, viz., the species *B. socotrana*, which was introduced from Socotra in 1890. What may be termed a cool stove will suit this section of *Begonias* very well. I am quite of the opinion that it is only the question of a little time before these will be more extensively cultivated. To flower in the early spring note should be made of *B. nitida odorata*, also known under the name of *B. suaveolens*. This variety may be safely kept in a moderately warm greenhouse, when of course it flowers later. In warmth it can be included with the winter-flowering shrubby kinds. *B. nitida* itself will flower almost all the year round. I have seen it very fine in the summer, the winter, and spring. *B. incarnata purpurea* is more attractive, perhaps by reason of its dark metallic-looking leaves; the flower trusses, however, last a very long time in good condition. Besides these there are other kinds which may be used for winter flowering; *B. ascotensis*, for instance, where bedded out in the summer will, if lifted early, flower well after being repotted. This variety being a tall grower is chiefly useful for standing amongst other and dwarfer plants. There is also *B. Princess Beatrice*, a semi-tuberous variety, which can be had in flower in the winter season.

GROWER.

**Indian Azaleas for forcing.**—The most promising-looking plants of the best kinds for early forcing may now be placed in warmth. They can thus be had in flower by the middle of January without any undue haste. The florists I know have been cutting *Azalea* flowers for some little time past, but as far as this pertains to private gardens, there is no practical utility in it. In these latter a succession is more what is wanted, whilst in the former it is more a question of getting the best price for the blooms. I do not favour bottom-heat even of leaves, but have no objection to standing the plants over fermenting material, the moisture arising therefrom being decidedly beneficial in encouraging the buds to swell freely. Too much water at the roots must be guarded against, but the plants must not suffer from the opposite extreme. By plying the syringe freely, thrips, &c., will be kept down, whilst it will also save watering. When plants have been forced a few seasons they will quickly respond to a little warmth about now; in fact, at times they will

flower almost without any additional warmth. I have noted this in the case of *Roi Leopold* and *Deutsche Perle*, particularly the latter. The old white alba and Fielder's White with *Deutsche Perle* are about the three best of their colour. Of the striped varieties, *Roi Leopold alba*, punctata rosea, and vittata elegans are all reliable, the two latter hardly wanting any forcing. In the reds, *Roi Leopold* is still one of the most reliable to force early of the large-flowered type; calyciflora, a bright salmon-red, larger than, but somewhat similar to *amœna*, is a free-growing and as free-flowering a variety as that old kind, which should also be included. Another fine old kind is obtusa, a variety that is, in spite of its age, not nearly enough grown. The foregoing as the earliest are about the best to choose, as expensive kinds are not desirable.—H.

**Polyanthus Primroses.**—Recently I observed "A. D." was speaking of the value of these for placing under glass for early blooming. It is almost impossible to say too much in favour of this class of early blooming plants. I have just lifted some from the open ground, placing them in boxes. At the beginning of the new year these will be placed in a greenhouse or cold vinery, where I find they come into bloom quite fast enough, the flowers being little inferior to those from the open. Some of the whites and bright yellows are charming for cutting. To all who have limited glass accommodation and amateurs these are strongly to be recommended.—DORSET.

**New Coleus from Chili.**—In the last number of the *Illustration Horticole* of Brussels appears a beautifully executed coloured plate of four new varieties of these handsome foliage plants, which are interesting specially from the seed from which they sprang having been sent to Messrs. Linden from Chili, a portion of the globe from which they say *Coleus* have never come before, as they are usually supposed to be indigenous only to the tropics, the original *C. Blumei* having come from the island of Java. The leaves of these South American varieties are of unusually large size, and have had to be reduced by the artist to less than half their natural size to enable him to get even four of them into the area of his plate, as one full-sized leaf would have almost occupied the whole of it, as they are said to be 30 centimetres long by 12 centimetres broad. The four sorts figured, selected out of a total of eighty-three varieties, are named Dr. Alphonse Willems, which is an exceedingly pretty variety in the way of Pompadour, but brighter towards the tip; Paul Rodigas, by far the handsomest *Coleus* I have ever seen, and unlike any other variety known to me; Mlle. Alice van der Berghe, a purplish black with green centre, the poorest of the lot; and Mlle. Yvonne Linden, a creamy white dappled with green, almost identical with, but not so distinctly marked as the variety Countess of Dudley.—W. E. GUMBLETON.

**Aphelandra Leopoldi.**—This *Aphelandra* does not flower so freely as some of the others, yet it is by no means shy blooming, and when in that stage it is very effective, more especially during the autumn and winter months. It is one of the largest growing forms, and is principally cultivated for the sake of its handsome foliage. The leaves are large, oblong in shape, and of a deep green colour, while the midrib and principal veins are pale yellow. The flowers are of a bright golden colour, while the large bracts which almost hide the blossoms are of the same hue. The blooms do not last long, but the large bracts which really form the most conspicuous portion of the inflorescence remain fresh and bright for a long time. Several other *Aphelandras* serve to enliven our stoves during the winter months, notably *A. aurantiaca* and its variety *Roezli*, *A. fascinator*, *A. nitens*, *A. cristata*, and *A. Chamissoniana*.—H. P.

#### SHORT NOTES.—STOVE AND GREENHOUSE.

**Russellia juncea.**—In this we have quite a distinct and interesting stove plant, but it has, like many other good plants, had to make way for other new comers. Recently when looking through the plant

stoves at Inwood House, Dorset, my attention was arrested by some fine plants of this *Russellia*. They were growing in wire baskets, and their long thread-like foliage (deep green) covered with bright scarlet blooms all over the plants.—DORSET.

**Anthurium atro-sanguineum** is now flowering in Mr. Williams' nursery, Upper Holloway. Standing beside some of the better-known *A. Andreanum*, the intensity of its colouring is more plainly evident than when not so contrasted. It really is a grand plant, and the variety *Reine des Belges*, which has a light carmine spathe, affords a pleasing change.—W. H. G.

**Nidularium fulgens.**—This is a robust grower, being about 2 feet across at the base; the leaves, bright green, speckled with a darker green, are some 2 inches broad and armed at the margin with strong teeth. It bears a central crown of bright scarlet leaves, which makes it a very showy plant at this time of the year. Several examples are now very conspicuous in Mr. Williams' nursery at Holloway.—W. H. G.

**Three good double-flowered Primulas.**—I find the three following are the best, all points considered: *rubra plena*, old double white, and *Marchioness of Exeter*. When well grown the spikes give from three to five tiers of blooms and each bloom has a foot-stalk 3 inches or 4 inches long. Some flowers of *Marchioness of Exeter* I gathered lately had stems 4 inches long, which is quite long enough to allow of their being placed in water. The plants occupied a cold frame during the summer and now are in a vinery with ripe Grapes hanging.—J. C. F.

## BOOKS.

### ABBEYS OF ENGLAND AND WALES.\*

THIS is a re-issue in a more complete and popular form of a work already in existence. The present edition is divided into three parts (in three volumes), the counties being arranged and grouped as nearly as possible into southern, midland and northern divisions. In the compilation the authors have included a large amount of archaeological detail and of historical, biographical and traditional matter. Many of the places described are no longer in existence, or only exist in ruins, but, happily, some of them are inhabited and still beautiful, as Berkeley, Leeds and others, of which Sir Edmund Sullivan gave us a list in *THE GARDEN* some time ago. The following account of Leeds Castle (p. 314) may be accepted as an example of the method of the book. Leeds is one of the most charming houses in England, still inhabited, and one of the most surprisingly beautiful things in busy Kent.

#### LEEDS CASTLE.

Near Maidstone, in the middle of the county of Kent, rising out of a broad sheet of water, stands a large castle that was once the property of good Queen Eleanor. It was then called a Norman building, or a Saxon fortress with Norman extensions, but Eleanor's gallant husband's addition gave it an Edwardian character. It first passed into the hands of Eleanor's successor, Margaret, the second queen of Edward I. William of Wykeham possessed the castle. Froissart visited it in company with Sir Thomas Percy and Sir William de Lisle, and has recorded his stay at the beautiful palace and his kind reception by Richard II. Then we find Henry VIII. building more accommodation for one of his wives and her maids of honour. Next it was in possession of the famous Lord Colepepper, the friend of Charles II., and Evelyn arranged for the keeping here of some 600 Dutch prisoners entrusted to his care. Next it passed into the possession of the Fairfax family, and finally George III. and Queen Caroline visited the castle and recorded the event in the family Bible.

The castle stands on two islands on a sheet of water about fifteen acres in extent, these islands being connected by a double drawbridge. It con-

\* "Abbeys, Castles, and Ancient Halls of England and Wales." By John Timbs and Alexander Gunn. London: Frederick Warne and Co.



sists, therefore, of two huge piles of buildings, which, with a strong gatehouse and barbican, form four distinct forts or divisions, capable of separate defence after either fell into the hands of an enemy, and the water was so managed as to pass between these several buildings in three places.

The first outwork or barbican contained the well, then an outer ditch called the inner barbican. These two taken together not only formed the dam which kept the water in the moat, but they were strengthened with a ditch round the inner barbican, over and above the wide moat which yawned between this outwork and the entrance to the castle. At the end of the bridge giving access to the main portion of the fortress stands the gatehouse, which is attributed to the reign of Henry III.

The area of the island was divided into an inner and outer bailey. The massive inner wall has disappeared, but the foundations remain; the outer bailey was surrounded by a lower wall strengthened with bastions and towers, believed to be the work of Edward I. There are traces of several ancient buildings besides the residence of the lord of the place on this island, but the only one standing within the inner bailey is the Maiden's Tower.

The entrance tower, called in old records the Tower of the Gloriette, has a curious old bell with the Virgin and Child, St. George and the Dragon, and the Crucifixion depicted upon it, which is used as a curfew, that custom having been maintained from the days of the Crevecoeurs, the owners of the castle before it became the property of Queen Eleanor, and there is also a very ancient clock, which strikes upon this bell, supposed to be of the same age. Then passing through the flat-headed trefoiled archway of this tower, you come upon the chapel built or improved by Edward I.

Most of the rest of the work forming the old castle, save the outer shell, was the work of Henry VII., and consisted of timber and plaster, with large Oak or Chestnut windows and handsome cornices. But the prisoners whom Evelyn lodged here either accidentally or intentionally set fire to the fabric. Lord Fairfax rebuilt some of the injured parts, especially the banqueting hall, leaving the original doorway and fireplace with the royal arms and supporters of the House of York on the spandrels and windows. The banqueting hall is now a kitchen. In this kitchen wherein the dinner for the banqueting hall was prepared when King Harry feasted in it there is a fireplace with its chimney divided into two flues, with a window between them, that appears to have been made by him. In the castle was found a pair of fire-dogs which formerly belonged to Henry VIII., and bear the Tudor crown, &c. There were also a butlery and pantry besides accommodation for the storage of provisions in the event of a garrison occupying it during a siege. There was a sally-port, too, opening on to the moat from the foot of a newel staircase, which is still there, with its flight of steps descending below the present level of the water.

The Maiden's Tower is built upon the wall of the outer bailey, and thence projects into the inner bailey. It is a large, quadrangular, three-storied tower furnished with battlements, but a drawing of it on an old plan of the estate shows that the roof was once gabled. The ground floor contains the brewhouse, in which is a very wide chimney thought to have been required for the heating of many large cauldrons of water at a time before the introduction of coppers with flues. There appear to have been two staircases and two sets of rooms above, and two garbages still exist, from which circumstance it is concluded it was occupied by several persons, probably guests, though not necessarily the maids of honour with whom tradition has associated it.

There were vineyards attached to Leeds Castle in the days of Queen Eleanor, and wine made from them. The expense rolls of that lady's executors mention various sums paid to a vine-dresser. No Vines are now grown for wines, but at the cottages in the locality are still to be seen Vines bearing Black Cluster Grapes thought to be descendants

of those with which Queen Eleanor made wine in 1290. The expense rolls show that on the anniversary of the Queen's death a sum equal to between £300 and £400 of our money was spent in memorial ceremonies at the castle.

The present fortress was either built, or rebuilt, by Sir Hugh or Hamo de Crevecoeur, one of the eight captains of Dover Castle, in the year 1071. His son forfeited the estate by siding with the rebellious barons. The castle was then bestowed by King Henry III. on Robert de Leybourne in exchange for other lands. It was next granted by King Edward II. to Bartholomew, Lord Badlesmere, who had been at the wars in the Holy Land, but who died on the scaffold at home. The cause of his ruin is differently related. The following relation is by a contemporary noble person: "Queen Isabel came to the castle at Leeds about Michaelmas, 1321, where she had designed to lodge all night, but was not suffered to enter. The king highly resenting this, as done in contempt of him, called together some neighbouring inhabitants out of Essex and gave them orders to besiege the castle. Bartholomew de Badlesmere, who had left his wife and sons there, was gone, with other barons, to spoil the estate of Hugh de Spenser. The besieged in the meantime despairing of succour, the barons and their associates came as far as Kingston, and with the mediation of the Bishop of London and the Earl of Pembroke, petitioned the king to raise the siege, promising to surrender the castle into his hands after the next Parliament. But the king, considering that the besieged could not hold out long, and moreover incensed at this their contumacy (and doubtless provoked at what was done against Spenser), would not listen to the petition of the barons. After they had dispersed themselves to other parts he gained the castle (though with no small difficulty), and sending Badlesmere's wife and sons to the Tower of London, hanged the rest that were in the place." This lord being taken prisoner next year was beheaded at Canterbury. But this is told with a difference.

Among the memorable events at Leeds Castle were the following: In 1321, Queen Isabella being refused admission into the castle when on a pilgrimage to Canterbury, the King (Edward II.) took the place by siege, and hung the governor, Thomas de Colepeper, by the chain of the castle drawbridge. In 1406, Henry IV. retired here on account of the plague in London; and within these walls Joan of Navarre, second consort of Henry IV. was held in captivity for having conspired against her son-in-law's life, until conveyed to Pevensey Castle. In 1441, at Leeds Castle, Chichele, Archbishop of Canterbury, presided at the process against Eleanor, wife of Humphrey, the "good" Duke of Gloucester, for sorcery and witchcraft.

As regards the photogravures, which begin to be used very largely in books now-a-days, we are not at all sure that they are right, because, although in the finest forms they are often delicate, it is very easy to get them out of tone and inartistic. The old engraving was better when fairly done. In its best form nothing is so good as engraving.

**Tropæolum speciosum.**—This certainly is a lovely creeper when once established. Like "J. R." I for a number of years tried to establish it in various positions, but to no purpose except in one place; this was on the racquet court. Here it has run up 20 feet and borne wreaths of flowers. Seed has also ripened. The position in which this plant does so well is the south side of the building, but well shaded by a large spreading Oak tree. The soil is a deep, sandy, and moist blackish soil. The sun does not strike this position until the afternoon. It evidently enjoys moist surroundings.—J. R. HALL, *For Warren Gardens, Cobham.*

**Garden Design and Architect's Gardens Illustrated.**—to show by actual examples from British gardens, that tipping and aligning trees to make them "harmonious" with architecture are barbarous, needless, and inartistic. London: John Murray, Albemarle Street.

## NOTES OF THE WEEK.

**The Chrysanthemum in Australia.**—A correspondent, writing from New South Wales on October 8, says: "We have formed a Chrysanthemum Society here in Sydney called the Australian Chrysanthemum Society." The flower really seems to be wonderfully popular wherever it is introduced, and only a few days ago we heard of the probability of another Chrysanthemum Society being started at the Cape of Good Hope.

**Flowers in the open air in Guernsey.**—Lord de Saumarez writing this week says: "Our Fuchsias are magnificent; tall Cannas still in good condition; Schizostylis coccinea and Cactus Dahlias very showy. Chrysanthemums to be seen everywhere, Solanum jasminoides covered with bloom, and Christmas Roses (*niger maximus*). The bedding-out Geraniums have lost their blooms from the recent heavy rains and show only a few flowers. On the wall a white *Lapageria* is still in flower. Abutilons, white and red, *Habrothamnus* and *Sollya heterophylla* are still blooming."

**Chionodoxa Alleni.**—I think your correspondent hailing from Kirkstall is premature in his note of inquiry concerning the above-named novelty, as no one has seen or knows anything about it as yet save its discoverer and introducer into European gardens, namely, Mr. E. Whittall, of Smyrna. I have already given in your issue of July 2 of this year on pp. 16-17 all the information he conveyed to me about it when sending me bulbs of it in June. When these bloom with me (as I quite hope most of them will next spring, as they reached me in excellent condition), I shall hope to have some further information to convey to your readers about this *Chionodoxa*.—W. E. GUMBLETON.

**The Chrysanthemum in Belgium.**—This flower appears to be making great progress in Belgium, for shows are yearly becoming more numerous in that country. We have just received a circular stating that the Société Nationale des Chrysanthémophiles has been started at Brussels, and this, so far as we are aware, is the first society of the kind on the Continent. From the circular we learn that the society is composed of amateurs, nurserymen, and corresponding members, and its object is to hold meetings and lectures upon cultivation and the best means of dealing with the numerous insect pests that affect the flower. The president is Mons. B. de Lombaerde, and the secretary, Mons. F. Peeters.

**Phalenopsis Stuartiana.**—A small plant of this *Phalenopsis* growing in one of the warm houses in Trinity College Botanic Gardens, Dublin, has produced a small plant on one of its aerial roots. This is not an uncommon occurrence, as young plants have been detected from time to time on roots of *P. Schilleriana* and one or two other species. The production of these growing points on the roots of endogenous plants is a peculiarity not easy of explanation. Their occurrence, however, seems in some way due to injury of the root apex or growing point, or to accidental abrasion of some kind, and experiments are now being made in order if possible to facilitate their production.—B.

**Freezing plants and flowers during transit.**—Recent experiments with Chrysanthemum blooms from and to the Antipodes have drawn attention to the potentialities of the freezing process, which, however, is far from being a new one. Writing in 1850, Dr. Hooker thus alludes to an experiment of this kind:—

During my stay in the gardens (in Calcutta) Dr. Falconer received a box of living plants packed in Moss, and transported in a frozen state by one of the ice ships from North America; they left in November, and arriving in March I was present at the opening of the boxes, and saw 391 plants (the whole contents) taken out in the most perfect state. They were chiefly fruit trees, Apples, Pears, Peaches, Currants, and Gooseberries, with beautiful plants of the Venus's Fly-trap (*Dionaea muscipula*). More perfect success never attended an experiment; the plants were in vigorous bud, and the day after being released from



their icy bonds the leaves sprouted and unfolded, and they were packed in Ward's cases for immediate transport to the Himalayan Mountains.

The above passage is from the recent reprint of the "Himalayan Journals," p. 468, a work full of valuable notes on Indian botany, and one that every gardener should add to his library. —B.

**Senecio pulcher.**—This hardy flowering plant is most attractive in autumn associated with the white *Anemone japonica*, yellow perennial Sun-flowers, and a host of other good things that may be found in our herbaceous borders. As I write these notes on the last day of November, *Senecio pulcher* is showing many of its large purple flowers with the yellow disc in the open border when most of our hardy plants are asleep. It seldom ripens seeds here, but may be increased by dividing old plants, and a large stock can easily be worked up by root-cuttings. Take roots the size of a quill pen and cut them into lengths of about 2 inches plant them in sandy soil and give them a little bottom-heat, when they will soon strike root. Any good open garden soil will suit it. —W. O., *Fota*.

**Solanum jasminoides at Harrow Weald.**—With this I send you a few sprays of *Solanum jasminoides* from a plant that has stood the last two very severe winters with only the protection of a little Bracken. The flowers are, of course, few and far between now, but were most profuse all the summer and autumn. Mr. Walpole, of Mount Usher, when here two or three months ago, said that he considered my plant was an improved variety; perhaps you can settle this point. The plant is in a very sheltered corner of the house facing south-east, and we stand 500 feet up, which I consider an advantage. I have added a bit of *Ceanothus Gloire de Vaite*, which tries to go on blooming notwithstanding frost. —A. KINGSMILL.

\* \* There are certainly more flowers and the raceme larger than one often sees, but it may be good cultivation. —ED.

**Yet another yellow-flowered Calla.**—While we are waiting as patiently as may be for the multiplication and distribution of the two beautiful plants already known to us under the respective designations of *Calla Elliotti* and *C. Pentlandiana*, news arrives quite unexpectedly from Marseilles that the well-known nurseryman hybridist, Monsieur J. B. A. Deleuil of that town, has another fine yellow-flowered *Calla* of his own raising ready for immediate distribution to those wishing for it in tubers of three sizes, and at prices varying according to size of tuber, commencing at 12s. The new hybrid is the result of a cross effected some years ago between *C. albo-maculata* and *C. hastata*, and has foliage marked with fewer, but much larger white spots than its former parent. It is also of comparatively dwarf habit of growth, its height being from 60 centimetres to 70 centimetres, or about 2 feet, with well-developed spathes of a beautiful chrome-yellow. The plant is to bear the name of *Richardia aurata*, as the raiser believes this to be a more correct name from a botanical point of view than that of *Calla* usually used. The tubers of this novelty as depicted on back of circular sent out by the raiser are exactly similar in form to those of a tuberous *Begonia*—quite flat on upper surface with a distinctly convex or rounded under-surface and altogether different from those of *Calla aethiopica*, which are usually pyriform in shape. This plant should be a great acquisition to our gardens. —W. E. GUMBLETON.

**Notes from Straffan, Co. Kildare.**—The red Dogwood beside the river is now lovely in the sunshine, as seen on a carpet of snow, and contrasted with the ruddy fox-coloured brown of the Beech and the feathery silver-stemmed Birches. In the greenhouses Chinese Primroses, Cyclamens, zonal Pelargoniums, and Chrysanthemums are bright and gay, and the Orchids in flower are *Vanda cœrulea*, *Calanthes* of several kinds, *Cattleya labiata*, *Odontoglossum Alexandræ*, *Oncidium Rogersi*, with *Cypripediums* and *Masdevallias* of different sorts. One form of *Cattleya labiata* closely approaches the fine old variety in depth and

richness of colouring; others are paler and less distinct; and it is evident that the specific name includes a wide range of variation. *Lælia anceps* is showing freely for bloom; one mass in a 16-inch pan has thirty spikes, each bearing from two to four flowers. *Sophranitis grandiflora* is strong and profusely budded. A plant of the very distinct *Anthurium Veitchi* growing in a 12-inch pot has sixteen leaves, the largest being 5 feet 6 inches in length and 18 inches wide at the base, and as so grown is one of the most beautiful of all *Anthuria*. Just at present, however, one of the rarest and most effective plants here is *Drynaria diversifolia* in a teak wood basket 2 feet square. The plant hangs from the roof of a warm fernery and is 6 feet in diameter, its elegantly pinnate fertile fronds falling on all sides to a depth of 5 feet or 6 feet. The barren fronds, short and shell-like in shape with undulated margins, are of a warm Beech leaf-like brown colour. Another distinct Fern here splendidly grown is *Adiantum palmatum*, with pendent fronds 4 feet or more in length, its pinnæ being much larger than those of *A. Farleyense*, though of much the same shape and colour. The Chilean Bellflowers (*Lapagerias*), both crimson and white, are still lovely, and there is a very healthy batch of *Eucharis* in bloom. —F. W. B.

**Chrysanthemum Volunteer.**—A. Young (p. 487) cannot possess the true variety, which is a very tall and ungainly grower. It must be Mrs. Irving Clarke, a kind of dwarf habit, and which was thought at one time synonymous. *Volunteer*, I believe, received that name in this country, but it is in reality an American seedling called *White Elephant*. It was exhibited before the floral committee of the National Chrysanthemum Society a few years back in first-rate form, and received a first-class certificate, but has rarely been seen so good since. The variety may be called a "comet of the season," for I fancy very few cared to cultivate it after the first year. Besides being exceedingly leggy, it is a most uncertain bloomer. —H. S.

**Insects in soil.**—In reply to H. Evans, the creatures you sent are not mites, but snake millipedes and a few young earthworms. The latter will not give you any trouble, but the snake millipedes are very destructive to many different kinds of plants. Your ground is evidently infested with two sorts—the flattened snake millipede or gallery worm (*Polydesmus complanatus*) and the spotted snake millipede (*Julus guttatus*); the former are the largest that you sent. Both kinds are very difficult to exterminate. I should think in your case the best thing to do would be to follow the ground the infested crop was on and give it a good dressing of gas-lime or trench it deeply, taking care that the top part of the soil where the millipedes are is placed at the bottom. Watering with strong brine will kill them if it can be made to reach them. These millipedes lay their eggs in the early spring, so that the trenching or gas-liming would be specially useful at that time. They may be trapped under pieces of slate, board, bricks, or turves, or by burying pieces of Turnips, Potatoes, Mangold Wurtzel, or Carrots just below the surface of the soil. As regards the branches of Birch trees, if they are infested with mites, which cause the tangled mass of shoots, and look when grown to a considerable size like birds' nests, you need not send specimens, as they are well known. If the disease is something different, please send a sample to the editor. —G. S. S.

**Wanted, a standard schedule.**—Nothing can be more irritating than to see a really good exhibition stand of flowers, fruits, or vegetables disqualified (page 487) owing to some misunderstanding by the exhibitor of the schedule rules relating to the same. Now, could we not have a clearly arranged schedule framed by one of our societies that would be taken as a general or typical one for reference? As it is, most local societies frame their own rules or take them from the schedules of other similar societies, but very often these rules are loosely framed and admit of several readings. In a perfect schedule the rules should

be clear and precise enough to prevent misunderstanding. Groups, dishes, stands, &c., should be defined in both a positive and a negative manner. Thus a group of "not less than thirty-six plants" may be read as admitting more than thirty-six unless otherwise stated, and much dissatisfaction to judges and exhibitors would be prevented if the words "not more nor less than thirty-six plants" were used. The same should be done in the case of dishes and stands, &c. The definition of an "amateur" or of a "gardener" is often a vexed bone of contention, and there are so many other doubtful points, that I think a committee should be appointed to frame a clear and typical schedule. —B.

## SOCIETIES AND EXHIBITIONS.

### NATIONAL CHRYSANTHEMUM SOCIETY.

DECEMBER 7.

#### Floral Committee.

THE last meeting of the floral committee for the season was held at the Royal Aquarium on the above date. There was rather a thin attendance, which seemed justified by the meagreness of the exhibits. Messrs. Cannell and Sons, Messrs. Pitcher and Manda, and Mr. R. Owen were the principal exhibitors.

Only one award of a first-class certificate was made, viz., to—

**ENTERPRISE.**—An attractive looking *Anemone*-flowered variety with a light yellow disc and very closely arranged, rosy quilled guard florets. Of excellent form and likely to take a prominent place for its distinctness. Staged by Mr. R. Owen.

One or two varieties were commended, and several the committee expressed a wish to see again. The best of those presented to the committee were *W. H. Lincoln Improved*, an incurved Japanese, with petals of medium width, deep golden yellow of the purest shade, certificated at the R.H.S. last season under the name of *Thomas Selwood*; Mrs. B. Wynne, a very handsome massive Japanese incurved with big, broad, grooved petals, pure white faintly flushed, was commended, and if we mistake not, will get a certificate if staged again next season; Mrs. A. Rogers, a fimbriated Japanese of light yellow, declared by several of the members to be synonymous with *H. E. Widener*; a purple incurved called *C. B. Withnall* looked promising; Mrs. Lay, a Japanese incurved, white and rose with pointed florets, was fairly good; so, too, was *Mlle. Marie Recoura*, a rather thin Japanese variety with very long white quilled florets.

**"The English Flower Garden."**—The third edition of this book, long out of print, will be published immediately by Mr. Murray. The text has been in great part revised and many additions made, particularly in flowering trees and shrubs. The type has been re-set and many new woodcuts added. The illustrations are all from the finest wood engravings, and the book is printed on a pure rag-paper by Dickinson.

**Cattle eating conifers.**—Can any readers of THE GARDEN say if stock or sheep will eat *Picea Pinsapo*, *Abies polita*, *A. nigra*, *A. Parryana*? Or can they give the names of any conifer which cattle will not eat? —P. R. S. Y.

**Names of plants.**—*H. Thomas*.—1, *Cymbidium giganteum*; 2, *Odontoglossum Sanderianum*; 3, *Zygopetalum rostratum*; 4, *Vanda tricolor*. —*J. H. Reene*.—1, *Odontoglossum constrictum*; 2, next week; 3, apparently a variegated form of *Agapanthus umbellatus*; 4, *Pittonia Verschaffeltii*. —*G. Z.*—1, *Pellaea hastata*; 2, *Asplenium furcatum*; 3, *Phlebodium aureum*; 4, *Adiantum glaucophyllum*. —*Julia Simmonds*.—1, *Odontoglossum Alexandræ*, finely spotted form; 2, *O. Pescatorei*, fair variety; 3, *Oncidium tigrinum*, fine flower and colour good. —*C. J. C.*—*Panax sambucifolius*. —*B. W.*—1, *Dendrobium Dearei*; 2, *Odontoglossum Cervantesi decorum*; 3, *Lælia penduncularis*; 4, *L. Dormaniana*.

**Names of fruit.**—*C. E. Whitting*.—1, Golden Noble; 2, not recognised. —*W. Hicks*.—1, Washington; 2, not recognised; 3, Cellini.



## WOODS AND FORESTS.

## FORESTRY NOTES.

**NURSERY WORK.**—This will be a busy time in the nursery, for what with lifting and despatching stock to the planter, transplanting young seedlings, sowing seed, &c., the men employed in this particular department should be actively engaged. The collecting and storing of the various tree and shrub seeds that ripen in this country is a department that should not be neglected, as often the seeds thus obtained are quite equal, if not superior to those sent from abroad. Seeds of our forest trees are remarkably abundant this season, but owing to the mild weather and absence of frost they are unusually late in coming to perfection. Oak acorns are everywhere plentiful, and should be collected from the ground, dried in the sun and wind, and stored away in kegs or barrels in a cool and dry spot. Some may be sown at once, but the bulk should be put in in early spring. Beech mast is also plentiful, and may be treated as recommended for the former. Sycamore, Maple, and other seeds with a wing-like appendage should be collected and stored in sand, so that the outer coating may rot away. Ash keys are served in the same manner, double the quantity of sand to seed being used. Holly, Thorn, Yew, Euonymus, and all seeds enclosed in a berry should be stored away in fine dry sand, so as to remove the outer pulpy covering. Coniferous tree seeds are, where it is possible to do so, best stored in their cones in a dry and airy loft, and spread thinly out until wanted for sowing in spring. Such as those of the *Abies* tribe fall apart from the cones and must be carefully stored in shallow wooden boxes made for the purpose or laid out thinly on boards. All seeds will require more or less attention in the way of turning and examining during the winter, particularly if the weather is damp and close. In transplanting young nursery stock, it should be borne in mind that the frost exerts a wonderful influence in lifting these wholesale from the ground, and so doing irreparable damage to those of small growth. Two years' seedlings are small enough to live out in the autumn or open weather in winter, although in spring and after the chances of frost are at an end, those of even smaller growth may safely be planted out. By sticking a few Pine or Silver Fir branches around and in a bed of seedlings, great good may be accomplished, for even in the case of perfectly hardy trees the tender seedlings often get injured by the frost. Turn compost heaps and collect together heaps of weeds and other nursery refuse. These when rotted and mixed with lime make an excellent manure for dressing the various breaks and beds. Empty ground and such as is not intended for cropping till spring will be much benefited by being deeply turned up for the winter, the influence of the frost acting powerfully and beneficially in cleaning and ameliorating the loosely turned-up soil. In lifting plants for woodland work do not, if at all possible, lift a greater number than can be planted the same week. This is referring directly to small plants such as are used in the formation of young plantations; but in the case of large trees that are to be used as standards, I would unhesitatingly say lift and plant out the same day, a method of procedure that is easy enough when the valuable adjunct of a well-equipped home nursery is added to the estate. Should it from any reason be compulsory to raise and "sheugh" plants for a time

before they are replanted, spread them out thinly, but avoid the ruinous practice of tying in bundles. A. D. W.

**Roadside planting.**—In the suburban districts of London there has already been far too much roadside planting without taking first into consideration the size to which the trees will ultimately attain. Planting large-growing forest trees by the margin of a footpath 6 feet wide and private gardens without that boundary is not wise. Before planting a tree that is intended to remain permanently it would be well if first of all the planter would sit down and consider the size to which the specimen will attain. By so doing, a great amount of unpleasant neighbourly feeling and unnecessary hacking and hewing to keep the trees afterwards in bounds would be prevented.—A. D. W.

***Abies orientalis.***—The Eastern Spruce (*Abies orientalis*), which is native of a considerable tract of country in the Caucasian region, thrives well in most parts of England and is well suited for planting as a lawn tree, especially where the soil is somewhat dry and gravelly, as it succeeds better than most conifers under such conditions. It resembles to a considerable extent the common Norway Spruce (*Abies excelsa*), but differs principally therefrom in both the branches and branchlets being more slender, while the minor ones are far more numerous, so that it forms a denser specimen, but not so formal a one as the Norway Spruce. The mature foliage is of a rich bright green colour, against which the lighter tints of the young shoots are very noticeable during the growing season. It is at no time a fast-growing species, and in gravelly soils its rate of progress is slow, though even then the foliage still retains its freshness. In the Black Sea district the Spruce is very common and forms dense forests. It was introduced into this country in 1839. A valuable feature possessed by the Eastern Spruce is its thorough hardiness, for not only is it proof against our most severe winters, but late spring frosts (that bane of many conifers) have no effect upon it. The fact that it is very little met with in this country is probably owing to its slow rate of growth, especially during the earlier stages, and on this account it can scarcely be regarded as a popular tree with nurserymen.—T.

## PLANTING EXPOSED GROUND.

PLANT thickly and thin out early contains much excellent advice for those who have the rather difficult undertaking of covering exposed or mountain land with trees. The advantages of planting trees closely together—at shorter distances apart than is usually the case in lowland ground—cannot be over-rated, the shelter given by one to the other having a most beneficial effect in the successful rearing of young trees. In mountain ground, or indeed in any exposed situation, it is, of course, impracticable to plant trees of larger height than at the most say 15 inches or 18 inches, much depending on the exposure and lie of the ground, as also to a smaller extent on the quality of the soil; but this latter plays at first but a small part in the clothing of exposed ground with forest trees.

Where there is a dip or ravine in the ground to be planted, advantage may be taken of it for using larger-sized plants than those above quoted, but, generally speaking and unless under very exceptional circumstances, the smaller the plants that are used the greater the success in the formation of the plantation. It stands to reason that by using small, stout and bushy plants, the surface exposed to the storm—and lowlanders have but little idea of a mountain storm and the long-continued and hard-hitting winds—is consequently less than would be the case in larger specimens, and the plants get gradually inured and acclimatised to the situation in which they are placed. It is all very well for certain persons to argue against the acclimatising of trees, but the chances

that a strong seedling Scotch Pine have over others planted of the same size have often made me yield to the opinion that plants can, to a great extent at least, adapt themselves to the particular conditions under which they are placed if they are placed there in the infant state.

In choosing plants for exposed ground there are certain conditions that should be carefully observed. First, the plants should be stiff, stout and stocky, and this can only be brought about by oft transplanting and giving plenty of room for development of root and branch. Another very important point to be studied is that the plants are not grown in too sheltered situations. I would prefer, and have oft seen it successfully carried out, to trench over a bit of ground near the site of the intended woodland a year or two before and plant it with the kinds of trees that are to be used in the formation of the plantation. In planting make the pits, and pitting is infinitely preferable to notch planting; the distance apart on the more exposed ground should never exceed 30 inches, but in more favoured situations the trees of rather larger size may be planted 3 feet, but this is the utmost limit for exposed land. Advantage might be taken of any natural plants or grasses on the ground for shelter, and these should never be chopped over or destroyed by fire, but left as a friendly wind barrier to the newly introduced trees. What is meant may best be explained by saying that shrubs and grasses of natural growth should be preferred to those about to be planted, and should a Furze or Thorn or tuft of tussocky Grass be met with in pitting, leave it alone.

About the time to plant exposed ground experience and common sense dictate spring planting. To those dubious of such advice it may be pointed out that plants placed in the ground during autumn or early winter get so beaten about by the wind that when the time for growth in spring comes round the, probably, three months of hardship they have experienced render them ill-fitted for making a bold start to grow satisfactorily with such odds laid against them. A. D. W.

**Pruning hard-wooded trees.**—Will some of your correspondents say whether there is any objection to the branches of young deciduous trees from 7 feet to 12 feet high, such as Sycamore, Maple, Chestnut, Limes, &c., being cut during mild weather in the winter when the trees are dormant, or when is the best time for carrying on the operation? Will it, in trees of the above size, interfere to any extent with the sap rising in the spring, and will the wounds heal more rapidly if the work is done in the summer? Should the cut be close to the tree, or is it better that it should be an inch or more off from it?—K.

\*\* The pruning of young hard-wooded trees may either be done during mild weather in winter or in summer. Birch and some other trees "bleed" badly if operated on in spring or about the time the sap is rising. Cut off the branches close to the stem with a saw, and dress the wound with a sharp adze or pruning knife and apply a coating either of lead-coloured paint or tar.—A. D. W.

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No. 1100. SATURDAY, December 17, 1892. Vol. XLII.

"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—Shakespeare.

## TREES AND SHRUBS.

## DIGGING AMONG SHRUBS.

THAT there are various opinions upon this point of culture I am fully aware. Now, however, that the time has arrived for cleaning out (or digging in the leaves?), thinning out the plants where over-thick and cutting out the dead wood, it is, in my opinion, a subject which may be discussed with profit and advantage. My object in raising the question is to elicit the opinions of the various able practitioners who read THE GARDEN attentively week by week. I have thought the matter over year by year for some considerable time, and am myself in favour of light digging among the shrubs as soon as the leaves have all fallen. I might, however, alter my mind if I had to cultivate a clayey soil. In my case it is a fairly light soil with a gravelly subsoil; hence, in only moderately dry seasons the shrubs suffer considerably. By stirring the surface, not deeply, but sufficiently so to bury the fallen leaves, facility is afforded for all the rainfall to percolate the soil in an equable manner. With a smooth (or nearly so) surface, the result of its being left alone for some years, the water cannot penetrate the ground in all parts, but consequently runs away to the lowest parts. This, I think, cannot but be prejudicial to the shrubs in course of time. Besides, by raking out the leaves and supplying no manure in its place, we deprive the plants of a natural source of food which must be of ultimate good to them. Another point, too, I think, in favour of breaking up the surface is that of the ground not freezing so deeply there as where it is not disturbed at all. This can be noted by anyone during ground work in frosty weather. The disturbing of the surface roots may be advanced against the practice, but I do not think it is at all material, but rather tends to their good, more fibrous roots supplying the place of grosser ones. If left undisturbed for a few years, the surface becomes in a measure hardened; then in the summer-time, when copious rainfalls—as in thunder-storms—take place, much loss must ensue to those shrubs not favourably situated to receive the water. If we have to water shrubs in dry weather and the surface is hard, we immediately break it up to direct the water to the required spot. That some things do suffer through the surface being hard is an undoubted fact. Take, for instance, some of the coniferous trees planted upon lawns, but elevated rather than kept level. These in course of time get excessively dry, and that to their detriment. They would not do so if the surface were broken up. The better plan would be to plant on the level and provide for a contingency by means of drains.

In some cases the leaves in shrubberies are not disturbed. This, I think, is much better than the raking-out process after the fall of the leaf, only it does not look so tidy at the front. In my case I rarely rake out any leaves, but merely turn the soil over lightly, so as to bury them. This leaves all fresh and tidy-looking, a walk round the shrubberies afterwards being quite enjoyable, despite the

bareness of the deciduous shrubs. It may be urged by some gardeners that the work takes time. It does, like everything else, with respect to garden culture, but I consider it is time well spent. The let-alone policy with respect to shrubs in general will in course of time leave its mark. Whilst the digging is going on, any necessary pruning can be attended to easily, whereas otherwise it might possibly escape notice. G. H.

**Ivy edgings and carpetings.**—Where it has been found necessary to renew turf verges and plots under the shade of trees by reason of the Grass dying off year by year, the use of Ivy in the form of edgings between the walks and shrubs will be found an excellent remedy, as it will also upon bare patches under trees. To me it seems an utter waste of labour every autumn or spring to returf such spots with the prospect later on, when dry weather sets in, of having to water the turf to make it even presentable. I am aware that to the mowing machine must be attributed some of the bad appearance where the Grass is weakly if so be the mowing is thoughtlessly persisted in after a rainfall and whilst still wet upon the surface. The Grass at such times will be smeared down and the weakly plants further crippled. For such times and places the scythe is still preferable. To revert, however, to the Ivy as an edging I would say that it is not necessary to purchase the plants in pots for this purpose; these, of course, make more show for a little time, but smaller ones well rooted, but lifted without hardly any soil, answer quite as well. I have in fact taken the shoots from plants trailing on the ground with but a few roots to them and dibbled these in as an edging, pegging them down close to the soil, very few failing to grow. One or two waterings after planting may be necessary. The Irish Ivy makes the best broad edging, but the smaller leaved forms of the common or English Ivy are preferable for narrow margins. This latter may be chosen from several varieties, as *Hedera Helix digitata*, *H. H. lobata major*, and *H. H. lucida*, or from the variegated kinds. For massing on bare patches, besides the Irish there is *H. H. dentata*, a splendid Ivy with massive looking foliage. The latter looks best, however, when slightly elevated on old roots. One great advantage with these Ivy edgings, &c., is the saving in sweeping, the wind cannot blow out the leaves, nor can the birds scratch them out on the walks, in itself no small consideration.—A.

## AUTUMN TINTS.

MUCH has lately been written on the glory of the autumnal leafage tints of our forest trees and shrubs during the season just expired. Truly, the autumn foliage of 1892 has been exceedingly rich. In a recent issue of THE GARDEN "A. D. W." observes that the *Ampelopsis Veitchi* almost bears the palm for beauty of leafage tints, and doubtless many people will agree with him. Were it not for this *Ampelopsis*, the walls of many a suburban residence would be deprived of a covering of autumnal foliage so attractive and beautiful, that hardly any other hardy plant could supply its place. Creeping, like the Ivy, "where no life is seen," it asks no help at the hands of the gardener to assist it in its upward course from the ground to the roof, covering as it goes the unsightly bricks with a curtain of greenery so uniform and yet so beautiful, and then dying off with a flash of autumn glory, causing at once delight to the eye and wonder to the mind.

In gardening, as in most other professions, discoveries are frequently made by accident, and the colour blending of flower and leaf sometimes seen so strikingly pleasing to the eye in our parks and gardens is, perhaps, more frequently the result of accident than design. Two

examples of this came under my notice during the past autumn in the suburbs of London. On the gable of a villa in Fulham were growing together Irish Ivy and *Ampelopsis Veitchi*. The foliage of the two commingling covered the entire wall from the bottom to the top. The *Ampelopsis* had just put on its bronzy scarlet tint, which, with the polished leaves of the Ivy, made a striking and very pleasing display. The planter could hardly have placed the plants in that position with a view to after effect, but rather with a view to display the beauty of both separately, which was doubtless the first result. In process of time, however, the plants, so to speak, amalgamated, producing an effect of the most charming description. The second example was that of the front portion of a villa in Putney. A square portion of the wall was occupied by a plant of the evergreen Thorn (*Cratægus Pyracantha*) literally clad with fruit. Two plants of *Ampelopsis Veitchi* filled a space on both sides of the Thorn, meeting at the top, and thus forming a framework of scarlet and bronze leafage to the *Cratægus*. The effect was very beautiful and suggestive. Of course, the effect would disappear with the fall of the leaves of the *Ampelopsis*, the bare stems of which detracting from the beauty of the splendid cymes of *Cratægus* fruit during the winter, which would not be the case in the first combination, the glossy leaves of the Irish Ivy appearing as the others disappeared, leaving the wall fully clad with a pleasing winter covering.

In cold and temperate countries, where as a rule forest trees are deciduous, we have to look to the season of autumn for the grandest display of leafage tints—that beautiful and wonderful exhibition of Nature's chemistry which crowns the dying year. In tropical climates, where the trees are mostly evergreen, the case is different; the monotonous greenery of the forests remains unchanged with the advent of autumn; but Nature, in compensation for this, puts with a lavish hand into the young leafage of spring tints of such exquisite beauty as almost to defy description. I can well remember with what rapture I used to gaze on the forests of Southern India as the spring-time came round. Such masses of exquisite colouring of all imaginable shades glistening and flashing in the sunlight seemed to be the very acme of Nature's handiwork in this direction, leaving on the memory an impression never to be erased. The small detached forests, or sholahs as they are called, of the Neilgherries and other high mountain ranges exhibit a splendid example of this tropical leafage colouring in spring. These sholahs, which occupy the ravines, may be viewed with great advantage from the grassy slopes above. The trees are of low stature, with here and there a taller one rising above its fellows. The general view is one level unbroken mass of leafage, very beautiful even when green, but passing beautiful when bearing the tints of spring. The variety of hues is most wonderful, from black through all the shades of colour up to pure white. The denseness of the foliage, too, has a very peculiar and pleasing appearance. No hole or gap apparently exists for the entrance or exit of even a bird amongst the wealth of painted leaves, and each sholah looks like a veritable roll of gorgeously tinted foliage, where not a trunk or branch is visible.

J. LOWRIE.

**Erythrina crista-galli** in the open.—In the kitchen garden at Canford Manor, at the foot of a low wall at the end of one of the glass-houses, this fine Brazilian shrub does well, judging from the flowering stems, which are from 6 feet to 8 feet high.



No doubt the plant under notice receives a covering of cocoa fibre, or something of this kind to protect the crowns in winter. When grown thus, it is best to cut it down and protect the crowns every winter.—J. F.

#### SHORT NOTES.—TREES AND SHRUBS.

**Diplopappus chrysoophyllus** is a very neat hardy shrub, which has been flowering very abundantly in the shrubby borders of the new promenade at Kingston; the leaves are closely set and small, deep green above, golden yellow beneath, and the flowers are Aster-like and pure white. It is a very pretty shrub and but little known.—W. H. G.

**Fremontia californica**.—In this we have a shrub that is still rare in gardens. I recently noted a fine specimen about 20 feet high planted against a wall at Canford Manor. This is by no means an old shrub, having been introduced in 1851 by Colonel Fremont. It is deciduous, blooming from April onwards. At the time of my visit (Nov. 10) there were several blooms open.—DORSET.

**Liquidambar styraciflua**.—To appreciate this beautiful North American tree, it must be seen in its autumn dress, as I saw a fine specimen of it in the pleasure grounds at Canford Manor on a dull November afternoon. The leaves had turned to a bright red or crimson. Its beauty was enhanced by its growing close to some fine specimen conifers.—C. F. A.

**Choisya ternata in the open air**.—This beautiful plant will only succeed with any degree of success in a few places in the open air. It is growing at the foot of a south wall at Canford Manor, Dorset, where it has attained to a considerable height. The leaves are larger than ever I remember to have seen them before, with shoots equally strong. I was told it bloomed twice every year, thus showing how freely it grows. I never knew it do so before.—D.

\*\*\* On a recent visit to to Rod Ashton Park, Trowbridge, Wilts, we saw a fine specimen in rude health in the shrubbery there, and which blooms freely every year.—Ed.

## FERNS.

#### ADIANTUMS IN WINTER.

ALL Adiantums require a period of rest, and in none is this more evident than in *A. cuneatum*. Plants which have been growing freely during the latter part of the summer and autumn should be well exposed, and when the fronds are well matured, the cooler the plants can be kept the better. If gradually hardened off and kept fairly dry in the pots, they will keep well where the temperature does not fall below 40° Fahr., the fronds changing to the pale green hue which is now so essential, or, rather I should say, which florists consider essential. It is no doubt owing to the fact that they have found the pale green so much more durable than the deeper green fronds that the change has been brought about. For early spring use another batch of plants should be grown; these should be kept in cold pits and as dry as possible without injury to the roots. They may then be started in warmth late in the autumn, and under fair conditions will make good fronds, and either for cutting from or as pot plants will come in for use about February and March. Like those for autumn use, these should be hardened off after the fronds are well matured. I find it is of little use to try to get good results from plants which have been kept in a growing state throughout the year; the growth these will make during the last three months of the year will be weak and imperfect, and they will also have become so exhausted, that it will be late in the spring before they will make any good progress. All Adiantums should be kept moderately cool and dry at this season, and will then if given a little more warmth start away and make good growth as soon as the days begin to lengthen. Where the pots are well filled with roots a little artificial manure may be given occasionally while they are growing.

Although *A. cuneatum* still holds first place among Maiden-hair Ferns for decoration, there are several others which are for many purposes preferable. *A. elegans*, which has large and more spreading fronds, is now extensively grown. It appears to be harder than *cuneatum*. Young plants are a little loose and straggling in growth, but the second year they fill up and make fine plants, growing taller than *cuneatum*. *A. Williamsi* is also a valuable kind for cutting from when grown under cool treatment, but in warmth the fronds run out too long and thin. Of course, for cutting from the fronds should be well matured, but if too old, the pinnales drop off soon after the fronds are cut. I often wonder that *A. scutum* does not come more into use for cutting, the large spreading fronds being very effective and also lasting longer than those of most of the Maiden-hairs. In the spring this makes a pretty plant for decoration. Plants grown in a light open position have a very pretty tint in the young fronds. There are two varieties, one having a pale bronzy tint with only the slightest shade of red, while the other has a beautiful rosy red tint, and with age the fronds change to a deeper green. Though this is generally known as *scutum roseum*, I believe it is identical with the true *A. tenerum*.

*A. Lathomi*, which is closely allied to the above, but has more drooping fronds of a pale shade of green, may be recommended, but is not so easily propagated as most of the Adiantums. Of the smaller growing Maiden-hairs, *A. mundulum* is the most useful. It makes a very compact and pretty plant, and the fronds are of a useful size for button-hole bouquets or any other purpose where perfect little fronds are desirable. This is sometimes confused with *A. Pacotti*, but it is quite distinct, the fronds having smaller pinnales, which do not overlap each other as in *A. Pacotti*, which is sometimes recommended, but is too dense and heavy for most purposes, though it makes a very pretty pot plant. In winter this requires some care, as it is much inclined to damp off. The plants should be stood up on pots and have sufficient room for the air to circulate among them, and in watering care should be taken not to wet the fronds.

F. H.

## NOTES OF THE WEEK.

**Allamandas in winter**.—These are generally considered to be summer-blooming plants. Most people treat them in this way, but it is a fact that by proper management Allamandas may be had in bloom at any season of the year. Not having a demand for these flowers in summer, but needing a large quantity in autumn and winter, I make it a point to get the plants to bloom from September onward. To-day (December 13) I cut three dozen blooms for the dinner table.—J. C., *Forde Abbey*.

**Apple Waltham Abbey Seedling**.—From the note (p. 516) by "Y. A. H.," it is inferred that the above and Wormsley Pippin are nearly alike, if not identical. Such in my opinion is not the case. The former is quite a conical-shaped fruit, while the latter is much flatter and with a different shaped eye. Waltham Abbey Pippin is, I think, a superior kind to Wormsley Pippin. One point against it is, perhaps, that it does not bear freely in a young state. At the present time fruit of this variety is beautifully golden in colour. Wormsley Pippin is never so attractive.—E.

**Arachnanthe Clarkei**.—Of the three species which constitute the genus *Arachnanthe* as at present known, *A. Clarkei* is the latest introduced and the least known in gardens. The other two are *A. Lowi* and *A. Cathcarti*, both comparatively old species, but usually placed under the genus *Vanda*. The species under notice was first discovered by the gentleman after whom it is named, Mr. C. E. Clarke, in 1875. It is described as being of pendulous habit in its native state, having slender stems with dark green strap-shaped leaves about

8 inches long, and divided at the apex into two unequally sized lobes. A plant now flowering at Kew has a spike of four flowers. This appears to be about the usual number on cultivated plants. The flower is  $3\frac{1}{2}$  inches across, the sepals and petals of a reddish brown, marked with transverse stripes of yellow, whilst the lip is also reddish-brown, but striped with white raised lines. The species is a native of Sikkim, being found at an altitude of 6000 feet, where the temperature is said to range between 30° to 45° in winter to 75° in summer.

**Chilian Coleuses**.—Mr. Gumbleton's note on Chilian Coleuses is most interesting, and if these varieties are of indigenous origin we may soon hope to obtain a hardier strain capable of being wintered in an ordinary greenhouse or even dwelling-room window—a great desideratum. Although the Coleus with plenty of heat is one of the easiest grown of plants, yet it is only comparatively the few that can winter it. Its popularity would be increased a hundredfold if some fresh blood could be introduced into it that would enable the progeny to resist a lower temperature in winter. I hope these promising novelties will soon find a place in this country.—J. M., *Charmouth, Dorset*.

**Aphelandra nitens**.—There is nothing in bloom in the stove just now which exceeds in brilliancy of colour this beautiful Aphelandra. Its foliage, too, is very ornamental, the leaves being ovate, about 6 inches long, and of a shining bronzy-red above and vinous purple underneath. The flowers are arranged on a stout, erect spike, terminating the season's growth. The base of each flower is enclosed by a bract, these bracts being so arranged as to give the spike a square four-angled character, which, however, is common to most or all Aphelandras. The corolla is of a brilliant vermilion-scarlet, which contrasts vividly with the bronzy metallic hue of the leaves. It consists of two lips, the lower one divided into three rounded lobes or petals. The most satisfactory results with this plant are obtained by growing it on from cuttings every year. Old plants are always leggy and, except when in bloom, unsightly. It requires moist stove treatment throughout the year, growing it in a light compost of fibrous loam and peat with a little leaf soil and silver sand added.

**Chamædorea elatior**.—There is a goodly number of Palms belonging to the genus *Chamædorea* which are eminently suitable for cultivation in the indoor garden, their value consisting not only in the striking elegance of growth, but also in the difference of form and habit they display when compared with the commoner types of Palms. They are all characterised by tall slender stems, surmounted by heads of graceful foliage. In some instances the stems even in adult plants are scarcely thicker than an ordinary writing pencil, and in the stoutest rarely thicker than a walking-stick. In most species the plant consists of a single stem, but in several the stems are clustered together in considerable numbers. It is to the latter section that *C. elatior* belongs. But what renders this species so worthy of notice is the fact that it succeeds perfectly in a cool greenhouse, and that it is also quite distinct from any species of Palm that can be grown in as low a temperature. A specimen has for about three years been grown in one of the beds of the large temperate house at Kew, where during severe weather the thermometer is frequently below 40° Fahr. Here it thrives to perfection, and it would assuredly be difficult to find a plant of similar character more charming and elegant than it is. This specimen consists of about a score stems, varying from 2 feet to 10 feet high, these being added to continually by sucker growths from the base. The fronds are pinnate and from 2 feet to 3 feet long, and confined to a small head of about half a dozen surmounting each stem. They are gracefully arched and of a deep green. The species appears to be better known in France than in this country, several fine specimens having been shown at the Paris Exhibition of 1889. As a permanent specimen plant for the conservatory it certainly deserves to be generally known. It is a native of Mexico.—W. B.



## FLOWER GARDEN.

## STAR NARCISSUS SIR WATKIN.

ONE of the largest and best of all the hybrid kinds, this variety also deserves notice as being one of the best of growers, its rate of increase being extremely rapid, while its flowers are also produced in greater profusion than are those of most other kinds. It was first discovered in a valley in Wales in 1882 or 1883, and became more generally known through its flowers having found their way to the flower-shops and markets of Manchester. In 1884, Messrs. Dickson, of Chester, exhibited blooms before the Royal Horticultural Society, and eventually sent out the bulbs at half-a-crown apiece. As shown by our wood engraving, it bears large and shapely star-like flowers, with a widely expanded,

of what used to be sold in the market or hawked about the streets. In thousands of private gardens also they have found a place, and it is the rule to sow seed every spring. That is one of the good results which have arisen from constantly urging the cultivation of hardy flowers of every good kind.—D.

## CARNATIONS FROM SEED.

WHEN Mr. Douglas tells readers that if they raise Carnations from seed, even of the best strains, "by far the largest proportion of the plants will not be worth growing again," he is, of course, referring solely to the quality of the flowers from a florist's point of view. If readers generally were to conclude that seedling Carnations were hardly worth cultivation as border plants, they would fall into a great error. It may be right that we should learn to regard all flowers, and especially Carnations, with contempt if they do not come up to the

strains when we can get seed—that is, of course, the chief difficulty—that are as easy to raise as Sweet Williams and almost more easily grown. I remember many years ago having an unmarked packet of seed given me for Sweet William. This was sown in May in the open ground, and the produce was several hundreds of what proved to be very fine double-flowered Carnations. The fact serves to show how easily Carnation seed may be induced to germinate. One season I raised several thousands of plants from seed saved in the open and for an experiment sown in the early winter under glass. The plants were so soon as large enough dibbled out thinly into cool frames, and in May I had fine young plants to put out. Many came into bloom the following autumn, and if they had been potted and put into warmth would have flowered all the winter. The general flower produce the following year was immense; still, I found that when the bloom was so excessive there was relatively little grass for layering, and later I sowed seed in the spring, as the plants the following year bloomed and produced grass more equably. If seed be obtained of Carnations, young plants may be raised as easily as Pansies or other hardy plants, and if the flowers be double and especially perfumed, there are few amateurs or gardeners (except they be of the high florist order) who will not be more than satisfied with what they will secure.

A. D.

## HARDY FLOWERS.

PLANTING LILIUMS.—This work is, I think, often deferred until too late in the season for the bulbs to make satisfactory progress the first year after planting. When the bulbs are newly-purchased ones this is more particularly the case. These are often left too long exposed in a dry atmosphere, causing them to lose their plumpness; oftentimes towards the end of the season there will become quite shrivelled. In this latter condition it is not possible for them to make a good growth the first season. About a month back I received a few additions to my collection. Directly I unpacked them, they were laid out and covered with cocoa fibre to keep them plump. These have now been planted with others, and whilst handling them for planting I noted that roots were already started. This is, I think, a clear proof that hardy kinds at least should be planted early. Some years ago I had occasion to remove some old bushes of Rhododendrons to another part of the garden. The soil in which they were growing was of a peaty character, so I turned it to account for Liliiums afterwards, planting such hardy kinds as *L. chalcedonicum* (the Turk's-cap Lily), which has thriven remarkably well, having greatly increased itself; also *L. excelsum* (syn., *L. testaceum*); this likewise has done well; besides which note should be made of *L. pardalinum* and *L. candidum*. Thinking a change, or at least replanting, would be beneficial, I have taken them up, turned the bed over deeply, and mixed therewith a good quantity of spent Mushroom manure to maintain the light character of the soil as well as to act as a manure. To the kinds already in the bed I have added *L. Szovitzianum* (*L. colchicum*), *L. tigrinum* fl. pl., and intend to plant *L. tigrinum splendens*. The bed was dug up in the morning and made ready for planting as soon as possible, all the bulbs being in their places by nightfall, a handful of sand being shaken over each bulb. Thus there was no undue exposure, which I am fully persuaded is not to the advantage of the bulbs. The kinds named will give a fair succession of flower, whilst there will be nothing to fear as to their hardiness, except it be in the case of *L. Szovitzianum*. The position is not what may be termed over-moist, so I do not fear even this variety. Of the others named, I often wonder that *L. excelsum* is not more cultivated than it is. Its beautiful deep buff-coloured flowers are in their shade so unlike any other Lily, whilst the plant is also quite hardy, gaining in strength year by year. I have noted frequently how much this variety has been admired whilst in flower. *L. chalcedonicum* is also worthy of extended culture, its handsome



Narcissus Sir Watkin. Engraved for THE GARDEN from a photograph sent by Mr. J. D. Pearson, Chilwell, Notts.

shortened chalice or cup, and although presumed to be a hybrid, its origin is really unknown, but as a reliable garden plant it is one of the very best hitherto known, growing and blooming well in any good well-drained soil.

F. W. B.

**Border Polyantheses.**—I saw over in West Middlesex recently in diverse gardens probably 10,000 of these hardy spring flowers in various stages of growth, and wonderfully luxuriant they seemed to be. Hundreds of plants were blooming, and it was evident that if some had been lifted, potted, and stood in a gentle warmth in a greenhouse, they would soon flower finely. How much of beauty might be obtained through the employment of precocious hardy flowers of this description! Since the fine border varieties have become more widely known the demand for them in all directions has been great and increases every year. The fine Polyantheses of to-day are a long way ahead

rigid florist's standard, but I am sure that the tens of thousands who love flowers would contest that dictum, and hold that every flower, no matter how poor, has its elements of beauty, whilst vast numbers of rejected seedling Carnations are held to be by them exceedingly beautiful. Take the Continental varieties, which cannot be termed in any sense florists' flowers; what myriads of lovely double flowers they give us; fully 75 per cent. come double from seed, and now we see them grown specially for the production of flowers for cutting from in hundreds of gardens. The gardener who has once had a bed of these will no longer do without them. A packet of seed of Carnations is found to be as important as are Sweet Peas, Mignonette, Asters, or any other flower. I think it is probable that, on the whole, these Continental forms give more variety, more of average doubleness and of bloom than do seedlings raised from the finest florists' strains. Certainly many of these latter are very disappointing in the quantity of bloom they produce; but then we have home-raised



umbels of brilliant scarlet flowers being so showy. I have also a high opinion of *L. pardalinum*, *L. tigrinum splendens*, and *L. canadense*, but have not given the last-named a trial for want of a moister position, which it requires. H. G.

### THE TULIP.

We ought not to lose sight of the florist's Tulip as a beautiful ornament in our spring gardens. It is one of those old-fashioned flowers which has undergone many vicissitudes of fortune, sometimes being esteemed beyond all other flowers of the hardy plant garden, and at others scarcely tolerated; yet there has always been a band of florists who cultivate it through all seasons alike. There are too many garden owners and presumed lovers of flowers who care only for such as are popular and grow them because they are the rage at the time. Others, again, think of such flowers merely as specimens which they can exhibit at a flower show, and perhaps they would not cultivate them but for the incident of a floral exhibition, and who become disgusted with their flowers because they do not hold the highest position on the prize list. I believe in flower shows, as they tend to bring florists together and to a great extent to encourage the growth of the flowers they were established to promote, and if certain individuals care only to grow their flowers for this special purpose, and would drop their culture had we no exhibitions for them, we cannot help it. For instance, there is a Tulip show at Manchester every year in May which brings the Tulip fanciers together, and tends greatly to encourage the culture of this famous old flower. It may surprise many to be told that we are not depending upon the old varieties of Tulips in the various classes. The work brought to a high degree of excellence by the Dutch florists and the early English cultivators is still continued by many good and true florists in the north, and some of them would still continue to raise new kinds if there were no exhibitions. Not that they do not welcome the opportunity to exhibit their flowers, but they like better to see them at home. A Tulip flower or an *Auricula* plant is a more beautiful object well placed in the garden than at any flower show. Mr. Bentley, one of the northern Tulip growers, writing in a contemporary, has two suggestions to make for the purpose of further spreading amongst lovers of their gardens an interest in the Tulip. One is the compiling of a catalogue of Tulips, describing the varieties now in cultivation, as it does not seem that any list exists at present. The other is to form a Tulip society in the south of England, with its headquarters in London, as the northern one is in Manchester. I would not like to throw cold water on the formation of such a society; but it would, I fear, have to be supported at the first almost entirely by the northern Tulip growers. What is needed is an energetic secretary with plenty of time and his heart in the work. The compiling of a good catalogue is an excellent suggestion, and seems to be the work of a Tulip Society. I believe such special societies would have far more outside support if they turned their attention to useful work of this kind. Subscribers tire of providing money for flower shows they never see and for prizes they never think of competing for, but if such good work as printing descriptive catalogues of the flowers and giving a small pamphlet as to their culture, they might then feel they were getting something for their money.

The Tulip fanciers in the north do not plant their bulbs out so early as we do in the south of England. I believe Mr. Barlow told me that he did not plant his bulbs until the end of December, as he fancied when they were planted late they started to grow away at once, and did not suffer injury from excessive wet, as they were apt to do if planted early in November. I have sometimes planted them out in the last week of October, the signal for doing so being the swelling at the base of the bulbs, showing that the roots are about to burst forth in a mass. They will come out before they are planted to the serious injury of the plants.

An old author somewhere says, "the Tulip asketh a rich soil and the careful hand of the gardener." If not already planted out, they should be seen to at once. Plant the bulbs about 4 inches deep in good soil, placing some sand over and under each. The manure should always be placed 6 inches under the surface. The soil for Tulips is generally deep, and trenched up to a depth of 2 feet or so. This is not really necessary for the roots to work into, but the water drains away more rapidly in deep soils, and in this way trenching is beneficial. In cold, wet districts it is usual to protect the beds in winter by placing iron hoops and mats over the beds. Near London we do not need to do this, but the beds are always raised a little above the level of the ground. When the plants come through the ground, which they usually do in January, a dressing of decayed stable manure is placed over the surface. This is an excellent protection from frost. The self-coloured Tulips—breeders, as the fanciers term them—are very beautiful and much esteemed as garden flowers. J. DOUGLAS.

### JAPANESE LILIUM SPECIOSUM.

DR. WALLACE'S notes on the above Lily in THE GARDEN (page 468) are very interesting, especially as I have flowered those forms of roseum and rubrum to which he refers among a quantity of bulbs obtained at the winter auction sales. The variety for which Dr. Wallace suggests the name of roseum superbum is a grand Lily and was very much admired when in bloom, that is, when it was placed under glass, for in the open ground it was too late to flower in a satisfactory manner. The one to which your correspondent refers as having a touch of rubrum blood in it was equally late, and consequently where planted out it was, from this circumstance, not seen to advantage, but a few in pots proved very satisfactory. At one time all the coloured varieties were disposed of at the auction sales under the collective name of rubrum, but for the last two or three years the form *Melpomene* has been sold separately, and as a rule proved to be perfectly true to name. There were a few of the ordinary Japanese rubrum interspersed with them, while, on the other hand, among those sold as rubrum were several of the richer coloured form. One feature I have particularly noticed with regard to the bulbs of *Melpomene*, and that is, they are as a rule somewhat looser and not so shapely as those of rubrum, while each bulb will generally push up two, three, four or even more flowering shoots; while bulbs of equal size of rubrum will only push up one strong shoot, perhaps two, but few of them any more. With regard to the early light-spotted variety known as *punctatum*, I have flowered it from bulbs imported from Japan, but in very limited numbers. About ten years ago (I have mislaid the actual date) I purchased a box as rubrum just imported, the bulbs being still hermetically enclosed in their balls of clay. On removing it, a dozen bulbs or so were noticed to be rather lighter in colour than the others and were kept separate, the result being the finest examples of *punctatum* that have ever come under my notice. The foliage was so clean and well developed, that the question arose whether they belonged to a distinct variety, but the next year the leaves had that cramped, partially diseased appearance common to the Dutch-grown *punctatum*, from which after the second season it was impossible to separate them. Since then I have flowered an occasional *punctatum*, but none for the last three years. One striking feature in connection with these Japanese bulbs of *L. speciosum* is that they represent altogether a superior form to that sent here from Holland, a remark that applies equally to *Lilium longiflorum*, as anyone that saw Dr. Wallace's grand group of this last from Japanese bulbs at the Temple show in the summer can testify. H. P.

**Rhododendron Daviesi.**—The brightly coloured blossoms of this *Rhododendron* are quite as welcome before Christmas as in the spring, its usual season of blooming. The parents of this are

*R. javanicum*, with large heads of reddish orange-coloured blossoms, and *R. retusum*, whose flowers are small, somewhat Fuchsia-like, and vermilion-red in colour. This hybrid is in general appearance about midway between its parents. *R. retusum* does not appear to have been much used by the hybridist, for with the exception of this variety and Messrs. Rollisson's Prince of Wales, sent out over a quarter of a century ago, I know of no other hybrid kinds claiming parentage from it, for Messrs. Veitch do not appear to have employed *R. retusum* in the creation of their magnificent group of Javan hybrid *Rhododendrons*.—H. P.

### ROSE GARDEN.

#### THE WINTER CARE AND PROTECTION OF ROSES.

It is somewhat peculiar that Roses vary greatly in growth in many parts of England, and those which we hear of growing luxuriantly in one place seem to flag and dwindle in another. There may be many causes for this cultural variation and dissimilarity, and it is only when Roses are cultivated in the same locality that the fact of deterioration is really of importance and ought to be easily accounted for. In the southern counties nearly all varieties, even Teas, should thrive if protected, but, judging from some recent writing in THE GARDEN, such is not always the case. I can account for such a kind as the old Rose *Devoniensis* not doing well by our recent cold winters with a thermometer registering zero, and also by the fact that even our greatest professional rosarians apparently have not a stock of strong plants of this variety, but when I find such an experienced rosarian as "Ridgewood" saying that the Tea Rose Hon. Edith Gifford grows comparatively weakly with him it does surprise me, as it is with me quite robust. "Ridgewood" has if anything a more genial climate than we have in this district of Croydon, and, therefore, the weakness of this splendid Rose with him must be sought in some other way. Now what is the cause of the weakness of this and other Teas, such, for instance, as *Innocente Pirola*, in many places, and the strength of the same varieties in other and similar places? It must lie either in their different treatment in culture, or in neglect of winter protection, which some do not believe in, or in the plants being grown on unsuitable stocks, or in their being healthy or the reverse at the bud's start off into life. The Tea Rose to grow and bloom well should have its wood very thoroughly ripened in the previous year, and it is one of the unfortunate drawbacks of our climate that we seldom get weather of the class which enables the wood of the year to get thus fully ripened, as frequently—in fact usually—more wood is developed in the autumn than at an earlier date in our short-lived summers, and when the frosts of winter come it finds our pithy, unripened plants in an unprepared condition to resist the cold, the frequent result being utter annihilation, or else only a weakly plant left to face later on the piercing winds of March, which more often than not finish off the destructive winter's work. The only way we can endeavour to ward off these dangers is by early protection. Many wait till it is too late, and when the mischief is done put some protective covering on their trees, but in my opinion, in this, as in most cases, prevention is better than cure, and it is far better to meet the danger in advance—not half way—and protect your Teas early in November when you have done your planting. When we have a winter such as that of 1890-91,



even taking time by the forelock is of little use. We certainly cannot command immunity from the risks attendant on extremely severe weather, as when the Roses are budded on various-sized standard Briers, the Brier is frequently killed by the rigour of the winter, and in the winter of 1880-81 and 1890-91 I believe the ground was frozen to a depth of 18 inches. When the ground is thus literally ice-bound to a great depth the roots must often suffer, and the protection which may then save the trees will be either in the precaution of heavy mulching of manure or earthing up having been promptly attended to early in the season. A friend of mine in this neighbourhood at one time never protected or mulched his Roses, and in consequence in the winter before last lost fully half his Tea Roses; but then I heard that the same winter two rosarians of great celebrity, Messrs. Foster-Melliar and Page-Roberts, lost nearly all their Tea Roses, and although I am not conversant with their *modus operandi* in growing Tea Roses, I am quite sure that men of such celebrity in the Rose world did not neglect any ordinary precaution, but the abnormal season was too much for the power of resistance of the Tea Rose except in the most favoured localities and situations.

A question of importance, and also one which would be worth having comment on, is this: When should the protection placed on our Tea Roses be taken off? I have usually uncovered the heads of Tea Roses and levelled the beds, where ridged up, in March when I have pruned my Hybrid Perpetuals, my reason being that we often have very mild weather at some time or other in the month of March, and I have considered it well for the plants then to benefit by the circulation of air and light after the winter seclusion; but I doubt the advisability of too early removal of protection, as the cold winds which very frequently follow such a mild week or fortnight often do serious damage, and therefore I purpose next spring to try a new plan, by delaying the pruning of my Tea Roses and removal of the Bracken, &c., from them till the month of April. The natural objection to this late work is, that if the weather be at all mild, there is a weak growth encouraged under the covered Rose head, but the remedy will then lie in that which I know is looked on as an heretical proceeding by some, that is extra hard pruning. I am confident from my point of view of Rose culture that there is nothing like hard pruning. Not only do you get better wood and Roses, but you get a new tree. By leaving weakly growth and not cutting hard, you may get more growth and a greater quantity of bloom, but the class of Rose is vastly different. The more trees a rosarian grows, the harder he ought to cut them in the spring. His treatment of the bushes or heads later on in the summer and autumn is a different question, for some will then allow them to grow according to their own sweet will, and others will continue to thin out. I acknowledge I am still open to conviction as to which method is the more desirable in the autumn; but it is important to remember that, unless in a very sunny and open situation, the over-free growth of wood in the autumn will act as a deterrent to its complete ripening, and that which we specially require for the subsequent year should be as ripe as possible, this being a matter of supreme importance, at all events to exhibitors.

Finally, I am convinced that in our recent winters our Tea Roses have required protection, unless they have been in the most favourable localities, or in the warmest places and sheltered from the north and east, as I certainly

have not so far been won over to the side of the believers in the hardness of Tea Roses in general, although I acknowledge that the Dijon Teas are thoroughly hardy. Another winter is now on us, and the sooner we adopt these precautions the better will the results be in the Tea Rose garden next year, especially if we are again subjected to very low temperatures in the ensuing months.

Croydon.

CHARLES J. GRAHAME.

**Own-root Roses.**—I have had to deal with Tea Roses on nearly all kinds of stocks. On one occasion I had a number of Teas budded on the Manetti, but in a couple of years the Manetti had destroyed the Rose. Despite the continual suckering which was annually done I have also had, and have at the present time, those budded on the seedling Brier, also those on the cutting Brier, and a splendid young batch on their own roots which in my opinion will outlive those budded on the various stocks. I have also a good lot on their own roots in pots, these being far superior to any I have ever had on any stock. The blooms are larger, brighter, and produced quite as freely as on those budded. Of course, as "A. H." correctly remarks in a recent issue, one has to wait a little longer for the plants to attain a good size when grown from cuttings, but once they get a good hold they grow away very freely, breaking up from the bottom and soon making splendid specimens. I have observed that Roses on their own roots are less liable to injury by frost than those budded. I am aware it is advised to plant deeply in order to cover the point of union out of the way of frost, but it is not always possible to do so. Only last week I planted several beds of both Teas and Perpetuals, and in the case of not one plant in ten could I bury this owing to the buds being inserted too high up the stock. When first planting Roses which are budded I plant them where possible some considerable depth below the point of union; in two years later I lift them, and in most cases I find they have emitted a profusion of roots at this point, and immediately above I then cut away the old stock up to this point, and I have had first-rate results follow. Some three years ago I treated a number of Perpetuals which were budded on the Manetti in this way, and although they did not make the progress the following summer they otherwise would have done, they made up for lost time the two following seasons. They threw up from the bottom large and splendid growth and filled up the beds capitably, and during the past season have produced a grand crop of blooms. I shall treat those beds I have referred to in a similar way when the time comes round. —A.

#### FORCING MARECHAL NIEL ROSE.

I EXPECT that there is fully double the space of glass devoted to this grand old Rose that there is to any other variety, and deservedly so, too, when we take into consideration its grand qualities under proper treatment. Where plants of Maréchal Niel are growing on the back wall or roof of ordinary greenhouses, especially in such cases as that of an amateur with only one house for his varied collection of plants, no time should be lost in doing what little pruning, &c., may be necessary. First of all, if on a wall, I would unfasten the growth and whitewash the wall thoroughly. There is nothing else so easily applied and so effectual in killing insects that may be, and almost always are, in the crevices of walls. The greater body of light that will be reflected from the clean wall is also of material benefit. I would then remove what little superfluous wood there was in the way of unripened points of growth and the weaker lateral shoots. Now tack up the long rods again firmly, but not so as to constrict them, remembering that the wood will swell considerably as the season advances. It is a good plan to fix a few wires lengthwise of the wall. If these are placed 2 feet apart and about 6

inches from the wall it will be much better than tacking the growths so closely to the bricks. In the latter case several very promising eyes do not get the chance to do themselves full justice. A good plant of Maréchal Niel will produce many hundreds of blossoms if grown well from the first. It sometimes happens that the young growths receive a check when they are from 2 inches to 3 inches long. This is more particularly the case where the plants are turned out and the greater parts of their roots have been made outside of the house. Under these circumstances they are not so much under the influence of the artificial warmth, and the more backward roots do not supply sap freely enough to continue the growth without an appreciable and often very injurious check. The same effect is sometimes caused by the border being much drier than is imagined. Roses are naturally deep-rooting subjects, and those of vigorous growth are more so in proportion to their strength and size. Now, an inside border is always drying more or less all the year, and is entirely dependent upon the gardener for water.

There can never be any harm in affording a good supply of weak liquid manure at the time Roses are breaking into growth, and a more thorough soaking than is usually given would help them materially. Another very fruitful cause of disappointment with this grand Rose is canker and its disastrous effects upon the plant at the time the flowering shoots are in full growth and showing for a good crop. It is my impression that canker continues to grow even when the plant itself may be described as ripe or dormant; then, when there is a much greater strain upon its feeding supply, and with the naturally increased swelling of the stem as a channel for this, the constricting nature of this disease is made painfully evident. The young growths suddenly put on a sickly and starved appearance, as indeed they really are, because their food supply is restricted. Under such circumstances it is little wonder that the blooms are poor and of small size. I may here state that I have known exactly the same appearances and results from an over-strong dose of liquid manure. This will invariably kill the points of young roots and cause a very harmful check to the growth. I have dwelt upon this matter rather fully because in my experience more than half of the failures in growing this Rose take place at this critical period and are from the above causes.

Maréchal Niel is very hasty to break into growth, but when the shoots are long enough for the bloom-buds to stand out prominently, they seem to stand still for a time. It will be best not to give any extra heat nor to attempt to hurry them in any way at this time. As long as the buds are steadily increasing in size all will be right. You must bear in mind that there is a great strain upon the plant at this time in sustaining and perfecting so much foliage and such large numbers of bloom-buds. If you attempt to hurry them at this stage it is very probable that they will cast many of the buds that would otherwise have made good flowers. I need scarcely add that absolute cleanliness from insect pests and mildew is necessary, and that this desirable end should be attained without using extreme measures. I have found Maréchal Niel and Niphetos more susceptible to strong tobacco fumes than any other varieties of Roses. R.

**Saving seeds.**—Many people, especially amateurs, save their own seeds, and they wonder why the produce from such seeds deteriorates. The reason is simple enough, as there is no attention given to the selecting of them during the stages of their growth. For example, Peas are picked till only the poorest pods are left. The poorest roots of some vegetables are often saved for seed. Potatoes often are, and that is the reason why the progeny is often so poor. Some time ago I saw a member of a large seed firm selecting his stock of Turnips; he travelled through the immense breadths of bulbs, examining carefully those which were to supply the seed which has kept up for long the fame of their establishment.—NORTHERN.



## STOVE AND GREENHOUSE.

## FERN-LIKE FINE-FOLIAGED PLANTS.

UNDER this heading may be included several distinctly ornamental subjects embracing plants which are very useful from a decorative point of view. Most of them are of an enduring character when subjected to somewhat adverse treatment, more particularly when grown freely exposed to the light. Some of these are pretty well known, whilst others are not nearly enough grown at the present time.

**CUPANIA FILICIFOLIA**.—Anyone who has seen a well-developed example of this very elegant plant cannot but be struck with its light appearance. Unfortunately it is not at all common, although those who catalogue it in the nursery trade do not place an exorbitant price upon it. It is seen to much the best advantage as a specimen when the leaves are of considerably finer dimensions. I have grown it myself for both exhibition and home decoration, the largest leaves approaching 2½ feet in length by nearly 2 feet in width, these being when of the larger size of a more drooping character and very finely divided. To keep it at all within bounds, it should be cut down nearly to the pot every second or third year, keeping the plant dry previously to prevent bleeding as much as possible. It is best propagated from root cuttings, which should be taken when giving a shift after the plant has been beheaded. It makes much the best growth whilst in a warm house, but during the summer may be safely kept in a conservatory. Its flowers are blue, but the blooming is a rather rare occurrence. It was introduced from the West Indies as far back as 1800 (*vide* Paxton's Bot. Dict., where it may be found classed with the Jacarandas).

**GREVILLEA ROBUSTA**.—This is by far a better-known plant, one common enough in nurseries and many gardens, doing a good turn in the latter for subtropical bedding. When used in this way, I much prefer to plunge the plants over the rim of the pots to that of turning them out. By the latter method they cannot be lifted so easily in such a way as to retain the foliage for after use. Many growers, I consider, make a mistake in overpotting this *Grevillea*; the growth may be stronger, but this is hardly what is wanted. When somewhat restricted, the leaves will come quite as large when the watering-pot is freely used, and they will be much finer in their parts. I noted this only this past summer in one case, wherein the word "*filicifolia*" might have been suitably added to the name. I find it to be an excellent plant for vases, &c., in rooms; it resists a dry atmosphere so well and is not troubled with insect pests. In sowing the seed, better success will result by taking pains to place each seed in an upright manner, as they are perfectly flat, hence more liable to decay before germination ensues. A beautiful form of this *Grevillea*, under the name of *Grevillea robusta elegantissima*, a superior and much improved variety, was shown on April 19 last at the Royal Horticultural Society's meeting by Messrs. Jas. Veitch and Sons, to whom a first-class certificate was awarded.

**JACARANDA MIMOSÆFOLIA**.—I am much surprised that this elegant plant is not to be met with more frequently in gardens. It is an easy plant to cultivate, making a good growth in one season. I have one plant now which is more than 5 feet in height, having been cut down in the spring nearly to the pot. When it is well grown the foliage is quite 18 inches in length by 6 inches or more in width. The colour, a pale green, is very pleasing; this, combined with the light-looking foliage and small pinnae, give it a very attractive appearance. It is best grown upon the single stem, although two or more shoots can be carried up. Towards the end of January the plants should be kept dry for a few days, when they may be cut down to within a few inches of the pot. To induce them to break freely, they should be placed in

warmth, the shoots afterwards being thinned down to the required number. If one takes the lead, which it will often do, the others (if not thinned down to the one) can be left for a time. These latter when in a semi-hardened state will make good cuttings; the tips of the old growths will also strike, but take longer. Root cuttings can also be looked after when repotting. At the best the cuttings do not strike quickly, but with patience and good attention they rarely fail. It is not at all essential to use large pots; the plant alluded to above was only in a 6-inch pot. Although this plant comes from Brazil, it may be safely grown in a warm greenhouse.

**PAULLINIA THALICTRIFOLIA**.—This stove evergreen, climbing or scandent shrub is a beautiful addition to fine-foliaged plants, and when it is well grown it can scarcely fail to be universally admired. It would be met with more often than it is, no doubt, if it were not for its peculiar habit of growth. The best position in which to see it is either suspended from the roof or stood upon a shelf where it can droop over the side of the pot. It can also be grown as a specimen, training it in somewhat of a pyramidal or fan-like fashion. The



*Myrsiphyllum asparagoides*.

young shoots will make quite a long growth in one season if not stopped to make a more bushy plant. For special occasions I have used it upon the dinner-table, where, if drooping from tall epergnes or trailing upon the white cloth, it will produce a charming effect; small leaflets are useful likewise as backings to button-holes. When not too much shaded, the bronzy tint upon the points of the shoots and developing leaves is an additional attraction. Being a very fine-rooted plant, care must be taken not to overpot in any case. Peat, as for Cape Heaths, is the best soil, with silver sand. It may be grown well in leaf soil and loam, but I consider the peat the most enduring. Cuttings taken in the growing season with a heel and about 4 inches or so in length will strike well enough in nearly all sand, but not in too moist an atmosphere. It flowers in the autumn, the small clusters being of a pinkish white colour; these, although pretty upon the plant, are of no further use.

**LOMATIA FERRUGINEA**.—This is an enduring plant, much slower in growth than the *Grevillea* afore alluded to, but after the same style, although quite distinct from it, the leaves being shorter, the growth stiffer, the leaves a dark green, the under sides of a rusty-looking appearance, which latter characteristic is also traceable in the stems. It

will retain its foliage when well cared for through two or three seasons, and yet not become too tall in growth whilst on the single stem. As a decorative plant, this and *Lomatia elegantissima* are both to be recommended for their enduring character, both resisting a dry atmosphere well, with little susceptibility to insect pests. The former is a Chilean species, the latter coming from New Zealand. Cuttings should be taken when the wood is fairly well hardened, striking in peat and sand in a fairly warm house, but not in a damp atmosphere. Whilst still in a dwarf state they make very pretty dinner-table plants, being useful when those more tender cannot very well be exposed.

**ACACIALOPHANTHA**.—This well-known plant cannot be quite passed over; it is useful not only as a bedding plant, but also in pots. A very good mode of culture is to sow the seed in the spring, growing the plants well exposed the first season in pots. By the autumn they will thus be probably in 6 inch pots. These plants will then and through the winter make capital decorative material to be transferred to the flower beds the following season. The seeds, being very hard (*i.e.*, the shell) take a considerable time to germinate. To facilitate this the seeds can be stood in a pan of water in a warm house, and as they swell transfer them to the soil; or the points can be filed to assist in the same way; or, again, the entire shell can be carefully cracked. This *Acacia* will ripen its seeds in an ordinary greenhouse freely enough.

**MYRSIPHYLLUM ASPARAGOIDES**.—As a trailing plant in a cool stove or warm greenhouse this is extremely useful. The greatest difficulty is to find a place where it can be suitably accommodated. It requires to be within easy reach, and each stem should be kept separately tied to or entwined around a slender string so that when required in a cut state it can be easily detached. Grown in this way, it also looks extremely handsome whilst on the plant, the lateral growths drooping down adding to its beauty. I have been particularly struck with the faint, but grateful perfume emitted by its flowers, reminding me of those of *Dioscorea Batatas*, or the Chinese Yam. For the roof of the fernery this *Myrsiphyllum* is a very suitable plant. It is frequently termed or called a *Smilax*, which is altogether wrong, the two genera being quite distinct. The propagation is best effected by the division of the larger crowns and should be attended to early in the year before fresh growth commences; where it flowers and afterwards seeds, the raising of seedlings can also be advantageously adopted.

This list would not be complete if a few of the greenhouse or temperate house varieties of *Asparagus* were not included therein. By some growers they are classed as stove plants, but the temperature of the stove is not at all necessary to grow them, and that most successfully. It should be borne in mind, therefore, by those who have not yet attempted their culture for this reason that they need not fear to do so any longer. All that is required when growing them in a temperate or cool house is to obtain a well-established plant or plants; by so doing there will not with ordinary care be any fear of the ultimate result. This winter even the house in which we have three of the best known varieties growing has already fallen below 40° at night. Therein they have been located for some years, yielding yearly an extra amount of cutting material for various purposes, from button-hole bouquets up to large arrangements in epergnes. The three best varieties in my opinion are the following, viz.:—

**ASPARAGUS PLUMOSUS NANUS**, which as a small plant is undoubtedly the best of the trio. It sometimes puzzles me to know where *A. plumosus nanus* leaves off and the type *A. plumosus* begins. I have grown *A. p. nanus* true to its character in pots up to 6 inches in diameter, then when this was planted out it grew to as much as 10 feet in height. Undoubtedly it makes a beautiful plant in the dwarf state; the best way to obtain it thus



is from seed, but in order to seed it freely it must be grown in a warm house.

**A. TENUISSIMUS.**—This does not appear to be so much grown, but as a climber it is the best variety to choose, all things considered. As compared with the foregoing, it is of a lighter green colour when under the same mode of culture. For cutting to entwine around the stems of tall glass vases, it is the best kind to employ, as it has not the formal appearance of *A. p. nanus*. It is a variety which branches freely, usually breaking out afresh below where it has been cut. In a cut state it does not possibly last so well as the first-named.

**A. DEFLEXUS**, between which and *A. decumbens* there appears to be some confusion. Personally, I am disposed to think they are different. I note that *A. decumbens* was introduced from the Cape in 1792, and that *A. dependens* came from the same source in 1819. The latter does not now appear to be grown, or at any rate not much so, by this name. Is it not possible that this is the *A. deflexus* as now cultivated? At any rate, whether it be so or not, it is a beautiful variety, the best of all for basket culture. Only this year it has twice been awarded a first-class certificate, being shown in its true character as a basket plant. Since this recognition of its merits there has been such a demand for it as to exhaust the stock in at least one instance. These plants will grow in a peaty soil, but I prefer yellow loam and silver sand. When pot-bound, a weak dose of fish manure is beneficial.

PLANTSMAN.

**Billbergia nutans.**—Far less showy than some of the Bromeliads, yet at the same time possessing a quiet beauty of its own, is this *Billbergia*, notable among other features by the curious combination of colour in the blossoms. It is a free-growing plant, with long, narrow, gracefully recurving leaves; while the flower-stems, which overtop the mass of foliage, are partially drooping and produce a considerable number of somewhat Fuchsia-like blossoms. They are of a pea-green colour margined with blue—a very uncommon tint. It is of easy culture, flowers profusely, and the blossoms retain their beauty a considerable time. —H. P.

**Agathæa cœlestis.**—This is a pretty free-flowering greenhouse plant, whose blue Daisy-like blossoms are borne during the autumn and winter if the plants are grown for this purpose in the summer. It strikes root very freely from cuttings in the spring, and if potted off as soon as rooted and well pinched during their earlier stages, they form neat little bushes, which before midsummer may be shifted into pots 5 inches, 6 inches or more in diameter. As soon as the roots have taken possession of the new soil, the plants should be stood out of doors in a spot fully exposed to air and sunshine, with the result that they will bristle with flower-buds by the time autumn arrives or sooner. If the flower-buds make their appearance earlier than required, they may be picked off. The long wiry stems are of great service when the blossoms are cut. —T.

**Tillandsia Lindenii.**—It is difficult to understand the unpopularity of bromeliaceous plants in this country when one sees this *Tillandsia*, *Vriesia brachystachys* and others enlivening the stove with their showy blossoms at midwinter, and, what is more, most of them retaining their beauty for a considerable time. *T. Lindenii* is represented in our gardens by more than one distinct form, that to which the suffix *vera* is applied being a very beautiful one. The foliage of this is narrow, dark green, and disposed in a very regular manner on all sides, thus forming, if not crowded in any way, a perfectly symmetrical specimen. The flower-spike, which springs from the centre of the tuft of leaves, is from 8 inches to 10 inches high, the greater part being clothed with two opposite, closely imbricated rows of bracts of a clear deep pink colour. These bracts cause the upper portion of the flower-stem to be thus flattened out 3 inches or so in width, and from the axils of these bracts the flowers are produced. The

blossoms are a couple of inches, or nearly so, in diameter and of the richest purple imaginable, thus contrasting in a marked manner with the colour of the bracts. These last retain their brightness long after the flowers are over. This *Tillandsia* is of easy culture, but is not a vigorous-rooting subject, so that good specimens may be had in pots 5 inches in diameter. Thorough drainage is essential, and in a compost consisting of fibrous peat, Sphagnum and sand it will, with the treatment given to the general run of stove plants, grow and flower well. It was introduced in 1867, and though now well distributed and represented in most nurseries of importance, it still realises a good price. —T.

**Acorus gramineus variegatus in pots.**—Plants of a grass-like character are such general favourites for decoration indoors, that many hardy subjects are utilised for the purpose,



*Grevillea robusta.*

among them being this little Flag, which in a gentle heat presents a totally different appearance to what it usually does out of doors. It is in a general way most useful when in small pots, and where there are a few tufts in the open ground, they may be lifted and the soil shaken to a great extent from the roots, when the plants can be readily divided into pieces suitable for pots 4 inches in diameter, smaller or larger, of course, if required, but the size mentioned is just sufficient for the plant to form pretty little tufts, which will be found useful for many purposes. Under glass and in a gentle heat they are very fresh and effective, the white variegation being clear and well defined, the whole resembling a miniature variegated form of the New Zealand Flax, not more than 6 inches to 8 inches high. This, as well as many other subjects with grass-like leaves, such as two or three forms of *Carex*, some of the *Ophiopogons*, different kinds of *Cyperus*, the *Eulalias*, and others, is now thoroughly established as a

market plant. One great advantage possessed by such subjects as this *Acorus* is that it may be used in cool and draughty places, where more tender subjects would suffer severely. —T.

**Pelargonium Rollisson's Unique.**—Few plants exhibited during the past season attracted more attention than did Mr. Hudson's grand specimens of scented-leaved *Pelargoniums*, which years ago were generally cultivated, but are now seldom seen. The beautifully cut foliage of the various forms with their pleasing fragrance caused them to be necessary adjuncts to the old-fashioned posy, but the superseding of this by the modern bouquet has done much to destroy interest in many good old-fashioned plants. Among the scented-leaved *Pelargoniums* the *Unique* class forms a group by themselves, the members of which are characterised by less-divided foliage than many of the others, a loose, rambling style of growth, and above all by their beautiful brightly coloured blossoms. The finest of this class is that known as *Rollisson's*, with rich purple-coloured flowers, while besides that we have also the lilac and the scarlet *Unique*. The long clear stems of these *Pelargoniums* serve them in good stead when used for cutting. They are very beautiful basket plants, and for furnishing a pillar also well suited, while secured to a trellis or supported by a few sticks they form very effective specimens. Like the zonal section, they are rarely without blossoms, but to flower them well at this season the plants should be thoroughly exposed during the summer and the buds removed. The result will be good sturdy well-ripened wood, which will produce an ample supply of blossoms if the plants are kept in a warm greenhouse throughout the winter. —T.

**Coleus a quarter of a century ago.**—That different classes of plants have their season of popularity and high prices, and then quickly drop from the position attained, is well shown in the case of the *Coleus*, for I recently came across particulars of a sale of these plants which fetched prices that at the present day would be regarded as astounding. The sale took place at Stevens' rooms on April 22, 1868, and the new varieties then disposed of were obtained in this way. In 1865, *C. Gibsoni*, and in 1866, *C. Veitchi*, were imported from New Caledonia. These two, in conjunction with *C. Verschaffelti* and the *Javan C. Blumei*, were employed for hybridising purposes at the gardens of the Royal Horticultural Society at Chiswick, and a dozen varieties thus obtained were offered at the above-mentioned sale. They were *Berkeleyi*, which realised forty guineas; *Saundersi*, twenty-six; *Ruckeri*, forty; *Bausei*, fifty-nine; *Scotti*, thirty-six; *Batemanni*, forty-nine; *Dixi*, forty-nine; *Clakeli*, ten; *Wilsoni*, fourteen; *Reevesi*, five; *Marshalli*, twenty-five, and *Murrayi*, twenty-five guineas respectively. Such prices were, however, never again obtained, for on December 10 of the same year a second lot from Chiswick, much superior to the preceding, was sold as follows: *Prince of Wales*, four guineas; *Princess of Wales*, four and a half; *Her Majesty*, six; *Prince Arthur*, three; *Queen Victoria*, seven; *Princess Royal*, fifteen; *Albert Victor*, fifteen; *Duchess of Edinburgh*, five; and *Princess Beatrice*, five and a half guineas each. Viewed from the standpoint of to-day, even these last fetched high prices, for now the best of *Coleus* can be purchased for a few pence. At the time of these sales the rage for high-priced tricolor



Pelargoniums was not exhausted, while, contrasted with to-day, Chrysanthemums were very little grown.—H. P.

**Psychotria cyanococca.**—There is now a considerable choice of stove plants that are remarkable for the beauty of their fruits during the autumn and winter months, and among the most select a place must be assigned this *Psychotria*, whose berries are of a deep indigo-blue colour, and consequently very different in tint from anything else in fruit. It may be described as a soft growing shrub, whose light green leaves are about 4 inches or 5 inches long and crisped at the edges. The flowers are by no means attractive, but they are succeeded by clusters of berries, which when fully grown are about the size of Peas, and are arranged in a densely-packed bunch, which from the weight of the berries has a drooping tendency. The plant in question is a native of Nicaragua, from whence it was introduced in 1870. A second species, *P. chortalensis*, was also sent at the same time, but this appears to have now dropped out of cultivation. *P. cyanococca* is of very easy propagation and culture, for cuttings strike root readily, and it can also be raised from seeds, which ripen well in a stove temperature. A valuable feature in connection with the berries is that they retain their freshness and brightness of colouring for a long time. Though the genus *Psychotria* consists of about 500 species, there is only one other member in cultivation that I am aware of at the present time. This is *P. jasminiflora*, whose beauty consists in the flowers. This is of a much harder texture than the other, and forms a neat evergreen bush, whose flowering season is limited to no particular period of the year, but is usually during the winter or early spring months. The blooms are, both in themselves and in the manner in which they are borne, very like a pure white-flowered *Bouvardia*. This species needs far more care in its cultivation than the other, the soil best suited to it being good loam, lightened by an admixture of leaf mould, peat and sand. The treatment accorded the *Ixoras* is also suitable for this *Psychotria*. Besides this last-mentioned name it is also sometimes known as *Gloneria jasminiflora*. This can be increased by cuttings of the young growing shoots put in during the spring months, but they need very careful attention, otherwise many will fail to root properly.—H. P.

**Cyrtanthera chrysostephana.**—"S.M." sends me a nice head of bloom of this very elegant and showy member of the *Acanthaceæ*. He says he finds it very useful, and that last season he had it flowering all through the month of December; this year he has some handsome plants on single stems about a foot high. These plants are used for decoration, and by night as well as in the daytime they are very effective and the flowers stand well. The plant was introduced from the warm parts of Mexico by Mr. Wm. Bull, of Chelsea, about twelve years ago.—W.

**Protection for table and vase plants.**—In the winter-time when these are taken from the stove out into a frosty air it must not be wondered at if they get injured by the exposure. This is often-times the reason more than that of remaining in a dry atmosphere, as that of a living room with a large fire burning, not but that this is bad enough, but the other is, I consider of the two, the worse if any great distance has to be traversed. Paper is sometimes applied to protect the plants after they have been tied up; this in a measure is a protection, but not a sufficient one. What I would recommend, and what at the same time I have found excellent in practice, is a box large enough to suit the case. For dinner-table plants a long narrow box (say 3 feet by 1 foot and a foot deep) will answer well with a close-fitting lid. In this the plant can be laid on its side on a bed of Moss covered by a sheet of thin soft paper. A plant can thus be taken to its destination without any harm on ordinary occasions, and with but little fear of it when excessively cold. Such a box would hold two plants if desirable. When dealing with a larger number, up to about a dozen, I have turned out my Chrysanthemum boards and tubes and used the box for the

same purpose. This makes a capital contrivance for the larger number, all of which can stand upright, and that safely if blocked with a little dry Moss or shavings. A mile or two in a cart if necessary will not do any harm in this fashion, being far better than tying up and papering, as usually done. I am convinced that for want of due care in the way now indicated a goodly number of plants are spoiled. It is not at all necessary that the box first suggested should be a heavy one; it will be quite strong enough if made of half-inch deal, or even less.—PLANTSMAN.

**Richardia Little Gem.**—This dwarf form of the Nile Lily, like its larger and better-known relative, flowers for three or four months during the duldest period of the year. I am under the impression that there is more than one form to be met with under the name of Little Gem, as some how ever cultivated seem to have larger flowers than that shown by Mr. Elliot, of Springfield Nursery, Jersey, a couple of years ago. One prominent feature possessed by Little Gem is the great profusion of suckers that it produces, these affording a ready means of propagating, or if sufficient root room is allowed of forming quite a mass or clump.—H. P.

**Amasonia punicea.**—At a recent meeting of the R.H.S. committees this truly handsome plant was shown in remarkably good condition by its introducers, the Messrs. Veitch and Sons. They have frequently exhibited it in good form, but probably never better than on this last occasion. Although it has now been for some few years in cultivation, it is not often met with in private gardens in such good condition as to recommend it to more favourable notice. This is not the fault of the plant, for that it can be grown well I have proved to my own satisfaction on more than one occasion. Its inflorescence lasts a long time in beauty; this in a measure weakens the plant no doubt. After this has been removed a rest should be given it, but it ought not to be allowed to escape notice and get too dry at the roots. It will not probably start into fresh growth for some little time. When it does so, a fresh potting into most likely the same sized pot as the last shift will be found necessary, using peat and loam as in the ordinary run of stove plants. Coming from British Guiana indicates warmth at once. The vermilion-crimson bracts are arranged in pairs, the flowers being of a creamy white colour, thus affording a striking contrast.—PLANTSMAN.

## ORCHIDS.

### CYPRIPEDIUMS.

It is only now that we are beginning to realise the beauties of these Slipper Orchids in spite of the numerous hybrids which have been raised. I have from time to time urged upon the hybridists the necessity of putting colour into the seedlings, and now it is evident this is being done. I was struck with this when looking at Williams' fine form of *C. Pitcherianum* in the Holloway nursery and the many fine seedlings now in bloom with Mr. Sander, who has used *C. Leea-num* as one of the parents of many seedlings now flowering. This, crossed with many of the fine varieties of *C. insigne*, which have been introduced by Mr. Sander, and with the beautiful *C. Spicerianum*, has resulted in bright and cheerful flowers. *C. Spicerianum*, if crossed with such fine things as *C. Leea-num*, *C. insigne*, *C. Boxalli*, I think invariably transmits the central band of chocolate in the dorsal sepal to its progeny, this being strikingly exemplified in a really superb plant of *C. Calypso* now flowering in the collection. This has a broad and large dorsal sepal with a shining broad stripe of chocolate-purple up the centre, and at each side sundry flakes and stripes of rosy purple, plainly marking its one parent. The other parent was a fine variety of *C.*

*Boxalli atratum*. *C. Calypso* is really one of the most handsome hybrids yet raised. *C. Fairrieanum* also leaves its distinguishing mark in the recurved petals, and Messrs. Pitcher and Manda, of New York, I understand, have recently flowered one of the handsomest in this section. I have now been some years impressing upon the minds of the raisers of seedling *Cypripediums* that brightness and richness in the colours of these plants are necessary. This is only being realised in part, as the pouch or slipper of the flower still appears to retain its somewhat dull and sombre hue. I know full well there are many in the *Sedeni* group that have beautiful coloured lips, and I have looked with admiration upon such plants as *cardinale*, *leucorrhodum*, *calurum*, *Schroederæ*, and others, but this brightness does not seem to pervade many of the other groups. I think when we get *Chamberlaini* to mix with them we shall have gained something. A plant having a fine *Leea-num* dorsal sepal and a large lip as bright as that of *Chamberlaini* would be a notable flower. We want to have the large pouches of many changed from a brownish hue tinged with green to a bright rose colour or rosy carmine, but we do not want to see them flaked or striped, as this appears to me to detract from their beauty.

WM. HUGH GOWER.

**White Masdevallias.**—Mr. Cypher sends some spikes of *M. tovarensis*, and he says he has now thousands of spikes of bloom such as those sent, some plants in 4½-inch pots having thirty spikes. I recently saw *M. Measuresiana* flowering with Mr. Sander. This, the result of a cross between *M. tovarensis* and *M. amabilis*, appears to be a white flower of great beauty. There are two forms flowering side by side, one with pure white flowers, the other with creamy white and slightly spotted blooms. *M. tovarensis* is very useful, and now it is reasonable in price it is within the reach of all.

**Cattleya labiata**, from Straffan House, Co. Kildare, is a very beautiful form, but not the finest which I have seen this season. The sepals and petals are of a rich bright colour, and the lip is large and well marked, but I think I have received one or two flowers superior to this. Mr. Bedford, the gardener, says his plants are small, and I have no hesitation in saying this will make a splendid variety when established and strong. I should like to see a flower another year.—W. H. G.

**Odontoglossums**—These are now flowering in abundance in spite of the dull, foggy weather we have been experiencing about London. At Mr. Wm. Bull's I observed a very fine form of *O. secp-trum*, which many make merely a variety of *O. luteo-purpureum*, but I think its broad, regular flowers, so much brighter in colour, entitle it to be considered distinct from that plant. There was also here associated with it a very fine form of *O. blandum*. *O. nebulosum* was also in good form, as was also *O. Insleayi leopardinum*.—W. H. G.

**Cattleya luteola.**—This species is not very frequently seen in Orchid collections, probably because of its small size, and the fact that it is a long way behind the commoner species in showiness. It has, however, a quiet beauty of its own, and this, with its neat, although diminutive habit, makes it well worth the little space it occupies. It is described by Messrs. Veitch as the smallest of all the *Cattleyas*. A plant now in flower at Kew has pseudo-bulbs about 2 inches high, carrying a single oblong leaf of about the same length. The raceme is two or three-flowered, and the flowers measure some 2 inches across. The sepals and petals are narrow-oblong and pale yellow, the lip (which is three-lobed with the side lobes curling above the column) being also yellow in part, but streaked with purple, and dullish white at the edges. Lindley gave the plant its present name in 1853, but it is as often known under the garden



name of *C. Holfordii*. It is a native of Brazil, but has also, according to Reichenbach, been found in Peru. A variety which he called *Roezli*, and described as being superior to the best forms previously introduced, was brought from Peru to the Continent about twelve years ago.—B.

**Cypripedium insigne for winter decoration.**—For the above purpose this is one of the best winter flowers we have. The choicer kinds that bloom at this season will not stand fogs, and the leaves soon assume an unhealthy cast, but *C. insigne*, provided it is in robust health, resists fog better than many plants requiring more care. For cutting, the flowers are useful on account of their long-lasting properties, and though they may not be termed graceful, yet when set up with some light foliage they present a nice appearance. I find the cooler the plants can be grown the better; indeed, when practicable, I like to grow them in cold frames facing north during the summer months, leaving the sashes off at night to allow the plants to get the night dews. When this is done the leaves are sturdier, shorter, and have more substance, and the plants throw up a wealth of bloom for autumn decoration. I do not care for very large pots; from 7 inches to 10 inches are the most serviceable, being more readily moved, also more useful for house decoration.—G. WYTHES.

**Orchids for a stove.**—"Ranger" asks for the names of two dozen Orchids which may be grown in a stove with other plants. The temperature of the house is from 57° to 60°. This, I suppose, is the heat at night through the winter months. The following, I think, should answer the purpose and do satisfactorily: *Acineta Humboldtii*, *Anguloa Clowesi* and *A. Ruckeri*, *Brassia Lawrenceana*, *B. maculata*, *Calanthe masuca*, *C. veratrifolia*, *Cattleya Trianae*, *C. Mendeli*, *C. Mossiae*, *C. Gaskelliana*, *Cœlogyne cristata*, *Cymbidium giganteum*, *C. Lowianum*, *Cypripedium insigne*, *C. cardinale*, *C. Sedeni*, *C. villosum*, *Lycaste Skinneri*, *Oncidium incurvum*, *O. sarcodes*, *O. splendendum*, *Zygopetalum crinitum*, and *Z. Mackayi*.—W. H. G.

#### LYCASTE SKINNERI.

Of the many hundred species of Orchids cultivated in gardens at the present time, there is certainly a considerable proportion which would disappear altogether should such a change of fashion occur as that which has relegated Australian plants so much to the background. *Lycaste Skinneri* is, however, one of those whose good qualities are so marked, that no fluctuation of taste would affect its popularity. One of the most easily grown of Orchids, it is also one of the handsomest both in foliage and flower. Just now its merits are conspicuous, as it has commenced its long flowering season and has not so many rivals as later on. It does not require a large batch of plants for it to be had in bloom for five months of the year, i.e., from now up to May. The species is remarkable for its great variability of colour; even in an imported batch, presumably from the same few square yards, one may find some differences in almost every plant. Of the many named varieties belonging to the species, it is only necessary to mention two to show how great is its colour variation. *Var. alba* is, with the exception of a faint tinge of yellow on the lip, entirely pure white. Not many years ago it was an Orchid of very great rarity and value. It is even now uncommon and much sought after, although every opportunity has been taken to increase it by propagation. It is one of the most beautiful of albino Orchids. In contradistinction to it there is a variety called *nigro-rubra*, whose sepals are deep mauve and the petals and lip purple.

The species is a native of Guatemala and has been in cultivation exactly fifty years. It should be grown in pots, one-third to one-half of whose depth should be occupied by drainage. The compost I have found most suitable consists of good fibrous peat, chopped Sphagnum, and a sprinkling of silver sand. I consider it best to elevate the base of the pseudo-bulbs somewhat

above the rim of the pot, as the flower-scapes come from the base and are often pushing up during the darkest and dullest season of the year, when it is always best to avoid the danger of moisture remaining about new growth and consequent decay. *Lycaste Skinneri* is one of those Orchids which may be treated with an occasional dose of weak manure water, but only during summer and when in active growth. Healthy growing plants require an abundance of water, and even when at rest it is not advisable to let them remain dry for long. As regards the temperature in which they thrive best, I believe it to be intermediate between that of the *Odontoglossum* and the *Cattleya* houses. Therefore I should select the coolest portion of the latter during the earlier stages of growth—say from February to June—and the former when ripening off and at rest. Of course, the earliest flowering plants should be encouraged by a little warmer temperature when the scapes are pushing. W. J. B.

#### SHORT NOTES.—ORCHIDS.

**Cattleya labiata.**—This is truly a majestic species when a good variety is found. I hear a pure white form has flowered from amongst Mr. Sander's importation, but I have not heard who is fortunate enough to possess this gem.—W. H. G.

**Oncidium Rogersi.**—This, the true plant, I the other day saw in bloom. I am very glad to see this plant again, its flowers being so massive and of such a rich colour. None of the plants that I have seen about under this name have deserved it.—W. H. G.

**Lælia autumnalis alba.**—This is a gem, the flowers being pure white, saving the tinge of yellow on the disc of the lip, and which to my mind gives life to the flower. I always think there is a great want of life in a pure white Orchid flower, and yellow is the best colour to relieve it.—W. H. G.

**Oncidium cheiroporum.**—This, a very beautiful sweet-smelling Orchid, blooms at a time of the year when flowers are scarce. I noted a fine lot of it in one of Mr. Bull's houses at Chelsea; these will be welcome for cutting about Christmas. It thrives best when grown quite cool.—W. H. G.

**Odontoglossum mirandum** (*C. Croucher*).—This is the name of the flower you send. Reichenbach named it specifically, but others think it to be a variety of *O. Lindleyanum*. It is certainly much more robust in growth, and it also has larger flowers, which are also much brighter in colour.—W. H. G.

**Oncidium Phalaenopsis.**—Some extra fine forms of this beautiful plant recently flowering at St. Albans recalled to my mind the fact that there is in many gardens a plant passing by this name, which is not true. The plants now flowering at St. Albans are true, and no more beautiful Orchid exists.—W. H. G.

**Calanthe Sanderiana.**—This plant bids fair to be a great acquisition to the evergreen members of this genus. I saw it in bloom during the present month at St. Albans, but whether this is its normal time of flowering I cannot say. The plant has nothing to render it distinct from *C. masuca* in its growth, but the flowers are larger and richer in colour, and the large lip is deep purple and very long spurred.—W. H. G.

**Cattleya amethystoglossa.**—I recently observed an extraordinary variety of this in bloom. The flowers were of good size, the sepals and petals nearly equal, creamy yellow, spotted and dotted with rich amethyst-purple; the three-lobed lip has the incurved side lobes creamy yellow, the tips deep amethyst-purple, and the middle lobe wholly of an intense deep rich purple. I have seen many forms of this fine *Cattleya*, but never such a fine one as this.—W. H. G.

**A new hybrid Canna.**—In the current number of the *Paris Revue Horticole* is figured the first of a new race of hybrid Cannas under the name of *Mme. Joanni Sallier*. It has been raised by M. C. Maron at St. Germain-lès-Corbeil, and is the result of a cross effected, after many futile efforts, between the pure white-flowered, exceedingly tall-growing and almost evergreen species, *C. liliflora* and some of the fine hybrids of M. E. Crozy, of Lyons. The new hybrid possesses the tall stature of its mother, but has flowers of a deep vinous red,

which, however, are quite devoid of the Honey-suckle perfume exhaled by *Canna liliflora*. It has, however, the great merit of being almost perpetual blooming, the plant figured never having been without flowers since the autumn of last year, and affording most useful sprays for cutting even through the entire winter. Another apparently fine set of new seedling Cannas with very large flowers, which are not, however, hybrids, but forms of *C. indica*, will be sent out next May by Messrs. Vilmorin, having been raised by them at their southern garden at Empel, near Antibes. These are described and illustrated by a good woodcut in the number of the *Revue Horticole* for November 15 of this year.—W. E. GUMBLETON.

#### KITCHEN GARDEN.

##### GOOD-FLAVOURED POTATOES.

I WAS very much interested in the article by "A. D." on good-flavoured Potatoes, as probably of all crops grown in the kitchen garden there are more complaints as to the flavour or quality of the Potatoes sent to table than of any other. I wonder how many of the varieties that have been raised during the past twenty years are still in commerce. It was on my remarking on this very question some time since in the pages of THE GARDEN that led to the observation by "A. D." that there were more in commerce than many people were aware of. Many of them certainly may be in evidence somewhere or another, but as far as being cultivated generally, they are a dead letter. Disease, no doubt, is answerable for this. A variety, let the quality be what it may, is of little or no use for cultivation if 90 per cent. of the crop in ordinary seasons goes off by disease. Whatever may be the reason, it is certainly a fact that the higher the quality of a variety the more susceptible it appears to be to attacks of disease. This is certainly to be deplored, for our hybridists have worked unceasingly to give us both high quality and disease-resisting in one. On good Potato soils the quality of what I may term field Potatoes comes very good, but these are more the exception than the rule. It is quite evident, again, that high garden culture has done much to exterminate these, our best quality Potatoes, by predisposing them to disease. It used to be the same with Tomatoes, people being of the opinion that the soil could not be made too rich, so as to cause a strong growth. A hardier and more woody growth is what is needed, and this may be secured by a judicious use of kainit and superphosphate of lime, elements which go largely into the composition of the tuber and which tend more to improve quality than to add mere size. Large tubers do not find favour on the dining-table, for even if the quality should be very good, Potatoes cut into parts have not a nice appearance, and for this alone are found fault with. When the tubers are of a large size, or too large for the dining-table, it is supposed that this can soon be remedied by paring them down to the right size, but this, irrespective of its being wasteful, takes away the flavour. The early varieties we can save from disease by early digging, but what are termed second earlies have to remain longer, with the result that they are very liable to be attacked by disease. The best season we have had for quality in this class of Potato—at least, of late years—was in 1887; the disease kept off, and although they had a longer growing time, the tubers, on account of the dry season, did not grow too large. Close planting, again, also has much to answer for as regards the quality of the tubers as well as predisposing them to disease.



True it is that disease has cleared off many of our best quality Potatoes, and if the application of Bouillie Bordelaise will not save these I am of the same opinion as "A. D.," that it will be of little value. Enormous crops of late Potatoes, of which I will take Magnum Bonum as a type, and free from disease, have been dug throughout Worcestershire this season, and without the application of any preventives. It is quite evident that the want of sunshine, an element that has been terribly lacking of late years, is the cause of the want of flavour in our late or main-crop Potatoes, which above all others require this more than the earlies or second earlies, consequent upon their coarser growth. Take this season, for instance; excepting the short spell of tropical weather which we experienced in the middle of June, there has been very little since. This brought on the first earlies apace, and if anything they grew too large—at least, for a gentleman's table, where uniformity of size is a consideration. To counteract this want of sunshine, wider planting must be more adopted than it generally is, and what I may term solid manure not so freely applied, depending more on the phosphatic and potash elements contained in those kinds I have previously mentioned. On good Potato soils situated on rising ground, and consequently open to what sunshine we have, and also a free circulation of air, there is little to find fault with in the quality of the main-crop Potatoes, and people situated on such are not aware of the difficulties those not so favourably situated have to surmount. On clay soils in a season like the one we have passed through, late Potatoes are very close and waxy in texture.

It is also my impression that bad storage has much to answer for in the bad quality of main-crop Potatoes, and if they should have happened to have been grown under not very favourable circumstances, they will most decidedly not be improved thereby. Over-heating, or what is termed sweating, spoils the quality of far more Potatoes after they have been dug than many people are aware of. Very often they are left in the ground much longer than there is any need for, and then upon the approach of bad weather they are taken up in a hurry and stored perhaps with wet soil adhering to them. This also again is aggravated by being stored in large heaps, which are again covered with some close-textured material. In the course of a few days, if anyone was to place his hand into such a heap, he would be surprised at its high temperature, and also the reeking moisture conserved in the mass. This is no imaginary occurrence, but is more common than many people are aware of—more so, in fact, in private gardens than with the larger growers. In my district where Potatoes are very largely grown for market, the tubers as they are taken up are stored, or rather placed in small heaps at intervals over the field, when as they become dry they are stored in the large "tumps" or clamps. In private gardens, the Potatoes as they are lifted are often placed in one large heap in a shed and further covered, with the result, as afore stated, that they become over-heated; consequently when cooked they are waxy or soapy in texture. Why market Potatoes, or those which are bought in towns, are often of indifferent quality is very often through becoming over-heated in their going from the grower to the market—at least when the carriage is by water—as by being packed closely together in the hold of the vessel over-heating takes place. For storage of late Potatoes the surroundings must be cool and dry, and as the tubers are taken up, lay them in a layer of not

more than 18 inches in thickness. If the structure admitted light, the tubers would obviously require covering to prevent them becoming green, but let the material used be light and open. A thin layer of clean straw or mats is as good as anything, to be uncovered at night-time for a few days, so as to assist in dissipating any moisture. In the course of a fortnight the whole mass should be turned over, when the tubers will speedily become dry, and may then be stored in a closer compass.

A. Y. A.

**Stachys tuberifera.**—The other day I saw a capital sample of tubers of this grown on the Bagshot sand, and a couple of gardeners in that district testified warmly to its excellence when properly cooked, either boiled or fried. It is to be hoped that in time we may secure some larger and more evenly tubered forms, as those of the present strain are so odd shaped and irregular. Jerusalem Artichokes have made so little advance since they have been in cultivation, that not much hope is held out as to any improvement on the Chinese variety.—A. D.

**Forcing Rhubarb.**—A market gardener who has a moderate sized span-roofed house in which he grows in the winter some ordinary bedding plants, and maintains a temperature of from 40° to 45° in severe weather, has in the centre a broad, raised stage, beneath which he forces, if the term may be so applied, a quantity of Rhubarb roots every winter. The present lot—the first got in—is just pushing the leaves. When these have been done with they will be got out and another lot of roots placed in, and very likely a third lot will follow. A good many large roots are in that way utilised. When the roots are got out they are placed close together beneath trees, some soil is shaken in about them, and a little litter is also thrown over for protection. Later these are divided and replanted for stock, as also are the other successional roots so treated. The grower thinks that, treated in that way, his Rhubarb roots give three times the return they otherwise would.—A.

**Seakale culture.**—In his market garden notes, Mr. Groom says at page 501, "The plan of forcing Seakale roots in the open ground in market gardens is now almost obsolete." That is very true, and I hope it is so also in private gardens. There are few garden vegetables the ordinary form of culture of which has so much changed during the past twenty years as that of Seakale. Formerly clumps of three roots were planted in rows in some corner of the garden, then in the early spring they were covered up with Seakale pots, boxes, ashes, indeed with all sorts of things, and finally with a thick coating of leaves and manure. It was hardly forcing, as the covering soon lost its heat, and of course it was not easy to induce very early growth. Now in every good garden we see several rods of good soil carrying in the summer a fine lot of Seakale from cuttings, all to be lifted in due course, and be forced as needed under simple conditions. No good gardener could afford to dispense with Seakale, and if, as very many have to do, he has to purchase forcing roots, it is better to do that than to be without any. All soils will not carry good Seakale, but still it is not always the largest roots that carry the finest blanched heads. Mr. W. Poupard, of Twickenham, mentioned last spring that in his experience—and he forces annually the produce of some 16 acres of land—the medium-sized hard roots produced better, heavier heads than did very large, gross, but softer stems.—A. D.

**Tomatoes.**—When I called upon a grower of Tomatoes under glass the other day I found many plants in pots still carrying late fruits that were gradually ripening. He said, "We have a very heavy crop of fruit from pot plants. The soil is not at all rich, not much else but plain loam, but we manure from the surface, and the crop seems to be all the more abundant." That is no doubt whatever good practice, and what I then saw convinced me that if plants were specially raised at

midsummer, grown on in pots under glass, and kept in 10-inch pots to fruit, it should be very easy to get a good lot of fruit set on them by the end of October, and that these in gentle heat would ripen well up to the end of January at least. It is possible that by fertilising later flowers fruit would result all through the winter. The large-fruited sorts are ill-suited for winter work, but the smaller fruited of the Conference type will do so well if the plants have begun to crop fairly before the winter sets in. The plants seem to do best in rather low span houses where a free circulation of air right through can easily be given. For a succession, plants from cuttings put in during October may be brought along and would be ready to take the place of the old ones in March. Of course, it is not at all easy to secure good Tomatoes in winter, but the practice of putting them into rich soil and feeding highly militates against cropping. How well Tomatoes will crop, Mr. Hudson's plants on a thin bed of ashes at Gunnersbury House last summer showed. The best manures are found in kainit, superphosphate, potash, or any that specially have the elements of fruit composition. Coarse, strong manures are too productive of leafage and also of somewhat flavourless fruits.—A. D.

## GARDEN FLORA.

### PLATE 888.

#### THE JUNE BERRIES.

(WITH A COLOURED PLATE OF AMELANCHIER CANADENSIS.)\*

IN April and May, when the different species of *Amelanchier* are in flower, the garden contains no more beautiful shrubs or trees. They are perfectly hardy and thrive well under very varied conditions as regards soil. Formerly all the North American species were included under *A. canadensis*, but now the plant from the Western States is looked upon as a distinct species, and is mentioned below under the name of *A. alnifolia*; a dwarf-growing one from the eastern side of the continent is also accorded specific rank. The Japanese *Amelanchier* is regarded as a variety of *A. canadensis*, a coloured plate of which species accompanies these notes. In nurseries *A. canadensis* is frequently grafted, various stocks being used; amongst others the Hawthorn. It, however, does infinitely better on its own roots, and as it is a quick grower and is readily raised from seeds or layers, there is no necessity or even excuse for grafting. That some of the Juneberries are capable of being utilised for the sake of their fruit is evident from the following extract from seventh report of the Montreal Horticultural Society, 1881: "Professor John Macoun, of Belleville, says that it is collected in immense quantities on the Upper Peace River, and forms quite an article of food and trade." He further adds that "when he was at Dunvegan, the Indian half-breeds were camped out collecting the berries, then in their prime (Aug. 6). It is pressed by Indian women into square cakes, and used (dried) by the Hudson Bay Company in pemmican. Professor Budd, on the college farm at Ames, Iowa, has been gathering a collection of these Juneberries from China, from Germany and from the Rocky Mountains, and has varieties that bear fruit nearly as large as Cherries and of good quality. This is a tree of easy propagation. It grafts readily on Apple roots. It is of high northern habitat. Like the high bush Cranberry, it is found north of Manitoba in the regions of perpetually frozen ground."

\* Drawn for THE GARDEN by Champion Jones at Gravetye Manor, Sussex, June 11, 1892. Lithographed and printed by Guillaume Severens.











In a recent volume of *Garden and Forest* the following remarks occur, and as they have a distinct bearing on the question of the value of the Juneberry as an edible fruit, it seems worth while to reproduce them. At one of the exhibitions of the Massachusetts Horticultural Society, "Mr. B. W. Smith, of Cambridge, showed a basket of the large fruit of a dwarf Shadbush (*Amelanchier canadensis oblongifolia*), to the cultivation of which he has for several years devoted careful attention. This, on the whole, is the most promising of all our wild fruits, with the exception, of course, of that of some species of *Vaccinium* and *Gaylussacia*, and only requires time to develop it into a first-class table berry, although it must not be called a berry, being really a little Apple, or something very much like it."

**A. CANADENSIS.**—The plant here figured not unfrequently attains in this country a height of 30 feet or even 40 feet, with a stem from 6 inches to 8 inches or more in diameter. It has globose, crimson or purplish red fruit, smaller than that of the Western Juneberry, and has hard, heavy, very strong wood. In autumn the fleecy leaves are very attractive, sometimes assuming a rich red colour. Amongst its other English names are Shadbush, Service, Indian Pear, Sugar Plum, and Snowy Mespilus. Some of the Latin names connected with this species in gardening books, nurserymen's lists, &c., are *Amelanchier Botryapium*, *A. lancefolia*, *Aronia Botryapium*, *Mespilus canadensis*, *M. nivea*, and *Pyrus Botryapium*. It is a native of the eastern side of North America.

**A. ALNIFOLIA** differs from *A. canadensis* in its much larger fruits, in its shorter, denser racemes, its more erect spreading habit, and in its dark green broadly oval blunt leaves, the edges of which are usually quite entire for more than half their length and coarsely toothed near the tip. No doubt the Juneberries, mentioned in the Montreal report, which yielded such excellent fruit, belong to this species. The late Dr. Sereno Watson thus wrote of *A. alnifolia* some years ago in *Garden and Forest*, vol. i., p. 185, where an excellent figure of this species is given: "Doubtless hundreds have seen and admired the bloom of our Eastern Shadbush among the bursting foliage of the spring woods to one who has seen and tasted its fruit. For some unexplained reason the flowers of this species, at least in certain sections of the country, are rarely fertile, and in my boyhood the Juneberry, as the fruit of the Shadbush was called, was like a myth to me until a young tree well laden with ripe berries was brought home by a neighbour as a curiosity. The peculiar flavour of the fruit as then experienced lingers yet in memory. With the western representative of the genus the case is different. It fruits abundantly, and in the region from the Rocky Mountains westward, where the supply of berries and fruits is limited to a few Raspberries, Buffalo Berries, Haws, scarcely edible Currants, and the wild Cherry (of all of which the last is really the only one deserving mention), the abundance and excellence of this fruit go far in its season to make up the deficiency." This shrub grows only about 6 feet or 8 feet high, and is found in the mountains from British America to California, Utah, and Colorado, and from the Pacific to the Rocky Mountains, Minnesota, and Lake Winnipeg. The following are some of the names under which this species is met with in gardens: *A. canadensis pumila*, *A. florida*, *A. florida parvifolia*, *A. ovalis semi-integrifolia*, *Aronia alnifolia*, &c.

**A. OLIGOCARPA.**—The only figure of this beautiful little bush is the one in *Garden and Forest*, vol. ii. (1888), p. 245. Unlike *A. canadensis*, which is usually found in dry woods, the species now under consideration is an inhabitant of cold swamps and mountain bogs, and, according to Dr. Sereno Watson, is found only northward from Labrador and Rupert's Land to Newfoundland, New Brunswick, Northern New England and New York, and the shores of Lake Superior. It is a low shrub, rarely more than 2 feet to 4 feet high, and the smooth and mostly oblong leaves are acute

at each end and usually very finely serrulate. The long-stalked flowers are solitary or in pairs, or rarely three or four in a raceme. The large sweet fruit is dark blue-purple in colour, covered with a heavy bloom, and is often twice as long as broad. *A. oligocarpa* is in cultivation at Kew, where it was received some two or three years ago from Professor C. S. Sargent, of the Arnold Arboretum.

**A. VULGARIS**, the only European species of the genus, is a low tree with soft edible black fruit. It attains a height of 15 feet or 20 feet, and is a very desirable acquisition to any garden on account of the profusion with which its white flowers are produced. According to Loudon, it was introduced into this country in 1596, but it is not nearly so frequently grown as it deserves to be. It is mentioned in some books and catalogues under the names of *Amelanchier rotundifolia*, *Aronia Amelanchier*, &c.

The variety *cretica*, from Crete, Dalmatia, &c., has the under surface of the leaves clothed with white felted hairs. G. NICHOLSON.

## THE WEEK'S WORK.

### FRUIT HOUSES.

**PRUNING VINES.**—It is a mistake to delay pruning the Vines generally much after the present time. The sooner all are got in readiness for starting afresh the less likelihood of the cleaning being done hurriedly and imperfectly, and it is also of importance that a thorough rest be given to the Vines during the interval between pruning and restarting. To all appearance the wood has ripened well, and although the foliage remained fresh longer than usual, this in reality being an advantage rather than otherwise, it has come away cleanly and well. The pruning ought to be varied somewhat, or in accordance with the known peculiarities of the varieties operated upon, and also with regard to either large or medium-sized bunches being preferred. What is known as the short-spur system is most generally adopted. In this case so many rods—not necessarily all single Vines—are trained up the roof, the bunches being obtained from the laterals produced on both sides of these. If these laterals are not annually cut rather hard back, long unsightly spurs are formed in the course of a few years, and which are also objectionable on account of the great check to the requisite free flow of sap which they must offer. It is possible, however, to err in the other direction, viz., excessive neatness. If the Black Hamburgh, Madresfield Court, Foster's Seedling, Muscat of Alexandria, Lady Downe's, and any other naturally very free-bearing variety have their laterals cut back to the first joint or bud, they will usually produce sufficient bunches the following season and the spurs will lengthen very slowly. It sometimes happens, however, in the case of forced Vines that the bunches on the first break run to tendrils, and very often the embryo bunches on the first break on the Muscat of Alexandria turn brown and fail to grow, and there is then a likelihood of a short crop, unless the laterals had been shortened to the second bud instead of the first. With a view, therefore, to being more certain of a good crop of medium-sized to large bunches avoid very close pruning, and if in the course of time the spurs get too long, lay in fresh rods and cut out the old ones. New rods are also desirable in all cases where the old ones have been badly injured owing to over-much zeal in the matter of scraping and dressing. If Gros Maroc, Buckland Sweetwater, Golden Champion, Duke of Buccleuch, Gros Guillaume, and any other somewhat rank-growing shy-bearing varieties are hard pruned, few or no bunches may result. These consequently should either have their laterals shortened back to the first plump bud, whether this be the third or fourth from the rod. Spurs may be kept within bounds by laying in two laterals at every fruiting spur, every season shortening the old spur with outside lateral attached back to that nearest the rod at pruning time. The long rod system answers

well in the case of the varieties last named, and also with Gros Colman and Alicante, though neither of the latter can rightly be said to be shy-bearing. This method consists of laying in fresh young canes every season to take the place of those bearing bunches at the same time, and which are cut clean out at the winter pruning.

**PRUNING YOUNG VINES.** Inexperienced Grape growers make the greatest mistakes in their treatment of young Vines. They expect too much from them, and in the end pay the penalty for not giving them fair play. If Vines are to remain in a profitable state for many years in succession, they must not be overworked at the outset. Moderately hard pruning, in addition to obviating the temptation to overcrop, also tends to strengthen the Vines in other ways, as it causes a stronger break and thickens the stems. Any that were planted last season, grew strongly, and were duly stopped when from 6 feet to 9 feet in length need not be very hard pruned. Any canes measuring about 2 inches round at the thickest part may safely be left to a length of 9 feet or thereabouts, those from old rods recently cut back sometimes being left another 2 feet or 3 feet longer. Strong canes measuring 1½ inches round near the lower part of current year's growth may be left 6 feet long, and, what is perhaps nearer the average, a circumference of 1½ inches at the thickest part necessitates leaving a length of about 4 feet. Any canes smaller than these should be more severely shortened accordingly. If it is desirable to cover a roof or furnish several rafters with rods from one Vine, prune the first season's growth of the latter back to the lowest wire across the roof, and next summer lay in two canes opposite along the lower wire. If these grow extra strong, shorten both at the next winter pruning to a length of 6 feet or thereabouts, and the following season lay in four canes 4 feet, or, better still, 4½ feet apart, these to be eventually stopped and pruned on the lines laid down at the commencement of this paragraph. Other Vines that are to be taken straight up the roof should have their laterals on the older wood cut back as advised in the case of older rods, those on the reserved portion of the young canes being cut clean out. If there is any likelihood of the wounds on the Vines generally (and young ones in particular) bleeding badly, this can be prevented by a timely application of styptic or painter's knotting.

**CLEANING VINES.**—A thorough cleaning given now may be the means of saving much future trouble. Insect pest's instinct warns many to hide away in various nooks and crevices before the leaves have fallen, and there are also eggs of others and germs of disease to destroy if possible. The old, but very bad practice of completely denuding the rods of all outer bark ought not to be followed. Better run risks from insect pests than rob the Vine rods of their natural covering and protection, the decadence of very many Vines dating from the time such rough, senseless methods commenced. Be content to remove the loosest of the bark more especially round the spurs, and take more pains in scrubbing with hot water than formerly. The water should be heated and kept to about 130°, enough soft soap being added to make it lather freely. Give a thorough scrubbing and then dress the rods with Gishurst compound dissolved at the rate of 14 ozs. to the gallon of hot water, enough dissolved clay freed from grit being added to give it the consistency of moderately thick paint. Well brush this mixture into all the crevices and bark generally, and not many insects or many mildew germs will survive this treatment. The glass and woodwork of the house should have a thorough cleaning, the walls being dressed with hot lime water and the floors or borders also given a good surface cleaning.

**MEALY BUG ON VINES.**—Once mealy bug gets well established on Vines it is very difficult to exterminate it. Of the need for making a determined attempt to get rid of this nasty pest there can be no two opinions. They secrete themselves very closely in the rods during the winter, but there is no necessity for or wisdom in ripping off the bark in order to come to clear quarters with the bug. Only



lightly clear off loose bark, and then give one or even two good scrubblings with water heated to 130°, with enough soft soap added to make it even more searching. What few bug escape this treatment will perhaps be exterminated by means of a dressing composed of half a gallon of clayey water, into which is well stirred about half a pint of gas tar. The mixture should not be heated, but ought to be well brushed into the rods, so as to effectually close all crevices. During the summer keep a close look out for what few bugs may have escaped.

#### PRACTICAL.

#### ORCHIDS.

WE may safely assume that one of the principal difficulties we have to contend with in our Orchid houses during winter is the changeableness of our climate. We are ankle deep in mud one day, the next the ground is frozen quite hard, and the changes withal come so suddenly, that there is no time to prepare for them. We have had very cold winds lately, and the frosts have been rather intense, necessitating a considerable amount of attention on the part of the cultivator in order that the temperatures may not fluctuate too much. It is when the atmosphere has that unpleasant feeling of over-dryness that the danger exists of injury to Cattleyas, Vandas, &c., causing the leaves to become yellow, and the older leaves to go to that point of yellowness from which there is no recovery, and they have to be cut off. Of course the temperatures must be kept up to nearly their average, or it is possible that some injury may be caused by an over-low temperature. There ought to be an ample supply of hot-water pipes in every Orchid house to avoid the very serious evil of over-heating them night after night in cold winter weather, in order that the necessary temperature may be kept up. I have noticed that within the last few days certain parasites have attacked the plants, doubtless owing to their being in an unduly heated atmosphere and the want of ventilation. We do what we can to give the Orchids the right atmospherical conditions, but are not always successful. We are carefully looking over all the plants, washing the leaves as well as the glass roof. Cleanliness is indispensable, especially in winter; the plants need all the light they can get, and are only kept in a healthy condition by being made quite clean. I hear the cold has set in with undue severity in the northern districts, so that the above remarks may be even more useful for the growers in the north than for those more favourably situated. Each one will have to act to a considerable extent according to circumstances over which he may have no control. The cool house Orchids are probably more impatient of heat than those in the other two divisions, and an average minimum of 45° will be the best for the winter season, but in cold weather the maximum will not rise much above 50°. Of course a lower temperature may be expected, and no harm will be caused to any of the occupants of the house, for those requiring a higher temperature will have been placed in the Cattleya house. Many of the occupants of the cool house are in the midseason of their growth; some have just started to grow, others have nearly completed the development of their pseudo-bulbs, and many are in flower. Of course, if *Odontoglossums* of one species, such as *O. crispum*, made their growths at one season and rested at another, it would not be difficult to manage them, but they do not vegetate in this way; they start to grow in any month of the year, and even in a small collection varieties of *Odontoglossum crispum* may be had in flower all the year round. Some species of *Odontoglossum*, such as the distinct violet-purple *O. Edwardi*, make their growth together, and all of them that will flower may be expected to do so in the spring. Our plants were all surface-dressed or repotted about two months ago with fresh Sphagnum, good fibrous peat, a due admixture of bits of charcoal and potsherds. At the same time the leaves were sponged over, the Sphagnum is growing nicely, and we will keep it in a growing state through the winter. For two or three sea-

sons in winter the compost was kept rather dry and the Sphagnum did not thrive, but I found it was rather a mistake, for the unhealthy condition of the Sphagnum was usually followed by a similar state of sickness in the Orchids. We have learned a good deal by experience of the nature of these Orchids. Their natural conditions of climate do not give them a season of rest such as *Dendrobiums* and other Indian Orchids need, and it is necessary that they have considerable moisture at the roots and growing Sphagnum in winter as well as in summer, and this must be combined with a moderately moist atmosphere. An over-moist atmosphere in the cool house at this season is not best for the plants, and it is disastrous to the open flowers, causing the petals to become besprinkled with decay spots, which are small at first, but gradually increase in size until the flowers are unsightly beyond endurance. That the flowers can be kept in good condition on the plants for eight or ten weeks and the plants themselves in good health under the same cultural conditions we have proved again and again in our collection here, and so have others all over the country.

We have been busy for the last three weeks constantly in the Cattleya house washing and cleaning the plants. Few collections are quite free from a white scale which establishes itself first on the pseudo-bulbs at the point where the skin covering ceases; after a time it spreads to the leaves, and wherever a small scale establishes itself there also will be a yellow spot. In time the whole collection would be destroyed if this scale were not removed. We manage it simply with soft soapy water, and now that time can be spared, every plant should be gone over and the leaves and bulbs made scrupulously clean. The *Cymbidiums* are also attacked by another species of scale, which is even more easily cleaned off when time can be spared, but a plant with about a hundred leaves crowded together is not so easily managed as the Cattleyas are. By keeping a minimum temperature of about 55° the occupants of this house are kept generally in a healthy condition, and the flowers remain long in good condition. The best display now is made with the *Calanthes*, the most useful of them being *C. Veitchi*; its long graceful spikes intermixed with other white and coloured varieties form an excellent group. Up till now we have had a succession of bloom of the autumn flowering *Cattleya labiata*. In the warmest house the temperature seldom exceeds 60° as a minimum.

J. DOUGLAS.

#### PLANT HOUSES.

**SUCCESSIONAL FLOWERS.**—Now that the Chrysanthemum season, save in the case of a few specially late varieties, is drawing to a close once more, it is necessary to look well after the different kinds of flowers as successions thereto. Whilst there is such a wealth of Chrysanthemums it is not in the majority of cases essential to have much of anything else, all the more so where the room for bringing on flowers at this season is of a limited extent. In any case there should now be Roman Hyacinths and the earliest *Narcissi* either in flower or advancing. These do not when potted early really need any actual forcing. In our own case the Roman Hyacinths actually have to be kept as cool as possible to retard them from coming on too fast, being now showing colour in a cold frame. Those who may have them thus might with advantage place them in a gentle heat, in a few days the spikes will then be fully developed. Not requiring them as plants in bloom but merely for cutting purposes, the bulbs are placed *en masse* in Celery boxes, thus saving the labour necessitated in removals, &c. They thrive very well indeed under this method of culture, whilst by bringing a box into a temperature of about 60° every few days a regular succession of flower is maintained. In a moist-growing atmosphere the spikes draw up of a good useful length for cutting; of course if it were the plants themselves which were needed we should guard against this by more air so as to keep them dwarf and stocky.

The Roman and Paper-white *Narcissi* (the latter best represented by Early Snowflake) will not bear

too much forcing; grown thus the foliage is too much elongated. More air will prevent this. The early Tulips, of which the various colours of the Duc van Thols are the best to force as yet, should also be brought on steadily. These when placed in too much warmth, so as to hurry them, lose substance and fade all the sooner. The earliest of the ordinary Hyacinths where potted in good time will now be fit for forcing; it is useless, however, to anticipate fine spikes if not potted up early. This all-important fact of early potting must not be lost sight of in any case where forcing is carried on. The best Hyacinths still for early use are Grand Vedette and Princess Beatrice, single whites; L'Ami du Cœur and Homerus, single whites; William I. and Grand Vedette, single blues. These for the present where they are being grown (or either of them) will be found reliable. It is useless to select Hyacinths promiscuously from a bulb catalogue for early flowering; those known to be the earliest kinds should be chosen. As a kind of intermediate character between the Roman Hyacinth and the ordinary varieties, there are the early straw-coloured French Hyacinths. These I am giving a trial this season for the first time.

The Christmas Roses are now in bloom outside; if so be there is a scarcity of flower anticipated during the next few weeks, I would not hesitate to lift them as long as they are not frozen at the time. A temperature of 40° or thereabouts will bring them on splendidly. Lily of the Valley (selected single crowns) may now be put into heat at regular intervals with every prospect of success. They may, of course, I am fully aware, have been started a month ago, but these are specially early instances. What has most to be guarded against is exposure before potting. As these early crowns arrive to hand, which they usually do in bunches, I would untie them, spread them out thinly until potted in cocoa fibre, keeping them quite cool meanwhile. A dozen or fifteen crowns potted up into 4½-inch pots will make a good show when in bloom. When forced they should be plunged in a fair bottom-heat (about 80°) and be covered either with cocoa fibre or Moss, so as to keep the crowns moist. If this be not done, the crowns will not start into growth in a regular manner. Do not allow them to suffer for want of water nor subject them to full light until fairly above the soil. This may be done by covering with paper during the daytime for a few days. Those started now will flower in from a month to five weeks, and in less time a little later on.

It is hardly advisable to start forcing *Spiræa japonica* just yet unless for special reasons; in a month's time the result will be far more satisfactory. The earliest of the Daffodils, however, where potted correspondingly early may be brought on steadily. A Vinery or Peach house just starting, for instance, will suit them very well. For the earliest I would advise a covering of Moss or cocoa fibre so as to encourage the spikes as well as the foliage. If the latter gets too much in advance it will not be so well for the flowers. The best for early use are the common double Daffodil, the Tenby, Golden Spur, bicolor Horsfield and poeticus ornatus. These even must not be expected to give the best return if not thoroughly well rooted. Callas will advance all the better if they are given a little amount of warmth; the danger is, however, in letting them remain in an advancing temperature too long. For a few weeks after the starting of a Peach house they will find congenial quarters, the same place being also a good one for winter-flowering Carnations now coming into flower; in the case of these, however, an undue amount of moisture must be guarded against. Of these Winter Cheer and Miss Joliffe, which are two of the very best, will now be in bloom or nearly so from spring-struck cuttings where once stopped early in the summer, those not stopped flowering even earlier. It is not everyone who can devote an entire house to their special needs, the best place, therefore, must be sought out for them. They would with Persian Cyclamens, double Chinese Primulas, and the winter-flowering zonal Pelargoniums find very congenial quarters, a little warmth in either case being beneficial.



In the cool greenhouse there should not be a scarcity of flower, even this being supplied by single Primulas (Chinese) and *P. obconica*, by Camellias and Coronillas, by winter-blooming Heaths (as *E. hyemalis* and *E. gracilis*), and the earliest of the Epacris, and by sundry other plants, Christmas Roses, to wit (already alluded to).

TEMPERATURES, &c.—In any house of flowering plants at this season a light, buoyant atmosphere should be aimed at. If it be considered quite a cool house, some fire-heat is necessary even when the weather is not frosty, applying it early in the day more particularly, so as to afford better means of ventilation. With frost, however, according to its intensity, so must be the amount of fire-heat applied. Do not on any account err on the side of high night temperatures; this only means an undue amount of heat in the pipes with the atmosphere not so congenial as it should be. I would rather see the greenhouse in the early morning at 35° than at 45°, taking the medium at 40° as a standard to be aimed at. The same applies to the warm greenhouse or intermediate house, where the night temperature should now only range from 45° up to 50°. In the ordinary stove, 60° may be accepted as the average night temperature in a frost; a few degrees less when severe is better than a few degrees higher. What may be termed the warm stove may range 5° higher, but not more, and this only with caution, otherwise it means undue excitement with greater liability to insect pests. From 5° upwards as a rise during the day is sufficient in the coldest weather, whilst if it were gloomy, windy, or foggy, I would prefer to be content with less. Any undue amount of fire-heat only means so much fuel burned to waste, the use thereof in six weeks or two months' time giving far better results.

JAS. HUDSON.

#### THE KITCHEN GARDEN.

At this season of the year draining, trenching where it may be carried out, the turning out of old rubbish heaps, and burning coarse refuse may be attended to. Burned refuse, of which there cannot be too much in any garden, is a most valuable fertiliser as well as a capital preventive against insect pests, especially those of a root-eating nature. Instead of allowing all such coarse refuse to lie in a heap to decay, and perhaps be an eyesore as well, the quickest and best method is to burn it, not only to get it into a smaller compass, but for its valuable properties when so reduced. For heavy soils its value especially cannot be too highly recommended for pointing into the surface immediately preceding cropping.

DRAINING.—If the soil is to prove productive it must be in an efficiently drained state, so that aeration may follow, as without this the crops cannot thrive. A badly drained soil on account of its coldness attracts frost, especially late spring frosts, which often prove so destructive to the tender crops in low-lying positions. As a guide to go by, trial holes should be dug 2 feet or 3 feet deep, and if water collects in these, it is quite evident that draining is necessary. Draining need not be a costly undertaking, that is, if there is an outlet for the water as it collects in the drains. To gauge the number of drains required, it is better to lay out a certain number first, say 16 feet or 20 feet apart, and upon the completion of these, other test holes should be dug intermediate between them, and if the water stands in these instead of draining away, it is evident that more are needed. The drains should be cut straight, taking out the soil with proper draining tools, commencing wide at the top, at least in comparison with the depth of the drains, tapering down to there being just room to lay the tiles. This narrowing down is very important, as if the bottom should be wider than the tiles, these latter roll about and cannot be properly fixed in their places. All cross drains should run into a main drain, which should be lower than the rest and have an outlet to drain the water right away. The drains are best left open until the whole are formed, so as to note more clearly the drawing off of the water. When all is ready,

a layer of ballast or small clinkers should be first placed over the tile before filling in the soil.

SOIL-BURNING.—The benefit of burned soil is well known. Of course, this has reference to clay land, which often needs some such addition. Hard-burned material is of little value excepting for ballast. Do not attempt large heaps, as these are the more likely to become hard burned. Small heaps are the best. To proceed with the work first prepare a fire with small coal, and when well alight this will act as a feeder to the smaller fires. A ring of clay should be formed about 3 feet over, and within which place the fire, taken from the larger fire prepared for the purpose. When a body of fire has been formed draw some lumps of clay around, sprinkling small coal amongst them, and as these become alight add other clay and small coal until the heap is formed. This may be about 3 feet in height, which is quite large enough for garden purposes on a small scale. If so desired the heaps may stretch out to several feet in length. No chimney is needed, as this would defeat the end in view, but if at any time it should burn through at the sides this must be promptly put right again. Directly the heap is sufficiently burned, it must be opened out.

CLEARING OUT RUBBISH HEAPS.—When the ground is frost and snow-bound this is good work. Not that rubbish-heap material forms very good manure, but it is useful for heavy land, opening it up and adding humus, which this class of soil is so deficient in. It should be well worked over, forking out all the coarser refuse and burning it, returning the ash to the bulk. Some freshly slaked lime may also be added, not merely for hastening decomposition, but for the destruction of the pupæ and larvæ of insects. After adding the lime allow it to remain for a week or two, afterwards again turning it well over. This material comes in very well for dressing ground intended for Potatoes.

A. YOUNG.

#### NOTES ON STRAWBERRIES.

In reply to the following questions concerning Strawberries—

- 1, *Best kinds for flavour and bearing in your district;*
- 2, *Best early and late kinds for open-air culture;*
- 3, *New or little-known sorts you have found worthy of cultivation;*
- 4, *Mode of treatment to secure the best and most regular crops;*

we have to thank correspondents in all parts of the kingdom for replies.

—The best early and late kinds for open-air culture are Noble, Auguste Nicaise, Elton Pine, Latest of All. The best kinds for flavour and bearing in this district are President, Sir J. Paxton, Auguste Nicaise. John Ruskin, Competitor, and Latest of All are also well worth growing. The earliest and strongest runners are secured by layering in 3-inch cubes of turf sunk in the ground as early in the season as possible. When sufficiently rooted these are transplanted to deeply-dug, unmanured ground in rows 3 feet by 18 inches apart, the ground being first well rolled or trodden firm. The reason for this as well as for planting in unmanured ground is to prevent too exuberant growth and also to secure well-ripened crowns. They are mulched heavily with fresh stable manure early in the spring and receive three or four heavy waterings with liquid manure during the period of swelling the fruit. The surface soil is kept frequently hoed. Each plantation is allowed to remain three years.—T. CHALLIS, Wilton, Salisbury.

—Strawberries with us have not been a really good crop, though fairly good, as a whole. Laxton's Noble is the best sort for early outdoor crops so far as size and appearance go. La Grosse Sucrée is about as early and better in flavour, but not such a good cropper. President, Vicomtesse Hélicart de Thury, Keens' Seedling and Sir Joseph Paxton

are the varieties we grow for main crops, with Newton Seedling where a specially good kind is required as to colour for preserving purposes. Latest of All promises to be a valuable late variety when fully established. Auguste Nicaise, which does so well with many gardeners, is not really good with us. As is well known, soils and atmospheric conditions have much to do with the success or otherwise of Strawberries and other fruits. Our soil is a stiffish loam about 2 feet 6 inches in depth, resting on magnesian limestone. For our earliest Strawberries outdoors we rely on runners planted the previous August. We lay them in small pots same as for growing on for forcing. When our early Potatoes or Peas are cleared off from the south border, we give the land a dressing of good manure and dig as deeply as we can one spit deep. We then tread it firmly and mark it out in rows 2 feet apart, planting the young plants about a foot apart in the rows with a trowel. If the weather is at all dry, a small ring of earth is drawn round each plant, say, 9 inches across it. This is to hold the water, which we take care to periodically give. After planting, we are careful to make the ground firm round each plant. Beyond keeping down weeds with the Dutch hoe, nothing more is needed until November, when a slight sprinkling of half-rotten litter is carefully spread on the whole surface of the border. As soon as the bloom trusses are well out of the foliage in the spring, we give a surfacing of the cleanest stable litter we can get. About the end of June or early in July we are usually rewarded with good crops of fine fruits, much more so than we can hope to get from older plants. We usually leave the plants for two seasons, not more, planting a piece each year, according to our requirements. For general crops, our mode of culture is practically the same, only we plant these after second-early Peas or Potatoes, and if the land has not been double-dug within the previous twelve months, we double-dig it, giving a heavy dressing of half-rotten manure, fully one-half of which is leaves of the previous winter. For these crops we give greater distances between both the rows and the plants in the row, viz., 2 feet 3 inches in the former case and 15 inches to 18 inches in the latter, according as the variety being planted is a more or less gross grower. We are not so particular as to getting the young plants in so early as in the case of those for early crops, the object being to get them well established before frosts come. These plants give us a few fruits the following summer and very heavy crops the second year. They are not allowed to bear more than two full crops. Sometimes if short of young layered plants, we use the ones saved over from the latest fruiter in pots the previous spring. By turning them out of the pots when done fruiting, reducing the balls and packing them closely together behind a north wall, with some light soil firmly pressed to their roots, they make capital plants for late summer or autumn planting. Excellent crops of fruit can be produced from them the following year, so far as quantity is concerned; but our experience goes to prove that, taking an average of the three crops the plants are allowed in both cases to produce, the young plants take the lead. If it is an objection to the latter occupying the land a twelvemonth for little return, light crops of Lettuces and winter Onions can be taken from the centres of space between each row without injury to the Strawberry plants. Our treatment of plants to produce the latest crop is practically the same as for the general crop, save that we always get as many as we can on borders facing north. Frogmore Late Pine is a splendid late Strawberry on some soils.—H. J. CLAYTON, Grimston, Tadcaster.

—Black Prince does very well here. I gathered my first dish under a south wall on the 29th of May. The fruit is small, but it is of good flavour. Noble does exceedingly well; also Sir Joseph Paxton, President and Waterloo. James Veitch I shall discard for want of flavour. Keens' Seedling does well. Waterloo I consider one of the best late varieties. I gathered up to August 6. It is large, of good flavour, and travels well, which is a great consideration. The only thing



against it is its long fruit-stalks, which, when heavily laden, are apt to get crippled. I grow the Strawberries on the three-year system, viz., a new bed every year and destroy the oldest.—E. SPARKS, *Pynes, Ender.*

— Vicomtesse Héricart de Thury is early, good in flavour, and a heavy cropper. President is the best-flavoured Strawberry we grow and a great cropper. British Queen does well here and is fine in flavour. Sir Charles Napier is also a good cropper. Waterloo is a large handsome fruit and promises to be a valuable late variety, cropping well. The plan which I find to answer well is to make a fresh plantation annually on deeply-dug ground, mulch in the spring, and fruit for three seasons. T. C. MOORHOUSE, *Leyswood Gardens, Groombridge, Tunbridge Wells.*

— The kinds most grown are old favourites—Sir Joseph Paxton, Keens' Seedling, Sir C. Napier, and Vicomtesse Héricart de Thury. The last is yet, I believe, the best for earliness and good flavour. La Grosse Sucrée will not do with us at all outside, though a good one in pots. Noble I find very early and a grand cropper, and, given good weather, its quality is passable, though under any treatment the flavour, I fear, cannot be considered first-rate. Latest of All is very useful for prolonging the season. I regret we cannot grow British Queen satisfactorily. I find the best way of securing good crops of fruit is to make a fresh plantation every year from runners layered in pots. The first year we get a crop of Lettuce off the bed and plenty of runners for pot work, &c. The two following seasons the crops are very heavy, after which the beds are destroyed.—J. SHAW, *Deepdene, Dorking.*

— The kinds for flavour and free bearing are Vicomtesse Héricart de Thury, President, and Dr. Hogg. The Vicomtesse from yearling plants produces comparatively large fruit, and is but little behind other kinds as regards earliness. Dr. Hogg succeeds well, the flavour being most exquisite. It is of the British Queen race, and may well be grown where that sterling old kind fails. The best early and late kinds, taking them in their order of ripening, are Noble, Vicomtesse Héricart de Thury, Sir Joseph Paxton, President, James Veitch, Dr. Hogg, with Elton and Oxonian for very late. Waterloo will not succeed with us; neither will Loxford Hall Seedling. Of the newer kinds grown I have not found any which will supersede the above. We make a plantation annually from runners layered in small pots, planting these out in August as early as we can. After the second year they are destroyed. The only exception is Elton, which fruits most freely the third year. The soil being a heavy limestone marl, all that is needed as regards preparation for this biennial system of culture is deep digging and manuring with farm-yard manure and a good dressing of burned refuse. The soil being brought to a pulverised state, the plants are set out in rows 2 feet apart, the weaker growers 6 inches less. Between every fourth row I leave a space of 3 feet. The plants are turned out carefully and planted firmly, adding a spadeful of good soil about the roots, this giving the plants a vigorous start. By attending to the plants and keeping all runners closely picked off, good plants will be had before winter sets in.—A. YOUNG, *Abberley Hall, Stourport.*

— The kinds that generally are the most prolific here are Vicomtesse Héricart de Thury, Sir Joseph Paxton, Sir Charles Napier, and Keens' Seedling. The best late varieties here are Laxton's Latest of All and Alexandra, both being good croppers, hardy, and of very fair flavour. I have tried several of the newer kinds, but as yet I cannot find one of them in advance of the well-known older varieties. Taking into consideration hardiness, flavour and cropping, our soil being very thin and of a gravelly nature, Strawberry beds do not stand long. I never keep them more than two years. I find we get the best crops and the finest fruit from young plants, so I make fresh plantations every other year on heavily-manured and deeply-trenched ground. R. F. SAWFORD, *Domesbury Gardens, Welwyn.*

## ORCHARD AND FRUIT GARDEN.

### CORDONS RUN WILD.

CORDON-TRAINED Apple and Pear trees where they are grown against walls of any kind are not often seen neglected or run wild. Not a few of them are undoubtedly pruned in a faulty manner, long ugly spurs being the order of the day, but there are numerous noteworthy exceptions to this rule, and if the trees are properly managed, no fault can be found with the system of training. By no other method can a given space be so quickly and surely covered with productive trees, while the produce is equally superior. In very many instances where cordons have proved failures it has been owing to planting trees worked on the wrong stocks. Particularly is this the case with the low single or two-branched horizontally-trained Apple and Pear trees planted alongside garden walks. If the former happen to be on the Crab stock and the latter on the Pear stock, they are liable to grow so strongly as to be kept within bounds with difficulty, nothing short of frequently root-pruning bringing them to and keeping them in a productive state. Those who were among the first to advocate this system of training trees fully realised the difficulties attending the practice of planting cordons on the natural stock, and it was no fault of theirs that mistakes were made either before or after the French methods of training trees found imitators in this country. In some places where cordons were allowed to run wild this was mainly due to a change of gardeners, the new men either not caring for the system of training or else neglecting to take the ordinary precautions to check a gross habit of growth. Seeing how disposed the trees were to form strong lateral growths, some of these near the centre were allowed to extend, with the result that the horizontal branches were of little further value, all the strength of the tree being drawn upwards.

Quite recently I received a visit from a gardener employed in these gardens as a labourer about twenty-five years ago, or thirteen years before I took charge. One of his first inquiries was about the cordon Apple and Pear trees that, in his time, bordered most of the kitchen garden walks. He told me, what I already knew, that a considerable number of cordons had been received direct from France, one long wall in addition to those planted along the walks being covered by them. These wall cordons, the majority two-branched and obliquely trained, are in existence and doing well; but not so those in the open and horizontally trained, at any rate not in the form they were originally. Vestiges of them were observable when I undertook the management, but the forms the trees had assumed rendered it impossible to restore them to anything like cordons again. They had not been root-pruned for several years past, the stopping being also neglected, and as a consequence they had run wild. All were evidently worked on the natural stocks, the growth, both then and now, being of a very vigorous character. My first proceeding was to cut what remained of the horizontal branches well back to the strong growths that sprang from near the centre, the latter also being thinned out, foreshortened in some cases, and allowed to extend in others, a good leader being laid in where the Pears required this attention. The latter in the majority of cases soon developed into good pyramids, 10 feet to 12 feet high with lower branches in proportion, and which of late years produce heavy crops of fruit. Not so the Apples, only a few of these

attaining a presentable appearance and profitable state. All soon became too large to be so near the walks, and shifting them back admitted of a good opportunity for regulating them so as to make good even lines, transplanting also giving the requisite check to bring the more vigorous of them into a productive state. The only signs of their having ever been cordons are two short straight lengths of lower branches. One Pear tree developed a tendency to run up with a straight stem, and this was not checked, but, on the contrary, all the lower side branches were cut away. Five winters ago this tree was shifted to an outside quarter, and has now a clean straight stem 6 feet high and a rather erect-growing head extending not less than 20 feet beyond the clear stem. It is not a profitable tree, nor can I recognise the variety, for the simple reason that each year birds have either destroyed the buds or frosts the flowers, though I should not be greatly surprised to discover that it is simply a growth from the old Pear stock. It is somewhat of a curiosity, being an extraordinary example of what may happen if cordons are allowed to run wild.

If Apples are worked on the broad-leaved Paradise or other dwarfing stock and Pears on the Quince, they are far less liable to grow so vigorously as to necessitate root-pruning every second year or so; but if the roots spread out into rich garden soil, they may yet grow more strongly than desirable. In the latter case it is possible to be too sparing with the knife. Long strong shoots being lightly summer-pruned or pinched back, it may be, must not be left in the state they arrive at during the rest of the growing season, or ungainly spurs are the sure consequence. At the winter pruning they ought to be further shortened to the second or third joint, the summer growths resulting from this severe shortening being duly lightly pruned when sufficiently matured and winter pruned as at the first. In this manner good clusters of fruit-buds and wood growths will eventually form where they will derive the full benefit of the wall's warmth, or, in the case of the trees in the open, where protecting either the flowers from frost or the fruit from birds can be most surely and simply accomplished. There is always a temptation to leave the spurs too long, especially when there are promising buds to cut out, but if this is frequently given way to, branches rather than spurs soon result. Pear Pitmaston Duchess and Apple Cornish Gillyflower are both very apt to produce flower-buds at the tips of shoots 6 inches or rather more in length, and the former has more of these shoots than usual this season. On going over the trees and finding that fruit-buds are none too plentiful, it is advisable to leave all or most of the short bud-furnished shoots to produce fruit if the season favours it. Should frosts or birds destroy these buds, then ought the shoots to be cut back at once, while if fruit is formed on them, defer shortening till the winter pruning is done. Failing to keep the spurs within reasonable bounds soon amounts to nothing more or less than a mild form of cordons run wild. On no account allow branches to extend beyond the walls or even strong thickets of wood to form close under the coping, as these have a most weakening effect upon the rest of the tree besides looking unsightly. Cordons with any number of branches sometimes grow far more vigorously than desirable, though the single cordons are the worst offenders in this respect. In all such cases root-pruning should be resorted to at once, complete lifting only being resorted to when the trees are sunk too deeply. Those trees with their collars above the level showing



the union of uppermost roots with the stem are usually the healthiest and most productive trees, and once lifting or raising may be sufficient to keep them in a profitable state for several years to come. I. M. H.

**Staking fruit trees.**—It is quite true, as "A." says on p. 194, that a lot of trees are planted and not staked. More is the pity, because it is not possible that standard trees can stand erect with but a mere handful of roots in some cases to balance the head. I make a practice of staking all standard fruit trees the same day that they are planted. Some persons, I know, leave them until a favourable opportunity occurs. In the meantime most likely a strong gale of wind springs up, accompanied with heavy showers. No matter how carefully the roots may have been spread out when planting, it is impossible for them to remain so for any length of time when the trees are being blown about by the wind; some, perhaps, are blown quite down. The old fashioned plan of placing the stake close to the tree, or at least an inch or so away, then binding a piece of sacking or straw around the tree stem, to be after secured to the stake with the familiar tar cord, is a plan not to be recommended now-a-days. There is nothing to equal a withe made from a sapling; either Hazel or almost any kind of coppice wood that will twist will answer. Nothing is better than the shoots of the common wild Guelder Rose, which many persons in the country call Whitewood. The advantage of these withes is that the stake can be kept at least 6 inches from the tree, which effectively prevents the stake rubbing the tree, as in the case when tar cord is employed. The stake is driven firmly into the ground, a thick wad of straw is placed on each side of the fruit tree stem, to be made fast to the tree by fastening the withe around it by means of the loop which should be made at the end of each. A turn is then taken round the stake, another round the tree. The end of the withe is then made fast half-way between the tree and the stake by winding it round the parts which stretch from tree to stake; the end of the withe is tucked through the twisted parts and made fast. It is not possible for the tree alone to be moved by the wind; therefore, if the stake is driven firmly into the ground, the tree must be secure. These withes last a year, the stake two, as a rule. Simply renew the withes and the trees are again made secure. In all country places these withes can be had without much trouble, but, failing them, No. 8 galvanised wire would answer very well. Sometimes the ties slip down the stem of the tree and the stake, owing to the constant pressure put on each during windy weather. A tack into the stake will remedy this. —S. H.

**Protecting Strawberries for forcing.**—I think much depends upon the resources of the grower as to the best method of protection. It rarely occurs that one in a hundred can give the various fruits or vegetables the best system, as often various shifts have to be made. At page 460 I stated that I did not care for storing in fruit houses if at all dry or warm. On the other hand, cool cases or unheated houses are suitable if the plants are kept well supplied with water. My opinion is that cold frames are the best method of protection, plunging the Strawberry plants in ashes or cocoa fibre and removing the lights in mild weather. Those who have cool fruit cases have better means of protection, but even these I consider inferior to cold frames, as the atmosphere is drier and often the plants are a long way from the glass; not that this last matter is so very important if the plants do not remain long. Stacking, I admit, is not advantageous when other means can be employed; but in the case of several thousands of plants for late forcing and with no frames or houses, it possesses some advantages and may be used with proper means taken to protect the roots. I prefer it to plunging the pots in wet ashes or badly-drained quarters. Provided the pots are plunged on a sloping well-drained quarter and some material used to throw off excessive

rain, plunging in the open is not a bad system. When frames can be employed, I like movable ones: These are shallow and not dark or deep—just the kind "Y. A. H." recommends, and undoubtedly the best. I have also adopted turf pits with equal success. I fear these latter are not much used now, but if constructed with thick walls of turf and some spare sashes placed on the walls they answer admirably and come in serviceable after the Strawberries are taken indoors. I find the plants suffer much when exposed to severe east winds after a thaw, and when freely exposed some kinds collapse.—G. WYTHES.

### LOCAL APPLES.

THE Apple Cockpit (here figured) is never seen in the south of England, but it is a well-known and a favourite kind in Yorkshire. We think it would be well for growers if some of these good local Apples were given a wider trial.



Apple Cockpit.

As the illustration shows, the fruit is of medium size and angular in outline. The colour is green, changing to yellow as it ripens, with a slight tinge of scarlet next the sun. The tree is hardy and a free bearer. The flesh is tender and very juicy, with a pleasant acidity. We should be glad to have a few notes as to this Apple by those who have grown it.

**Planting Apple trees high.**—How seldom do we see trees planted on the level of the natural soil. If the ground was dug deeply, the tree placed on the level surface, and a sufficient mound made around it to cover deeply enough the roots, how much better it would be for the trees in heavy soil. More attention would be needed during the summer to keep the surface well mulched I admit, but what of that if the progress of the trees and the future crop of fruit compensated for the small amount of extra labour. Very few gardens there are where decayed vegetable refuse, wood ashes, and old potting soil are not available. What could be better than a mixture of these ingredients to lay around the tree for the extension of the sur-

face roots for the following year? Those who have strong soil to deal with and delicate growing sorts of Apples to manage, should try this plan and note the difference in the foliage even the first year as compared with that where the roots are deep in a similar soil.—S.

**Good Melons.**—At page 461 "Lanarkshire" calls attention to two varieties of Melons, which he strongly recommends. I have nothing to say against the varieties named; indeed, The Countess I have proved to be all he says. Has he tried some of the older kinds, for instance, Read's Scarlet or Wm. Tillery, by the side of these he recommends? I think culture one of the important points in Melon growing. I have seen fine examples of the best varieties spoiled at the last moment by too much manure or moisture. A few days' bright sunshine at the finish and keeping the roots dry greatly assist in finishing the fruits. I would also point out the advantage of keeping the fruits in a warm, dry house till sent to table, as this retains the aroma, which is soon lost in a cold house or fruit room. —S. H.

### PLUMS.

WORK in the fruit garden has to go on during the greater part of the winter irrespective of weather, and among the jobs at present in progress is a thorough coating to a Plum wall 12 feet high by 170 yards long. Only those who have to deal with very old walls with their tens of thousands of nail holes know what a harbour there is here for insect pests, and how very difficult it is to keep the trees clean through the summer months. I suppose the majority of us give the lion's share in the way of attention to Peaches, Nectarines, dessert Cherries, and perhaps cordon Pears, leaving Plums and Apricots to shift a bit for themselves. Personally, I have managed in successive years to "doctor" the different walls devoted to the more favoured fruits, and the result has been so satisfactory, that the Plums will get their share of attention this winter.

It is a long job when one tackles a big stretch of wall. There are the trees to unnaïl, to tie up, and afterwards to replace on the wall. The material to be used has to be mixed thoroughly and applied effectually, and two men will not get through the work much before the end of January. I put about a bushel of finely-sifted loamy soil into a tub, adding thereto a small portion of lime and soot and enough venetian red to give a tinge of colour when the wash is dried. Water is then added gradually until we get a soft smooth paste. Two pounds of soft soap are placed in a pail and thoroughly dissolved with boiling water, a quart of paraffin oil is added, and this goes into the tub with the other ingredients, the last part of the mixing being to add sufficient water, stirring well the while until the whole is about the consistency of cream. Armed with a pail and whitewash brush (one half worn out is best, as it avoids a lot of splashing), the operator goes to work, the instructions being to do the job thoroughly, to fill in as many nail holes as possible, and to be careful of the buds. I do not use any shreds when the trees go back to the wall either for Plums, dessert Cherries, or cordon Pears, but tie to the nails with a rather soft tar twine. There is no harbour for insects with this twine, it lasts sound two or three seasons, and can be easily replaced, the only thing to guard against being tight tying, especially in the case of comparatively young wood that is likely to swell up considerably the following summer. I will not say this dressing keeps the trees free from all pests. Our Plum wall is not far from some big old Limes, and we shall doubtless get a fair share of the grey or Lime aphid, but it is a wonderful deterrent to red spider, thrips, scale, and also earwigs. When a wall that has received such a winter dressing gets a thorough wetting in spring just before buds expand a healthy scent arises therefrom which augurs well for the cleanliness of the trees during the summer months. We have been so pestered with insects on this Plum wall that it has up to the present time been hardly worth troubling about spring protection, and the trees have taken their chance, but with a "clean



bill of health." I shall give them the benefit next spring of a double thickness of fish netting. A goodly prospect often comes to naught without protection on this wall. Storms of sleet and hail from the N.E. with which we are often troubled in April strike it obliquely (it has a S.E. by E. aspect) and the chance of a crop for the current season is all over in a few minutes. Of varieties grown, Early Prolific and Early Favourite are about contemporary, but I decidedly prefer the former. Although rather small it bears out its name for cropping qualities, and it is very acceptable for its earliness. Dymond, Victoria, Pond's Seedling, and Ickworth Impératrice are four good cooking Plums, the last named an October fruit, larger and better flavoured than Coe's Late Red. For dessert purposes to unite three good qualities, viz., a good constitution, quality and freedom in cropping, I should be inclined to favour Angelina Burdett, Green Gage, Kirke's, Jefferson, and Golden Drop; the last named is about the best all-round dessert Plum that I know. Transparent Gage, Deniston's Superb and Washington leave little to be desired in point of flavour, but they are not with me reliable croppers. The desirability of utilising north walls for Plums is sometimes suggested, but I doubt the wisdom of the idea and would never for choice plant any variety of Plum on any aspect ranging from N.E. to N.W. on the north side.

Claremont.

E. BURRELL.

**Mulching Strawberries in winter.**—I am aware mulching at this season is objected to by some growers, but I would certainly advise it with the tenderer varieties, such as Sir C. Napier and Auguste Nicaise. Mulching at this date is serviceable in several ways, as it tends to cleanliness, protects the roots, and causes a robust growth early in the spring. If the mulching is done now and the material used is well decayed manure, this is washed down by winter rains. I have also stated that the roots are protected, and this is required on shallow light soils, as the roots get exposed by weeding and cleaning, and the plants are often lifted out of the ground by frost. I have seen plants heavily manured in the spring grow all to leaf, but mulching at this season assists in forming strong crowns for next season's fruit. Although many cultivators grow the Strawberry as a biennial, the ground being manured and cultivated more frequently, yet a mulch of short manure or litter will do much good, first of all firming or treading the plants before mulching. I have found that those fruits which get attention now in the way of manures are more likely to succeed, as often in the spring there is a press of work, manure is not always to be had, and time to do the work cannot be found. There is no question as to the advantage of mulching or manuring older beds, that is those from which fruit has been gathered, and I prefer to do it at this season. Liquid manure can often be applied in the growing season, so that heavy manuring is not needed. In gardens where the rows of Strawberries are planted wide apart with other crops between, mulching can be much better done during the winter, as there is better access to the rows and the spent manure in the spring when the plants are littered down can be utilised for the other roots. Young plants that were rooted in pots in July will have made fine crowns; these do not require manure to assist the roots so much as a protection against frost; as the roots are very near the surface, only a light mulch of short manure or litter need be given. On exposed borders mulching checks severe winds which wither up the tender foliage after a severe frost. Plants from which a lot of runners has been taken for stock are often exhausted and need a good mulch; likewise plants that have been forced and planted out.—G. WYTHES.

**Pear Marie Louise d'Uccle.**—Referring to a note on this Pear in THE GARDEN for Nov. 26 (p. 484), I have grown it as a pyramid for the last five years, and the fruit is always excellent in flavour; moreover, I always get a crop. This sort and Emile d'Heyst I regard as the most reliable

bearers and best flavoured in their season out of a large number of sorts. Mr. G. Bunyard deserves the thanks of all who like a good Pear for bringing Emile d'Heyst so prominently before the public by placing it in your list of the best Pears.—J. C. CLARKE.

#### FRUIT KEEPING BADLY.

I AM sorry that I am in a position to agree with much of what Mr. Iggulden states at page 457 concerning the bad keeping of Pears and Apples. It must be six or seven years since they kept so badly. Pears are keeping worse than Apples, but as I clear out the most of the early kinds of the latter almost as soon as they are gathered, I cannot speak so confidently of these. While looking over the fruit store lately, I found a large number of Cox's Pomona going in exactly the same manner as Marie Louise is doing, that is, certain fruits are a mass of rottenness. The peculiarity is that they become rotten so quickly. Not a day passes without an inspection of our hardy fruit, and each day finds some which had previously exhibited no outward appearance of decay to be quite rotten. I have been attributing the cause to the abnormally warm muggy weather we have experienced and to the want of drying autumn winds. Then there have been recurrent spells of sharp weather accompanied by frosty nights, which have had an inimical effect on fruit trees, especially late sorts. Of these it may be said that they have not ripened so much, as they have had growth brought to a termination. As a matter of course, all fruit hanging on the trees during the period in question must have suffered in the same degree as the trees themselves. We have had no spell of hot weather in the north, so that can have had no effect on the fruit crop. As already remarked, the most of our early ripening fruit is not stored. Some of Lord Suffield was kept, and all the fruit has kept perfectly. So also a few specimen large fruits of Keswick Codlin. I notice a few rotten fruits among Ecklinville, but no greater number than is usual. Warner's King, Stirling Castle, Loddington, The Queen, King of Pippins, Nelson's Codlin, and Mère de Ménage are all keeping well. Cox's Pomona, Alfriston, Gascoigne's Scarlet, Frogmore Prolific, all late harvested sorts, are going very badly. I have noticed nothing amiss with other late kinds. Among Pears, Marie Louise, allowed to hang late, is very badly affected. Seckle was the same. Winter Nelis is approaching ripeness, and several fruits are exhibiting the same decay as Marie Louise. Knight's Monarch is ripening well and all at the same time, which is not usual with this fine sort. These are keeping perfectly. Other bad keeping sorts were Souvenir du Congrès and Beurré Bachelier. Louise Bonne of Jersey, on the other hand, kept well. Some of the trees have not been touched at the root for two years back, others have been cut in twice in the same period, but no apparent difference is noticeable among fruit from either class of trees. In some seasons that fine early Apple Duchess of Odenburg rots off at the core in a manner which renders the fruit quite worthless. The present year it exhibited this tendency very early, so I had all the fruit cleared off as soon as possible. This is the only method of saving the crop.

R. P. BROTHERSTON.

East Lothian.

**Plums in cold houses.**—I was pleased to see these fruits noticed at p. 478, as I do not think there is a more valuable crop than Plums where a quantity of dessert fruit is required. Some few years ago I noticed some remarkably fine Plums at Dalkeith Palace, each tree bearing very fine fruit and of splendid quality. The trees were also in robust health, free of canker or gumming, and covering every inch of the space provided both on the back wall and the front trellis. I once had the back wall of a cool house planted with Early Transparent, Jefferson, Golden Drop, Kirke's, and Reine Claude de Bavay, and it was the most profitable in the whole garden; the fruits were of the highest quality and

most serviceable for a large and varied dessert. As pointed out by "Dorset," lifting is necessary; indeed, I may say the most important of all, as if the trees are allowed to grow too vigorously they fruit but little. Care should be taken to keep the roots near the surface, but when lifted frequently and mulched with good manure whilst in active growth with a liberal supply of moisture, I feel sure they give a better return than is often secured from the Peach or Nectarine. There are often houses where if a tree or two of Golden Drop were planted on a back wall it would soon repay for the space occupied. There are no better late kinds than Coe's Golden Drop and Reine Claude de Bavay.—S. H.

**Apple trees and wind.**—Reference is made to this subject on page 433 of a recent issue. I am perfectly convinced that orchard trees are allowed to grow much too high. Some years ago I was called upon to deal with old, thoroughly neglected trees. The fruit had a scabby appearance, and the long sweeping branches would lose all the Apples of any use with the first high wind. These trees were crowded with wood, some of a very rank nature. This was thoroughly thinned out and the long rank stems well shortened back; they were then cleared of mossy growth which covered the butts and large stems. The soil on the south side of these trees was opened down under the butts, and there I found large tap-roots. Those immediately under the trees were cut clean off, and some coarse burnt material from a fire-heap was placed round where these large tap-roots had been severed. The trees were then thoroughly syringed with milk of lime, made with newly slaked lime and water passed through a very fine sieve. All this work was done very early in autumn. Some of these trees were flooded with sewage, which was well diluted with water. These trees, which have been gradually shortened back and now hold on their fruit far better, have since produced fruit, several Blenheim Oranges weighing 1 lb. each. Apples, I think, are gathered far too soon in many instances, much to the detriment of the ripening off.—J. R. HALL, Fox Warren Gardens, Cobham.

#### PEAR DOYENNE DU COMICE.

ON looking through the list of "Best Pears" given on page 475, I was surprised to find that the above variety had been omitted by Mons. Charles Baltet. According to our authorities, Doyenné du Comice is of French origin, having been raised in the Garden of Comice Horticole at Angers, and first fruited in 1849. On this side of the English Channel it is frequently termed one of, if not the very best variety in cultivation, and in any case would be included in any election of a dozen sorts. Why, then, was it passed over by Mons. Baltet, especially seeing that his list was by no means limited in numbers? Readers of THE GARDEN have for several years past had the great merits of the variety under notice pointed out to them, but I shall yet venture to repeat some of the well-worn remarks in its favour. Evidently it delights in a fairly warm situation. The tree that with me rarely fails to produce a good crop is against a sunny wall and in a sheltered corner facing south. It scarcely ever yields any small fruit, or, say, any weighing less than 10 ozs., while if they are early and freely thinned out, the average is nearer 14 ozs. This year the tree flowered beautifully, but only a very few fruits set, owing to the devastating effects of severe spring frosts. When those fruits were gathered, several of them weighed 20 ozs., this being the heaviest Doyenné du Comice that I have ever handled. I have seen fine crops of large and more highly-coloured fruit produced on more stunted trees also growing against a nearly south wall, and good crops hanging on cordons, and in every case the quality of the fruit has been first-rate, the only rival that would have any chance against this Doyenné being Marie Louise at its best. Very perfect pyramid and espalier-trained trees are also to be met with in various parts of the country, and if these do not produce fruit quite so large and attractive in appearance as do the wall



trees, no possible fault can be found with the quality. The tree is naturally of a stout, sturdy, fruitful habit of growth, this and the foliage being not unlike those of Williams' Bon Chrétien. I find that the Quince stock does not very greatly influence this habit of growth, and, all things considered, it is perhaps the best stock that can be chosen for it. Much the finest trees can certainly be had on the Pear stock, and it is advisable, therefore, to have trees on both Quince and Pear stocks. Ours is a fairly strong clayey loam, or such as suits most fruit trees, for a long time at any rate.—I.

\*\* We quite agree with the above remarks about this valuable Pear. They were certainly the finest examples of it that we have ever seen, and so good were they, that when exhibited at a west of England Chrysanthemum show, many people considered they were of foreign growth.—Ed.

#### SHORT NOTES.—FRUIT.

**Pear Beurre Bachelier.**—Where large Pears are in demand this deserves to be planted. The largest examples I ever remember to have seen were at the Bournemouth Chrysanthemum show. These were of good colour and averaged about one pound each.—J. C. F.

**Pear Louise Bonne of Jersey.**—These were also very fine at Bournemouth. It is seldom that this autumn Pear is seen in such fine condition so late in the season, more especially in a season like this when most kinds are either keeping badly or coming into use several weeks before their time.—J. C. F.

**Apple Golden Noble.**—This handsome kitchen variety well deserves the praise bestowed upon it by "Y. A. H." (p. 506). Not far from here a market gardener grows it very successfully on gravelly soil. Intending planters should note this, because it is not every sort that will succeed on gravel. Hereabouts it keeps quite firm until the end of February.—E. M., *Hants.*

### CHRYSANTHEMUMS.

#### TOO-MUCH-ALIKE CHRYSANTHEMUMS.

MR. IGGULDEN has broached a subject which must before long present itself for solution in a practical form, and unless, as he suggests, the National Chrysanthemum Society shall develop an initiative at present lacking and will see its way to legislate upon the question, we are likely to go from bad to worse, looking at the immense number of new varieties which each season brings to us.

Roses "too much alike" are bracketed; why not Chrysanthemums? Mr. Iggulden asks, and surely it is difficult to say why not. In some cases it may be due to identity of results connected with raising new varieties from seed, at others from a too hasty assent to a suggested difference sufficient to create a sport on the part of the authorities of the R.H.S. and National Chrysanthemum Society, and, again, sometimes because existing varieties are re-named abroad and sent to us as new ones; but the fact certainly remains that at the present time we have several varieties which have for all practical purposes a twin brother under another name.

Great trouble and responsibility accrue to the judges in consequence. Two blooms apparently similar appear upon the same stand. It is alleged, and may be perfectly true, that the varieties are believed to be distinct, and, indeed, may be distinct in habit and foliage; but the judges have no possible means of verifying these assertions. As Mr. Iggulden pertinently points out, the appearance on the show board "is the only test that can be applied." The authoritative bracketing of the varieties in question would remove the difficulty.

That the task of bracketing is not an easy one may be admitted, but it is not an impos-

sible one to a body of experts, and if the National Chrysanthemum Society can manage to overcome a certain timidity which appears to oppress it and will venture to be really National in character as well as name, we may reasonably hope to see before long the task attempted in a practical manner.

Mr. Iggulden gives a list of varieties which he would desire to see bracketed. I see little to find fault with in it, save that Dormillion and C. Sharman can scarcely be considered so similar that they cannot be distinguished, although the latter is unquestionably identical with Gladiator. All three, however, have practically dropped out from the list of show varieties. Mr. Iggulden can scarcely have obtained the true Viel d'Or, which is very different both in bloom and foliage from Golden Dragon.

To the list given may be added Annie Clibran, J. R. Pearson, and Pink Lacroix; also Miss Haggas and Richard Parker (incurred), and, in my opinion, Mrs. E. W. Clarke and J. P. Kendall, that is, if the bloom of the latter variety which was staged by one of the competitors in the forty-eight Japanese class at the late Aquarium show is to be taken as a fair specimen.

The so-called white sports of Etoile de Lyon and Vivand Morel are, I think, by this time appraised at their true value. I will not say that such sports may not appear, or that they may not even now be in actual existence, but even if so, they are for show purposes practically useless, for who, knowing that both varieties constantly, owing to improper timing of the bud, give perfectly white blooms, would ever risk disqualification by exhibiting either of them in its true (coloured) form and also a white sport. How could the judges possibly differentiate between such a sport and a wrongly-timed bud of the ordinary variety? So even should the white sports be established, they must be bracketed with the original variety in these and other cases exhibiting similar characteristics.

The full extent of the results arising from the different "timing" of the buds would have to be thoroughly understood by those undertaking the task of bracketing. It might surprise some to know that it is almost impossible to distinguish a late bloom of Mlle. Marie Hoste from a bloom from the latest buds of Condor. I mean the blooms which succeed those which are tinged bluish.

There are, of course, a considerable number of varieties which would have to be bracketed in addition to those indicated, but sufficient grounds clearly exist for suggesting to the N.C.S. that they should not allow Mr. Iggulden's suggestion to fall to the ground.—C. E. SHEA, *Fools Crag, Kent.*

—Mr. W. Iggulden's article on p. 487 is useful in intent, but might be misleading in some respects to the ordinary reader. He seems to assert, although he must know better, that the National Chrysanthemum Society's programme of operations is covered by adjudicating upon new varieties and holding shows. One might think that the society had never held a conference or published a catalogue, or that if it had that the work entirely ignored the subject which forms the title of this article. Up to the date of publication the N.C.S. catalogue contains every known synonym of importance, with a cross reference in each case, so that exhibitors need be under no apprehension of staging varieties that are not allowable in the same stand. Although the names of synonymous varieties are not bracketed, as in the Rose Society's catalogue, it is not necessary, because of the plan of cross reference adopted by the N.C.S. There is no fuller and more complete list of synonymous or too-much-alike Chrysanthemums obtainable than the N.C.S. catalogue, and most of those which Mr. Iggulden points out have

only been proved since the National catalogue was prepared. No doubt if others, but more especially the trade importers who have earlier and better opportunities of testing, would point out in the public press cases of identity, they would be much appreciated by the catalogue committee, and proper consideration given to their remarks on the occasion of a new issue. Mr. Iggulden's observation that Continental raisers are evidently played out is not warranted by actual facts. Their gains of the past three years have numbered quite as many first-class flowers as in the days of old; the only thing is that they are perhaps less readily discovered among hundreds than they used to be among scores, and that English and American seedlings have entered into competition with them, instead of the Continental growers having the field to themselves. As far as the Japanese novelties are concerned, I may say that the leading French growers buy up every year the finest of the new importations into this country from America and Japan for the purposes of cross-fertilisation, and if Mr. Iggulden will turn to the new supplement just issued by the National, he will see that four new seedling incurred flowers considered to be worthy of a place on the show boards of our exhibitions have been sent out in one year by Continental raisers. That does not look like being played out.—CHRYSANTH.

—In his remarks upon too-much-alike Chrysanthemums, Mr. Iggulden, page 487, is hardly fair to the National Chrysanthemum Society. When I read his suggestion that its exhibitions are "a good average," I certainly wondered where those of a higher standard can be seen. Speaking of the last show, I heard the opinion expressed by some that it was the best of its kind ever held, not second even to the centenary festival. With that opinion I am inclined to agree. Groups, trained plants (perhaps the best ever exhibited), cut flowers, decorations—all alike were good, and it would have been extremely difficult to pick out an indifferent exhibit. The fruit and vegetable classes, like the above, were keenly contested by growers with first-rate produce, this giving ample proof that the National Chrysanthemum Society has attractions for exhibitors such as no other society of a similar nature in the kingdom can hardly approach. Were its catalogue used as an universal guide in the matter of names, and the judgment of its committee in regard to new varieties followed, complaints about too-much-alike Chrysanthemums would become less frequent. Take the case of Miss Lilian Cope. This was exhibited before the floral committee, and although they saw a white bloom before them, they hesitated to give a certificate because it was thought more time should elapse for a fair trial, so that the sport be properly fixed. The same with Sarah Owen and D. B. Crane. Mistakes that body undoubtedly make, and one bad precedent was established when the incurred variety John Lambert obtained a first-class certificate. It appears to me, in a case like this, the new sport, although not distinct enough from its type to be shown together, and yet possessing qualities the parent lacked, might be recognised as an improvement without altering the early name. Thus John Lambert might be called Improved Golden Queen of England. There is certainly some confusion in regard to these particular sorts and Emily Dale. A few days since I was chatting with a grower who distinctly remembers the last-named when it appeared with the late Mr. Dale. He says the true variety is similar to that now grown as Lord Alcester. But in changing hands the stock must have become so mixed up as to be lost, and cultivators are growing Golden Queen of England instead. Anyhow this matters little, because nine people out of ten prefer the stock John Lambert, which came direct as a sport from Lord Alcester. Another variety which may cause some trouble is Richard Parker. This was introduced as a sport from Miss M. A. Haggas, but of a deeper hue of yellow. In comparing the two grown under exactly the same treatment by the raiser, I am forced to come to the same conclusion. Still, the difference is not enough that they may be shown as distinct kinds in the same stand without fear



of disqualification, although I have noticed judges have passed them once or twice this year. The shades of yellow, for instance, are not so distinct as are those of Mrs. Robinson King and Golden Empress of India, mentioned by your correspondent, and which ought surely to be admitted dissimilar. There have probably been more exhibitors of incurved blooms disqualified for staging two flowers of Princess of Wales than from any other cause. Not, however, by taking certain buds, or that that variety and Mrs. Heale are alike, but because a great number of growers do not appear to have the latter true. It is perfectly distinct and comes white in colour from any bud, but the former it is which comes light in colour through early bud-taking. I think I can say that in every stand of blooms, where a number of varieties have been called for, which I have exhibited during the past ten years, Princess of Wales and Mrs. Heale have found a place.

As to bracketing together too-much-alike Chrysanthemums, is it worth while when we consider how fast changes take place, especially in the case of the Japanese kinds? The varieties of ten years ago are scarcely known now, and who will say the varieties most esteemed to-day will not share the same fate a decade hence? There appears to be no limit to the capabilities of this wonderful flower. It is different with the Rose. Now to the other varieties named by Mr. Iggulden. We-Wa seems to me to be quite distinct from Beauty of Castlewood; the latter is a truly magnificent sort, rather late, hence not frequently seen at exhibitions, but there is a richness in its colouring not seen in Mrs. C. W. Wheeler or We-Wa, a kind which has long since, with myself, been cast away with many another discarded beauty. There is little risk about Bouquet des Dames and Elaine, because the latter has not held its position among the best varieties, and is now seldom seen. Thunberg, Mr. H. Cannell, Kioto, Coronet are a quartette whose lights are in my opinion put out by the newer Amos Perry. Coronet may survive a year or two, but Kioto, although pretty, is uncertain and late; the four will not last long enough to be bracketed together. Countess of Lytton, Mr. Ralph Brocklebank, Dormillion, Charlie Sharman, all are practically banished for ever from the show board of the future. There need be little fear but that J. Stanborough Dibbenn will share the same fate unless it behaves better another season than it has during the first. I cannot agree to calling Florence Davis and Beauty of Exmouth one and the same thing. I have heard many expressions against the green tinge in the former flower, yet it is astonishing what a large number of visitors to shows take to it because of its distinctive mark, and as one of the chief charms of the Japanese kinds is their diversity, let us tolerate this green-eyed monster. Again, Beauty of Exmouth is never pure white as Florence Davis is, the flower being at all times primrose tinted, and different in its curl and general build. Sarah Owen is also a favourite of mine; I cannot remember any trouble having occurred with it and D. B. Crane. The last, like Miss Lillian Cope, has reverted, and we must forgive this sportive character in the Chrysanthemum, remembering these two among our disappointing ones. The proper cultivation of Golden Dragon—at least, near London—is too difficult to master, so I have given it up; nor did Veil d'Or survive but a season with me.—H. SHOESMITH.

— Before adding to the list of these as a supplement to those given by Mr. Iggulden (page 487) I should like to make a few comments on some of those he has named. Bouquet des Dames and Elaine are quite distinct, as I have often seen them shown this season together. There is not the whiteness about the former that there is in Elaine; the flower is of a deeper build and there is a difference in the points of the florets which is sufficient to distinguish the two. With the introduction of such varieties as Avalanche, Princess May and Gaetano Guelphi, for instance, very few blooms of either of these named will be staged in the future either together or singly. The next quartette of yellows named are as distinct as it is possible to get yellow flowers. Coronet, when well

developed, has flat florets, with just a curl at the tips; the colour is a decided golden yellow. Six magnificent blooms of this took first honours this year at Brighton for any one variety. Thunberg is incurved in form, the florets pointed, the colour orange-yellow. A bad fault this one has—excessively tall growth. The last-named I have not seen for some years in anything like its former style. Countess of Lytton is supposed to be paler than Ralph Brocklebank, but hardly ever seen in an exhibition room; certainly I have never seen it along with the deep yellow Brocklebank. I quite agree with Mr. Iggulden as to J. S. Dibbenn and Mrs. F. A. Spaulding. The question is, which is the right name? Referring to the hairy varieties, I look upon the yellow W. A. Manda more as a novelty than aught else; certainly it has but little pretensions to beauty, and so far is disappointing. The new white Louis Boehmer is said to have the habit of its parent, and therefore is expected to be superior to Mrs. A. Hardy, which I very much doubt, there being a purity and massiveness about this (the original) that will be difficult to excel. Mrs. Robinson King is decidedly distinct from Golden Empress in colour, which is, of course, all that can be expected in a sport. In nearly all instances sports resemble the parent in growth and formation of bloom and florets also. The past has not been a good season for the Queen family, so many blooms have reflexed their petals instead of incurving them, and most likely the stock of the former was hard worked, which cannot fail to have its effect on the blooms. In all cases where it has come under my adjudication I have had no occasion to look a second time as to the distinctness of each. It is true that the Princess of Wales and Princess of Teck are increasing in numbers of names rather fast, especially the former. To the latter there has been but little addition of late years. May Tomlin, a sport from Mrs. Heale, is, so far as I have seen it, too like Violet Tomlin, and I should at present bracket them for safety. Richard Parker, the latest addition (a sport from Miss Haggas), is said to be deeper in shade of yellow. There is a difference in them, but very slight indeed. Certainly if an exhibitor should stage a bloom developed from an early bud of Richard Parker and one from a later bud of its parent, it would be difficult to distinguish the two; for safety I should bracket these two. I think there can be no question about Princess of Wales being distinct from its progeny when shown in proper condition, but there are many blooms of Princess of Wales staged for Mrs. Heale, but that is not because there is no difference; it is because people have the wrong stock of Mrs. Heale, the flowers of which should be white with a tinge of ivory; when there is any pink on the lower petals it is owing to the age of the bloom. The original of the type is blush-rose or white with deep rose stripes and suffusion. Some persons will persist in developing blooms from early formed buds, and these are certain to give flowers with little or no colour. It would be wrong then in such a case as that to stage such a bloom and name it Mrs. Heale, but I am afraid it is often done in ignorance perhaps. When such flowers are staged under their right name they lose points in judging, because they are not sufficiently full of colour. Referring again to the Queen family, John Doughy and Mr. R. Mudie should be bracketed together, as there is no difference. To these should be added Bronze Queen of England for safety, but as the latter is hardly grown now it may be superfluous to add it. However, it is safest for the inexperienced to follow the suggestion. Regarding Golden Queen of England and its sports, I have never met anyone with courage sufficient to stage any two of them in one stand of distinct sorts. This, I take it, is the best proof of their want of distinctness. My suggestion is, grow from whichever stock is thought the best, but give all, the original name of Golden Queen of England. The new French seedling Mme. P. L. Blancard bears such a close resemblance in colour to Princess of Wales when the latter is not in good form, that I would caution the inexperienced to be careful in staging, al-

though I cannot bracket them knowing they are so distinct in the formation of their florets and the build of the flower. Beauty of Hull and H. Shoesmith are so nearly alike in colour, that they might safely be bracketed. Mrs. G. Rundle and Mrs. Naish are so much alike, that it would be decidedly risky to stage both together. Miss Mary Morgan and Pink Perfection have caused some trouble in times gone by, but they are one and the same thing without a doubt. In the reflexed and the Anemone sections there are many instances of a repetition of the same variety under different names. The only two occurring to my mind at present are Emperor of China and Webb's Queen, which are undoubtedly synonymous. The others are Alice Bird and Buttercup. A mistake was no doubt made by the revising committee of the N.C.S. catalogue in including this as a reflexed, it being more like a Japanese than Elaine for instance. In the large or show Anemone section Fleur de Marie is sometimes confused with George Hock; both are the same. Nouvelle Alveole and M. Castex are identical.—E. MOLYNEUX.

**Chrysanthemum Mr. M. Sullivan.**—Since writing my note (page 488) in reference to this variety I find the National Chrysanthemum Society, in the supplement to the catalogue just issued, classes this as a reflexed flower. I need hardly say that I disagree with the authorities on this point. Often during the past season this variety has come before me in stands for reflexed blooms, and in all cases I have passed it, but not without grave doubts. In no case have the blooms differed in their form; not once have I seen any approach near enough to a true reflexed to class it as such. Charles Delmas they class as a Japanese. This, I think, is much more a reflexed than Mr. M. Sullivan. Blooms of it were staged at the Liverpool show so full in the centre and the florets so imbricated, that it would have been hard to define clearly the points of its exclusion from the reflexed section. The florets in blooms of Mr. M. Sullivan are too long and pointed, and do not overlap each other sufficiently to bring it under the head of a true reflexed flower. I may be met in this by the argument that it is a seedling from Putney George, a recognised typical reflexed; but we are not told from what other sort the pollen was taken. This is important in deciding the classification of any variety. There always will be a difference of opinion as to what constitutes a typical bloom in the reflexed section, but it is much safer to reject doubtful sorts than to admit them.—E. MOLYNEUX.

**Chrysanthemums Florence Davis and Beauty of Exmouth.**—In my opinion these are quite distinct, although I am quite aware that under certain conditions of cultivation or other circumstances, blooms of the one variety will develop very much like those of the other in many points, and to the inexperienced may appear identical. But how true this is of many varieties, not only Japanese, but incurved also. Blooms that are not recognised as being perfect of any variety cannot be accepted as being typical. The distinction in colour is to my mind most convincing. Florence Davis is of the purest white, or what I term snow white, whereas Beauty of Exmouth is ivory, or a dull white. With the exception of blooms developed from terminal buds, Florence Davis invariably displays a green centre, while the florets are unfolding, necessitating a long time in expansion. In no instance have I seen blooms of Beauty of Exmouth with this accompaniment, and I have seen them from the middle of October until the same time in November. The florets in Florence Davis are longer, irregularly twisted, but in spiral fashion and droop considerably. In the case of Beauty of Exmouth the florets are more uniformly disposed, although some curl upwards at the tip, while some are the reverse. Early blooms have narrower florets than the later ones, which are flatter and display less curl. It has been suggested that the position of Exmouth is favourable to the development of blooms of Florence Davis without the green centre, but when at the Torquay show,



November 9, I saw many blooms from that neighbourhood and from Teignmouth, both of which are further south than Exmouth, and in no case were they devoid of the green tinge except where the blooms were fully expanded. The same remarks apply to blooms staged at the various exhibitions at which I was present during the month.—E. MOLYNEUX.

## SOCIETIES AND EXHIBITIONS.

### ROYAL HORTICULTURAL SOCIETY.

DECEMBER 13.

It was most gratifying to witness such a splendid display as that to be seen in the Drill Hall on this occasion. In all respects it was an excellent *finale* to a year's work, and is in itself a further convincing proof of the great interest taken in and the good done by the R.H.S. by holding these meetings. Nowhere else could be seen such a gathering of Orchids, for instance, as that on Tuesday last. These embraced newly-imported species and some fine hybrids, as well as a few remarkably well-grown specimens of the older kinds in season. Chrysanthemums, too, were *en evidence* in a marked degree, notably the Japanese section, which fully justifies a special late exhibition in December another year by the National Chrysanthemum Society. Fruit consisted mainly of Apples, whilst a large collection of Beetroot came from the Chiswick Gardens. The lecture upon berry-bearing plants and shrubs was for some reason postponed.

#### Orchid Committee.

First-class certificates were given to the following:—

**SOPHRO-CATTLEYA CALYPSO** (Cattleya Loddigesii × Sophronitis grandiflora).—This is a most lovely hybrid, showing distinctly its parentage as quoted. In size the flowers are intermediate, so also is the growth. The colour of the flowers is a rich rose with a faint shading of violet suffusing the sepals and petals, which have also darker veins of the same shade; these parts of the flowers are broader than in the Sophronitis, but shorter than in the Cattleya; the lip has the form of the last-named parent, and of a pale golden yellow tipped with deeper rose than the petals. This choice hybrid had previously flowered in the collection of Baron Schroeder. Exhibited now by the raisers, Messrs. J. Veitch and Sons.

**CATTLEYA LABIATA ALBA**.—This is evidently an imported form, with pure white sepals and petals of the size of the species; the lip also pure white with a blotch in the throat of lemon-yellow, and also finely fringed. This is the first white form of *C. labiata* that has been shown. Exhibited by Mr. Wells, Broomfield, Sale.

Awards of merit were given to—

**LÆLIA ANCEPS OWENIANA**.—A distinct variety, with darker flowers of a rich shade, with lines of white upon the sepals and petals at the base, the lip also darker, being more of a shade of amaranth, veined as in the type. From Mr. Owen, Selwood, Rotherham, Yorks.

**CATTLEYA AMETHYSTOGLOSSA** (Selwood var.), in which the sepals and petals are of a creamy white shade with purplish spots, the lip a rosy purple, the substance of the flowers as good as in the species. From Mr. Owen.

**MASDEVALLIA HYBRIDA MCVITTÆ** (M. tovarensis × M. Veitchi), in which the flowers are of a pale pink with the habit of the last-named parent; it is apparently a distinct cross. Shown by Mr. Thompson, Walton Grange, Stone.

**CYPRIPEDIUM JOHNSONIANUM** (C. nitens majus × C. Lawrenceanum), the whole flower being suffused with a rich vinous purple, the dorsal sepal having darker spottings, foliage after, but paler than that of the last-named parent. From Messrs. Sander and Co.

**LÆLIA FINCHENIANA**, which has pure white sepals and petals, and the labellum of a purplish violet and white; the spike bore five flowers. It is

probably a distinct species, but in the way of *L. anceps*. Shown by Mr. Finchen, Hoyland Hall, Barnsley.

Botanical certificates were awarded to—

**DENDROBIUM TREACHERIANUM**, the flowers of which are of a dark maroon, shading off at the extremities of the petals, which are reflexed. Shown by Mr. Brymer, Puddletown, Dorchester.

**PLEUROTHALLIS PUNCTULATA**, which has small, somewhat insignificant flowers of a dark brown, singular in form. Shown by Mr. R. J. Measures, Camberwell.

Sir Trevor Lawrence, Bart., Burford Lodge, Dorking, showed a magnificent mass of the fine old *Sophronitis grandiflora* in most luxuriant health, with forty fully developed and richly coloured flowers; the plant, more than 18 inches across, was growing in a pan (silver Banksian medal). Mr. C. E. Smith, Silvermere, Cobham, had a grand specimen of *Cypripedium insigne* (pale variety) in most profuse bloom, bearing in all ninety-six flowers and measuring about 4 feet across, being a fine example of cultural skill (silver Banksian medal). Mr. S. Lutwyche, Beckenham, showed two plants of *Zygopetalum Mackayi*, each with nine stout spikes of bloom, and two *Cypripedium insigne*, each about 4 feet over with some five dozen flowers upon each (bronze Banksian medal).

Mr. Wythes, Syon House, sent a very fine lot of freely-flowered examples of *Cypripedium insigne* and *C. insigne Maulei*, the best of which had as many as thirty flowers upon each plant (these being grown in small pots relatively speaking); also a number of *Calanthe Veitchi*, bearing strong spikes of well-coloured flowers. *Calanthe* hybrids in great variety came from Sir Trevor Lawrence's collection, consisting of *Calanthe Veitchi splendens*, with dense spikes, more drooping than in *C. Veitchi*, but extremely rich in colour; *C. Veitchi lactea*, a delicately beautiful white form, with an entire absence of other colouring; *C. burfordiensis*, with close spikes of deep crimson flowers, one of the darkest, but most beautiful hybrids; *C. rosea*, a pale rosy colour, erect spikes; *C. bella*, which has dark crimson flowers and light markings on the lips; *C. versicolor*, with almost white flowers with pale rose shading, and *Masdevallia Hincksiana*, with pale yellow flowers fading off to nearly pure white with age; also an attractive hybrid *Dendrobium* (*D. Linawianum* × *D. heterocarpum*), having some resemblance to *D. nobile* when pale in colour, but with the lip of *D. Ainsworthi*. No award was apparently made to either of these meritorious collections, for what reason we do not know. Mr. Welbore Ellis, Dorking, sent a beautiful pale form of *Dendrobium Phalenopsis Schroederianum*, in which the well-known deep colour was absent, with lighter veinings and shadings at the edges of the petals in place thereof. Mr. Crowley, Waddon House, Croydon, sent *Angraecum pellucidum*, a white, transparent-looking species with small flowers and drooping spikes. Mr. Ingram, Elstead House, Godalming, sent seedling *Cypripediums*, whilst Mr. Measures had also several fine forms in a cut state, including *C. Morganii* and *C. Mrs. Canham*, the latter with very large and striking flowers, also good varieties of *C. Leeatum*. Mr. Statter, Stand Hall, Manchester, showed cut spikes of *Cattleyas* and *Cypripediums*, Mr. Bolton, of Warrington, having a somewhat similar exhibit.

Messrs. Veitch and Sons also showed several other hybrid Orchids of their own raising. Of these, note should be made of *Cypripedium Cleola* (*C. Boissierianum* × *C. Schlimi albiflorum*), which has flowers almost white, with but a faint flush of rosy pink, and much of the character of the last-named parent; also *C. Oeone* (*C. superbum* × *Hookerianum*). This may be fairly described as a very fine form of the last-named, with the superior dorsal sepal of *C. superbum*. *C. Pheres* (*hirsutissimum* × *insigne*), a very beautiful pale hybrid; *C. Arete* (*Spicerianum* × *concolor*), with the habit and form to a large extent of *C. concolor*, but the dorsal sepal after *C. Spicerianum*; and *Epiphrontis Veitchi* (*Epidendrum radicans* × *So-*

*phronitis grandiflora*), which has been previously shown, having small, but brilliantly coloured flowers, were also shown.

Messrs. Sander and Co. sent a number of very superior seedling *Cypripediums*, including *C. Sallieri superbum*, a fine form, with something of the character of *C. insigne*, but much larger and finer; *C. Lathamianum* (W. E. Clark's var.), with more yellow in the blooms and the stripe dividing the dorsal sepal better defined; *C. Leeatum* (Ardenshaw var.), in which the dorsal sepal is the finest feature, being pure white except for the pale green blotch at the base, the other parts of the flower also darker; *C. Alcides superbum* (*insigne* × *hirsutissimum*), wherein the character partakes to a large extent of the latter, with some of the markings of the former parent; *C. Pollettianum* (*calophyllum* × *œnanthum superbum*), a fine dark hybrid with bronzy purple flowers; *C. nitens* (St. Albans var.), having richly marked blooms with a darker dorsal sepal; and a small plant of *C. Chamberlainianum* with two flowers. *Lælia Gouldiana*, a dark form of *L. anceps*; *Cattleya O'Brieniana*, with pale lilac-pink flowers, and several forms of *Masdevallias*, with cut spikes of *Phalenopsis Sanderiana* and *P. amabilis* were in good condition.

Messrs. Pitcher and Manda showed several seedling *Cypripediums*, mostly of the *C. insigne* type and parentage. The finest of these were *C. insigne Eyermannii* and *C. insigne Dominicanum*, the former paler than the latter, but both having the dorsal sepals very finely spotted. *C. Coulsoni* is another pale form with more spotting, and *C. insigne nitens*, which has a more bronzy shade of colour. *C. Niobe* (Short Hills var.) (*Fairrieanum* × *Spicerianum superbum*) appears to closely resemble Messrs. Veitch and Sons' hybrid, the offspring of the same cross, but not superior to it. *Cattleya Alexandræ* with one flower was shown by Mr. Knox, Ardmillan, Caversham. To say the least, this is a disappointing variety, not worthy of its name, the colour dull and dingy with no merit in it. A dried specimen, also a cut spike of the same species, came from another exhibitor, whose name did not appear. Messrs. Low and Co. also contributed a group, chiefly of Orchids, consisting of well-grown medium-sized plants, *Cypripedium insigne* Wallacei, *C. Leeatum*, *C. bellatulum*, *C. Chamberlainianum* and *Vanda Amesiana* being well represented. Messrs. Williams also had a small, but interesting group in which *Odontoglossum Rossi albens*, *Calanthe Oweniana*, &c., were well represented.

#### Floral Committee.

A first-class certificate was awarded to—

**CAMELLIA SASANQUA** (single red).—An introduction from Japan, being also hardy in this country. The single flowers are of a soft rosy-pink shade and of medium size. Unlike other *Camellias*, this is of a scanty growth, and should prove extremely useful as a climbing evergreen for walls, its value being further enhanced by the fact of its flowering at this season of the year; the foliage also is small and lanceolate in shape. From Messrs. J. Veitch and Sons.

From the same source was also sent *Camellia Sasanqua* (double white) with medium sized French-white flowers.

Awards of merit were given to several Chrysanthemums as follows:—

**CHRYSANTHEMUM ROBERT OWEN**.—A splendid addition to the incurved Japanese section with extra large, full flowers of much substance, the colour a deep golden shade with bronzy reverse. The blooms shown were from late cuttings. From Mr. R. Owen, Maidenhead.

**CHRYSANTHEMUM VISCOUNTESS HAMBLEDON**.—Another incurved Japanese with broad petals, which in the case of one flower were of a pure white, whilst in two there were traces of a pinkish veining, a fine distinct variety. From Mr. Owen.

**CHRYSANTHEMUM WABAN**, in which the markings are after Belle Paule, with the florets broad as in Val d'Andorre, and reflexed also. A new variety of much promise. From Mr. Owen.



**CHRYSANTHEMUM ENTERPRISE.**—A decided acquisition to the large flowered Anemone section. The flowers shown left nothing to be desired in form. The florets are a silvery pink, tipped white, with the cushion of a pale sulphur colour. From Mr. Owen.

**CHRYSANTHEMUM FREDERICK DORMER.**—Another Japanese with globular and very full flowers, the petals reflexed and somewhat short, the colour a pale lemon, quite distinct. From Mr. J. Pearson, Chilwell, Notts.

**CHRYSANTHEMUM MRS. ROBINSON KING**, best known as the Hull sport of the Queen family. It was somewhat late to see it in its best condition. In colour it is not unlike *Jardin des Plantes*, but with the Queen character. The flowers shown were large and full. From Mr. Blair, Trentham Gardens.

**CHRYSANTHEMUM MME. MARIE RECOURA.**—A Japanese with long, somewhat narrow, pure white florets; the flowers of extra size, but borne on very stout stems, denoting vigour. From Messrs. H. Cannell and Sons and Messrs. Pitcher and Manda.

Mr. P. Blair, Trentham, sent cut blooms of *Chrysanthemums* shown upon the orthodox show boards, embracing some very fine flowers of both Japanese and incurved varieties, the former being of the two the better lot, but both very fine for so late in the season (silver Banksian medal). Mr. Robert Owen had another large display of cut blooms on boards, being in this instance particularly strong in new Japanese varieties. Besides those certificated the following should be noted: Mrs. Bruce Findlay, a pure white, large flowered Japanese with reflexed petals, a promising exhibition variety; Seedling 91, extra deep colour, deeper than *Sunflower*, being more of an orange-yellow with apricot shading; Henry Perkins, another incurved Japanese, with flowers of a deeper colour; Lady Dorothy Improved, lighter in colour than the type; J. P. Kendall, a Japanese with broad petals of a rosy amaranth shade; Seedling 92, after *Sunflower*, but paler in colour; and Elmer D. Smith, a reddish crimson Japanese, a rich colour (silver Flora medal).

Messrs. Pitcher and Manda had cut blooms set up in an informal manner in glasses or bottles. Amongst them were Mrs. Libbie Allen, a rich golden yellow Japanese with incurved petals, not unlike Lord Brooke, which was also shown here, but the former has its blooms some shades lighter; E. G. Hill, of a bronzy chestnut colour, the flowers somewhat incurved; John Dyer, after *L'Adorable*, but of richer colour; and W. A. Manda, a hairy variety, rich yellow in colour. Louis Boehmer was also in fair condition (silver Banksian medal). Mr. W. Wells had another good lot, consisting of several single and useful decorative varieties. Of the former, one called *Rudbeckia* is not at all unlike its name, the flowers of a dark chestnut colour, and of the latter, *Violet Rose*, fairly defined by its name as to colour (bronze Banksian medal). Messrs. Cannell and Sons had some exceedingly well-grown examples of their superior strain of *Cyclamen*, the whites being particularly pure in colour and the flowers of good size. The dark shades and mixed colours were also equal in these respects (silver Banksian medal).

Mr. H. B. May had a fine group of well-coloured *Crotons*, the plants dwarf and well furnished, the varieties the best for decorative purposes, especially noteworthy being *Morti*, elegantissimus, formosus, volutus (extra fine), *Hawkeri*, *Massangeanus* and *undulatus*. Being set up with Ferns, these plants were very attractive (silver Flora medal). Messrs. Paul and Son sent a beautiful assortment of cut examples of the best *Hollies*, profusely berried, also of *Ivies* in berry and plants of *Pernettyas* in variety, also in good berry-bearing form. Very early forced *Azalea mollis* was also shown here, the plants being home-grown (silver Flora medal). Mr. Wythes was awarded the first prize for Christmas Roses in flower, showing three varieties grouped in a basket—a very good system of exhibiting them. Mr. Wythes had also a large group of his late-flowering decorative Japanese *Chrysanthemum* named *Duchess of Northumberland*, the flowers of which are freely produced, the

colour a pure white, with narrow, quill-like florets. From Mr. T. Ware, Tottenham, came two beautiful panfuls each of *Iris Histrio* and *Narcissus Bulbocodium* var. *monophyllus*, two particularly valuable winter-flowering varieties, which, when better known, should be extensively grown by those who can afford cold frame or pit accommodation for them; the *Narcissus* has the free-flowering characteristics of the type.

#### Fruit Committee.

There was a large number of seedling Apples before the committee, some of fair merit, the larger number being inferior to existing varieties. The great difficulty in testing new varieties is the lack of information from the exhibitors as to their cropping and free growing qualities.

A first-class certificate was awarded to

**POTATO COLOSSAL**—A kidney-shaped variety of large size and great weight with shallow eyes and yellow flesh. This had been tested at Chiswick for its cooking qualities, and Mr. Barron judged it first-class. It is stated to be an immense cropper and free from disease. Shown by Mr. Fidler, Reading.

Messrs. Cooper, Taber and Co., Waltham, Essex, sent a new kidney Potato of nice shape named *Duke of York*. This the committee desired to be sent to Chiswick for trial. A very large collection of Beet came from the R.H.S. Gardens, sixty varieties being staged, but from close observation many were synonymous with well-known varieties. The best were *Pragnell's Exhibition*, *Covent Garden*, *Dell's Crimson*, *Cheltenham Green Top*, *Omega Green Top*, *White's Blood Red*, *Veitch's Red*, *Erfurt Black*, and the Egyptian Turnip-rooted kinds, of which *Eclipse* and *Early Turnip* were good examples. Several varieties of Chilean Beet were staged, including the *Perpetual Spinach* and *Brazilian*. From the society's gardens also were sent ten varieties of dessert Apples of great merit to show the best kinds for use at this date. The varieties were *Beauty of Kent*, *Wagener*, *Braddick's Nonpareil*, *King of Pippins*, *Rosemary Russet*, *Dutch Mignonne*, *American Mother*, *Cogswell*, *Cox's Orange*, and *Baummann's Winter Reinette*. From Mr. Hudson, Gunnersbury House, Acton, came a dish each of *Golden Noble* and *Waltham Abbey Seedling* for comparison to show the distinct qualities of the two varieties, the *Golden Noble* being specially fine and of good flavour. Mr. C. Turner, Royal Nurseries, Slough, staged a fine dish of *Knights' Monarch Pear*, the flavour being first-rate. The committee were of opinion that this old variety, despite its erratic behaviour in some gardens, is worth extended cultivation. Mr. Smee, Carshalton, sent seedling Apples, one named *Ramborough* being of great merit, somewhat like *King of Pippins*, but of brisk flavour. The award was deferred till further particulars of its cropping qualities were sent. Seedling Apples also came from Messrs. Princep, Buxted Park, Uckfield; Corkey, Frome; Toogood, Peterborough, and Bannister, Westbury-on-Trym. This being the last meeting of the year, the council, through the chairman, thanked the committee for their attendance and the attention they had given the various exhibits placed before them, and expressed a wish that next year they would kindly give the society their valued assistance. Mr. Cheal proposed a hearty vote of thanks to the chairman. This was seconded by Mr. Hudson and carried unanimously.

#### THE NATIONAL ROSE SOCIETY.

The annual meeting of the National Rose Society was held on Tuesday, 13th inst., at the Hotel Windsor, Victoria Street, and was largely attended. The chair was taken at 3 o'clock by the Rev. W. Wilks, secretary of the R.H.S., in the absence of the president, the Dean of Rochester. The report of the society was read by Mr. Edward Mawley, and was considered to be in every way satisfactory. In accordance with a resolution passed at the last annual general meeting of the society, requiring amateur exhibitors to show according to the number of plants of exhibition

varieties grown by them, the committee drew up schedules early in the year in order to meet these altered requirements. The new system appears to have worked admirably, and greatly to the satisfaction of all classes of exhibitors. Several of the affiliated societies have already shown their approval of the new classification by framing their own schedules on similar lines, and it is to be hoped that another year other Rose societies may follow their example.

Three exhibitions have again been held. That which took place at the Royal Horticultural Society's Exhibition Hall at Westminster, owing to the backwardness of the season, again proved a small one. On the other hand, the Crystal Palace show was the largest one which the society has ever held, the number of blooms staged in competition, not including garden Roses, amounting to over 7100. The provincial exhibition held at Chester was also a remarkably fine and extensive one. Unfortunately, the show day proved wet throughout, and consequently the attendance of visitors was very limited. A sub-committee has been appointed to prepare a new catalogue of exhibition and garden Roses, the old one being now somewhat out of date, having been issued in 1884. Several meetings have been already held by this committee, and it is expected that the new catalogue will be ready for distribution to members during the course of the ensuing spring. The treasurer is again enabled to report favourably upon the society's financial position, notwithstanding the large sum it was found necessary to offer in prizes in order to carry out satisfactorily the new classification in the schedules. The income from all sources, including a balance of £40 0s. 11d. from last year, was £719 7s. 11d. The total expenditure amounted to £687 11s. 4d., leaving £41 16s. 7d. to be carried forward to the next account. The committee have made the following arrangements for the coming year: An early show of Tea and Noisette Roses will be held in conjunction with the Royal Horticultural Society on Tuesday, June 20. The metropolitan exhibition will take place as usual at the Crystal Palace on Saturday, July 1. Applications have been received from three different affiliated societies requesting the society to hold the provincial show next year in their neighbourhood. After due consideration the committee have decided to accept the application of the Workshop Rose and Horticultural Society. Arrangements have accordingly been made to hold the provincial or northern show in connection with that society at Workshop on Thursday, July 20.

The committee have to acknowledge the kindness and liberality of Lord Penzance, who has not only presented the society with a donation of £15, a portion of which will be expended next year in a cup for garden Roses, but who has also promised to give a five-guinea cup each year for the same class of Roses in future years.

After the routine work had been completed, the most important question brought before this meeting was discussed, this being brought forward by the Rev. J. H. Pemberton, and was to the effect that the following words be added to Regulation 1: "The metropolitan show shall be held on the Saturday nearest to the 6th of July." Our readers may recollect that this question was discussed in our columns on the 10th inst. under the heading "National Rose Society." Mr. Pemberton contended that July 6 represented the date which, if it fell on a Saturday, would in most years suit all growers who exhibited at the Crystal Palace, whether from the north, midlands, or the south; that he had received a large number of letters from growers in northern districts in response to a circular which had been sent out by Mr. H. V. Machin, a northern amateur grower, and that these letters were unanimous in favour of the date of the metropolitan meeting being held on the second Saturday in July. Mr. Pemberton's motion was seconded by Mr. Lindsell. Mr. Foster Melliar, Mr. Mawley and Mr. Bateman also supported the motion. In opposition to it, the Rev. H. B. Biron spoke as to the difficulty the southern growers found in exhibi-



biting after the end of June or beginning of July, except in the very rare case of extremely backward seasons. Mr. Biron was followed by Mr. J. D. Pawle, who stated that the great Reigate growers could seldom show well after the first week in July, and by Mr. Grahame, who explained that he had analysed the districts of the winning exhibitors of last Crystal Palace show, and that these exhibitors at the metropolitan meeting came from sixteen counties and were well distributed, instead of being confined merely or principally to four counties, as stated by Mr. Bateman. Mr. Grahame also read a humorous letter received by him from Dean Hole, of Rochester, the president of the society, in which he stated that—

Until we can definitely arrange the weather, which is not within the range of practical politics, it would be impossible to fix the best day for the Crystal Palace Rose show, I am inclined for the first Saturday in July; but in this matter, as in all others, I am for the greatest happiness to the greatest number.

Mr. D'Ombraïn, Mr. Berners and Mr. Orpen also spoke, the latter gentleman explaining that the southerners had a right to consideration, as they represented 70 per cent. of the members of the society. On a division being taken, there were nineteen in favour of Mr. Pemberton's proposal, and twenty-six against it, so that the motion was lost, a result that was received with great applause by the opponents of the measure. As the discussion has been an annual event which has caused much heart-burning, and as after next year the meetings for four consecutive years will fall in their natural course on the dates which Mr. Pemberton wished made permanent fixtures, the question will probably now be finally shelved.

## PUBLIC GARDENS.

**Manchester.**—At the meeting of the City Council recently, a recommendation of the Parks Committee that application be made to the Local Government Board for their sanction to the borrowing by the council of £60,000 for the purpose of open spaces in the city was adopted, but several members expressed the opinion that, in view of the increase in the rates of the city, the Parks Committee were spending money too lavishly.

**Paddington Recreation Ground.**—For the purpose of acquiring this as an open space and playing fields for the public, £49,300 has now been forthcoming out of a total of £50,880 required to complete the purchase, leaving a balance of £1500 still to be raised. At a meeting of subscribers, under the presidency of Mr. Aird, M.P., it was, however, stated that the Paddington Vestry, who had voted £25,000, had to obtain parliamentary powers for such grant, and that the Vestry had to deposit the Bill by the 21st inst. A resolution was unanimously carried urging the Vestry to proceed with the measure upon the understanding that the executive committee would use their utmost endeavours to raise the comparatively small balance without delay.

**Open spaces.**—At the monthly meeting of the Metropolitan Public Gardens Association, held lately—Sir William Vincent, vice-chairman, presiding—it was announced that Her Royal Highness Princess Louise had been pleased to send a contribution of £10 towards the general expenses. It was stated that funds were needed for the acquisition of the Cross Bones disused burial ground, Red Cross Street, Borough, which the owners now seemed willing to sell, and for the laying out of Woolwich Churchyard, the estimate produced showing that the cost would be about £1100. It was agreed to offer seats for Maida Vale, to lay out a portion of St. John's Churchyard, Stratford, at a cost of £300, if money for the payment of wages, about half the estimated cost, was locally provided, and to make a grant for tree planting in thoroughfares in St. Luke's. A letter was read from a member generously offering a sum of £5000 for the laying out and permanent maintenance of Soho Square as a public garden if transferred to the local authority, which offer the association had

placed before the committee of management, who had it under consideration. It was reported that the association had during the month taken part in a deputation to the City Corporation, soliciting a grant of £3000, being the balance required to complete the £75,000 needed for the purchase of Hackney Marshes, 340 acres in extent, a scheme set on foot by the association early in 1890. The secretary stated that the London County Council had agreed to purchase 41 acres of the Hilly Fields for £40,350, upon the joint committee of the open space societies and residents handing over the money they had collected, amounting, with the £7000 subscribed by the Greenwich District Board, to over £17,000, and that £700 was urgently needed before the 21st inst., the last day for depositing the Bill for the purchase of Paddington Recreation Ground at a cost of £50,000. A donation was received from a member for tree planting in Pancras Square, and the Hackney District Board agreed to pay half the cost of similar work at Stamford Hill. Another member, Lord St. Germans, kindly expressed his willingness to transfer his rights over Kidbrooke Green to the London County Council, which would ensure its preservation as an open space.

## OBITUARY.

**F. W. Bedford.**—We regret to announce the death on Saturday, December 10, at Straffan, Co. Kildare, of Mr. F. W. Bedford, aged 20. He was the eldest son of Mr. F. Bedford and a young gardener of great promise. His early death is deeply regretted by all who knew him.

**William Pratt.**—It is with regret that we record the death of Mr. W. Pratt, at the age of 42, after a few days' illness. He died on Monday night last at the Southgate Hotel, Southgate Street, Bath. Mr. Pratt was well known in connection with Longleat Gardens, and the grand examples of Muscat of Alexandria Grape which he annually produced in the famous Longleat vineries during the nine or ten years he was head gardener there. He was for several years gardener to Lord Hill, at Hawkestone, Shrewsbury, prior to undertaking the superintendence of the extensive gardens at Longleat. Mr. Pratt has left a wife and young family to mourn his loss. The deceased was very popular with all with whom he came in contact.

**Mixed planting v. grouping of trees.**—The following motives in managing ornamental woods may be worth consideration by those who are engaged in planting, or, as not unfrequently occurs, who succeed to long-neglected and extensive woodlands. By mixed planting, we ascertain what trees thrive best in varying soils and exposures, and having practically acquired this knowledge it should be acted on intelligently and decisively. Given 100 acres of park with undulating varying soil, planted with mixed trees for shelter and ornament, probably the highest degree of beauty and character would ultimately be obtained in the following way: When the first thinning is undertaken, the improver should go all over the wood. He will find unmistakable differences in the uses which the trees have made of the time since they were planted. Where the soil is deep and heavy, the Oaks will look unusually clean and healthy. He will not err if he sacrifices everything else to make this a grove of Oaks. Here, perhaps, is a bleak hillside, exposed to prevailing winds, the soil light and shallow. In such a place, the most promising plants are probably Silver Fir, Pinus Pinaster, or P. austriaca. On the crown of the hill, the Scotch Firs will be masters of the situation. Let him look 100 yards a-head, and see here materials for a striking picture—gloomy depths of the heavy Pinasters; further on, the stately Silvers, in rank after rank. Here he will be encouraged to establish a dell of Beech trees; there a company of Ashes. Then, some trees lend themselves to the formation of avenues; indeed, Lime trees, Yew, and Beech seem to attain their

highest character when so employed. Thoughtful design will bring a higher reward than indiscriminate planting of any kind.—H. M.

**"Cottage Gardening" monthly part.**—Readers interested in cottage gardens may like to be reminded of the monthly parts of this little paper. Copies for distribution will be sent on application to the publishers, Messrs. Cassell, Ludgate Hill, London, E.C.

### Terrestrial and small epiphytal Orchids.

Having made arrangements to have some of the more interesting small Orchids of South Africa and Australia sent by post, I shall be glad to supply them to any persons wishing to obtain specimens and who are willing to pay a moderate price to encourage the collectors. These things are rarely to be had from the dealers, and complaint is often made that they cannot be obtained. I have just received a few plants of the curious little *Dendrobium linguiforme* from New South Wales.—ALFRED R. WALLACE, Parkstone, Dorset.

**Wanted, a colour chart.**—If anything was proved by a recent discussion in THE GARDEN as to the tint called "purple," I should say it is the want of a general colour or tint chart to which we could all refer in case of doubt or of difficulty. Sundry dealers in paints and colour do send out such charts to their customers, but what we want is something more definite and scientific, i.e., true to Nature, even although these trade charts give a useful common ground of reference. Give us a chart on which the primary, secondary and tertiary colours (whether optical or artistic it does not much matter) are set down, and we shall at least possess a common standard of comparison, and so be able to check each other's exuberance when the colour, or tint, or hue of a flower is mentioned. Not only gardeners and nurserymen, but everyone interested in the question of colour would be benefited by the publication of such a chart, and I for one would most willingly subscribe for its production on the chance of it paying its own way. I hope "H. B." (page 524) will help my appeal. Let us all stand on a common ground or footing as to this problem, and a colour chart would at least put us on a common footing. That it is difficult to do is only an additional proof of its necessity.—F. W. B.

**Roses for forcing.**—Would "R." whose note on forcing Roses appeared in the issue of December 3, kindly give best selection of Teas and a few Hybrid Perpetuals for forcing—such, for instance, as are grown by the growers for Covent Garden Market, as these would be the best for private work also?—SUBSCRIBER.

\* \* The following varieties are extensively cultivated by our market growers, and for the benefit of "Subscriber" I give their chief or predominating colours. All are of good and free growth and flower very freely. Teas and Noisettes: Anra Olivier (buff, yellow, and flesh), Catherine Mermet (flesh-pink), Francisca Krüger (coppery yellow), Isabella Sprunt (canary-yellow), Madame Charles (light salmon yellow), Mme. Falcot and Safrano (apricot-yellow), Mme. Lambard (red and salmon), Marie van Houtte (yellow), Niphetos (pure white), Perle des Jardins (clear yellow), Reine M. Henriette (red), Souvenir d'un Ami (pink), Sunset (orange-saffron), The Bride (white), l'Idéal (reddish copper), Maréchal Niel (deep yellow), and W. A. Richardson (orange). Hybrid Perpetuals: Général Jacqueminot (dark red), A. K. Williams (deep red), Fisher Holmes (dark scarlet), Prince C. de Rohan (deep maroon), Jules Margottin (bright pink), and Mme. Lacharme (white).—R.

**Names of plants.**—T. C. H.—1, *Calanthe Texensis*; 2, *Maxillaria grandiflora*.—A. B. C.—*Liquidambar*.—A. S. S.—*Catasetum luridum*.—G. B.—*Dianella intermedia*.—J. H. Reeves.—2, *Pittosporum* sp.—A. Hilditch.—1, *Trichomanes rigidum*; 2, *Hymenophyllum hirtellum*; 3, *Pellaea granatiformis*; 4, *Polypodium suspensum*; 5, *Scelopendrium vulgare multilidum*; 6, *Lomaria fluviatilis*.—J. Cookson.—1, *Sclerhronitis cernua*; 2, *Epidendrum ciliare*; 3, *E. radicans*.—W. Dohd.—*Odontoglossum Sanderianum*.—H. B.—*Pernettya* belongs to the Heath family.



## WOODS AND FORESTS.

## PLANTING EXPOSED GROUND.

**CHOICE OF TREES.**—Next to the best method of planting exposed and hillside ground, the kinds of trees best suited for withstanding prolonged storms and the greatest amount of cold will be a matter of first importance. What should be aimed at first is to have the outer boundaries of the plantation composed of trees that have proved most suitable for doing battle with the wind. The southerly and south-western boundaries are usually in this country those that suffer most, but the particular lie of the ground and adjacent hills may have much to do in deciding this important point. However, in any case it is just as well to ensure partial safety by guarding the woodland from every side, and the best means of so doing will now be considered. The outer line or lines should be composed mainly, if not wholly, of such well-trying and valuable subjects as the Scotch, Austrian, Corsican and mountain Pines (*P. sylvestris*, *P. austriaca*, *P. Laricio*, and *P. montana* or *P. Pumilio*), interspersed with the common Sycamore (*Acer pseudo-Platanus*), the winged Elm (*Ulmus alata*), the shaggy Hornbeam, Elder and such like trees; while amongst these, and so as to make the ground thick with vegetation, the common Gorse, Broom, and native Juniper will all help and succeed if the soil is at all good. How these particular trees have succeeded in a plantation that I formed on the flanks of an English hillside, and at nearly 1000 feet altitude, might now profitably be discussed, for the old adage that experience teaches still holds good in our own time and particularly in tree planting.

Amongst the three Pines—*sylvestris*, *austriaca*, and *Laricio*—there is little choice; indeed, they are all excellent trees for the work under consideration. I tried to make a choice of one over the other two, but here the *Laricio* seemed to stand best, while a little further on a fine green-leaved bushy Austrian asserted its right to supremacy for planting on the wild mountain-side. Then the Scotch stood so well out even when in the very face of the worst storm, that I felt an injustice would be done to place any foreign species ahead of our own native and well-trying tree. There is something in the fact of one tree of a particular species—say the Austrian—growing better than another of the same kind not a dozen yards away, and where both soil and atmospheric conditions must be exactly similar. To account for such a difference is indeed puzzling, and one might stand at the base of that wild craggy hill and look long and wistfully in trying to solve the mystery why such should be the case. No doubt the peculiar constitution of the particular tree has much to do with it, and this may be placed as a first reason, but there is a second that may not have occurred to everyone, and which, for a few years at any rate, would materially affect the growth of a particular tree—that is, injury to the roots before being planted, and which under ordinary circumstances it must take a long time to put right. There is still another supposition, or perhaps I should use the word affirmation instead, and that is that trees moved under peculiar circumstances, shelter being a prime mover in the matter, must and will be affected somewhat by a change to a totally different altitude probably so much apart as nearly 1000 feet. This may be illustrated by a rather curious fact that came under my own observation in laying out the particular plantation to which I have referred. On the ground, or rather growing

on a hillock at some little distance away, were several plants of the mountain Ash, Birch, Gorse, and Broom. Just as an experiment I had these carefully lifted and replanted in the plantation, whilst alongside these, others from lowland ground were inserted. To-day the difference in the two is very marked, the mountain forms having kept ahead of the lowland trees, until now they have almost ousted them from the situation. There can be no doubt that acclimatisation has a great deal more to do with plant life than we give it credit for. The sceptical may say that the conveying of the lowland plants for such a distance would materially affect them by loosening and shaking the soil from the roots, but I may just say that the trouble and value of the experiment were such as to ensure full justice being done on all sides. But everyone who has had hillside planting to do must have noticed the differences of growth between plants raised at high altitudes and those brought from lowland sheltered situations. The difference in growth between a strong seedling Scotch Fir and one that has been planted on the same high ground is truly remarkable, and leads one to the belief that were it otherwise practicable, seed-sowing would be preferable to planting out. The Austrian Pine is a first-class tree for imparting shelter on exposed ground, its big massive branches thickly furnished with wind-defying, shaggy foliage, and adaptability to soil of a very poor description rendering it a most useful and valuable subject. There is an evil which I have heard sometimes spoken about, and that is that the tree is easily uprooted. This I have only found the case where big—too big—specimens have been planted out, but where the tree is used when only 2 feet or 18 inches high, the evil is considerably minimised, if not, indeed, got rid of altogether. There are few trees, coniferous at least, that do not suffer when planted at say the height of 6 feet to 8 feet, and this practice is, unfortunately, too common in small gardens and little properties. The Austrian roots shallow, we will grant, but so does the Scotch, and so does every Pine for that matter; but the root-spread is of the widest to compensate for the surface partiality. Then it may be argued that the timber of this Pine is not of such value as to ensure our planting the tree in question in any great quantity, and this is an unfortunate mistake that many fall into. A tree that will grow and live in positions where at times one can hardly keep his feet owing to the keen fury of the wind must not be condemned, for the very fact of its living and thriving on the windward side allows us to plant other trees that are less valuable in the same way to the leeward of it. Once a screen of the better trees has been got up, the interior of the wood may be planted with almost what you like. There can be no question that the Austrian Pine is one of the most valuable trees for shelter-giving with which we are at present acquainted, but that it is either equal to, or superior to, the Scotch or *Laricio* I do not feel inclined to say. A. D. W.

**Effect of wind on trees.**—Trees which grow in exposed situations have their tops always leaning away in the opposite direction from the prevailing winds, and the casual observer concludes that the branches have been bent by the constant pressure of the wind and retained their position. Now, although such trees have the appearance exactly of trees bending under a gale, still it is not pressure in that way which has given them their shape. The fact is, they have grown away from the blast and not been bent by it after they grew. Examination of the branches and twigs will show

this. We hardly realise the repressive effects of cold wind upon tree growth, which it partially or altogether arrests, just according to its prevalence. Conifers show the effects of this more distinctly than other trees. Owing to the horizontal habit of growth of the branches, they point directly in the teeth of the gale from whatever direction it comes, and cannot, like the Oak, lean over and grow in the opposite direction; hence coniferous trees growing in exposed situations produce good long branches on their lee side, while on the windy side the branches retain their rigid horizontal position, but make comparatively little growth, which is simply suppressed. Example: I measured the branches of a Nordmann's Spruce growing in a position fully exposed to the north and south. One branch on the north side of the tree had fifteen annual nodes or growths and was 7 feet long, and its opposite had the same number of nodes, being of the same age, but was nearly 2½ feet longer, or 9½ feet, and all the lateral branches were proportionally long and well furnished.—X.

**Nurses for trees.**—With good nursing almost any shrubs or trees may be made to grow anywhere. Without it there are hundreds of places where it is hopeless to attempt to grow rare coniferous or common trees, such as Oaks, for instance. Whatever does best in the neighbourhood—whether it be Larch, Spruce, Scotch Fir, Birch, or even Broom—that is the best plant to use for nursing and sheltering the trees or shrubs we wish to ultimately predominate. Plant choice trees in the positions and at the distances we wish them to occupy, but plant the nurses everywhere. Let them fill all the intervening spaces, almost embracing the permanent plants on all sides, without actually touching them. The function of these nurses is to help the other trees to grow, just as ours taught us to walk. But in arboreal matters the nurse is often allowed to grow over and smother the tree it was meant to help; and so there has been a rebound against the whole system of nursing, and we constantly see trees of rare form and surpassing beauty set down in the open teeth of the wind. Is it any wonder that, thus exposed, they refuse to grow, become stunted, or die? Good nursing is the secret of tree as of animal health, but when the tree or man is once vigorous enough to grow or walk alone, nurses must be dispensed with.—F.

**Alder for hedges.**—As a hedge plant, the Alder is not so good as the Poplar. It delights in wet, swampy lands, and will grow tolerably even in the water. The plants for fences should be four years old, not more, because when older they are generally devoid of branches at the bottom. They may be set at a foot apart, and treated in every respect like the Poplar, trimming the fence with a hedge-bill, and keeping it at the height of 5 feet. The Alder will make a strong, branching fence, though not very close, and if pruned regularly as directed, it has a neatness much beyond what is generally believed of it. Few have the courage to keep it in subjection, being a tree of extraordinary exuberance.—B. W.

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"This is an Art  
Which does mend Nature: change it rather; but  
THE ART ITSELF IS NATURE."—*Shakespeare.*

## ROSE GARDEN.

## THE GROWTH OF ROSES IN VARIOUS SOILS.

THE advantage and need for contrasting a heavy growth with a light, but not necessarily weak one are of some importance, especially to younger rosarians, who may be discouraged by the seeming inferior quality and appearance of their Rose plants compared with those cultivated by others in their neighbourhood. Under proper culture the difference is fully accounted for by the class of subsoil one's Rose garden is placed in. I have a light soil, and friends who come to see my small Rose garden generally interest, but do not alarm me if they come in early summer by their friendly and candid criticism, to which I do not object. If they come from a district where Roses are grown on heavy loam or clay, they at once notice that my Rose shoots are somewhat thin, and they come to the conclusion that in the current season good Roses can hardly grow on such light wood. Their conclusions are based on erroneous ideas of the value of the splendid thick growth which is quite common on heavy land, but most unusual where it is light. I have proved practically and conclusively in this neighbourhood, which has a very varied geological formation, abounding in different places with subsoils of clay, gravel, chalk, sand, &c., that a grower on light land can hold his own with one growing on heavy clay or the finest loam, and I have come to what seems a natural and proper conclusion, that a very strong or gross growth is of but slight advantage, and is not more likely to produce flowers of higher quality than those from the light wood of Rose plants grown in sandy or chalky districts. I have frequently noticed that these splendid thick stems, although they usually produce large blooms, very frequently also develop them of coarse and indifferent form, and experienced judges know that a well set up Rose of good quality, if even only of medium size, will, as long as it is of good colour and first-rate form, get more points than a coarse bloom without form.

To get the best Roses, you require the wood to be well ripened, and medium-sized growth can ripen more easily and quickly than coarse wood with a superfluity of sap. The Tea Rose plants sent to this country from French professional growers are seldom large, but the wood seems to be thoroughly ripened, the natural advantage of a sunny clime hastening the ripening before the winter frosts come, and the great heat and drought which are common to many parts of France (and which much inconvenienced the neighbourhood of Lyons this year) are correctives to coarse-growing tendencies and also preventives of sappiness—another name for immaturity.

It is especially important to have the growth of Tea Roses well ripened. From my own observation, I believe most of the beautiful wood grown in this country on Tea Rose bushes and standards from August to October is seldom of ultimate value, as in few seasons do we get suf-

ficient sun to thoroughly ripen that growth, the consequence usually being destruction when severe weather comes, and in the spring we have most frequently to cut away the lovely autumnal shoots, ruined by winter's chills and harsh winds, and to seek for a renewal of life close to the original bud. The question of the retention of the full autumnal growth and also the cultivation and care of Rose plants at that period of year are all of the greatest importance, more especially as regards the maintenance or otherwise of superfluous shoots usually freely developed after the first and principal bloom of summer is over. Some consider that for the sake of root-action it is wise to leave all growths, and others say that too much wood prevents the ripening of those more desirable shoots required for next year's developments. With these latter authorities I quite agree, and it has been my practice to use the knife freely in late August and September; but when you cut out, as I do, the weaker growths, a precautionary measure must be adopted, viz., to stake carefully the more freely growing shoots, which seem when relieved from valueless companionship to grow very rapidly, and form on even light land excellent wood which would not be discreditably amongst Roses on heavy soils. If these Rose stems be not staked, I find that the longer ones get top-heavy, and in a stiff breeze they will snap at the base; then the growth of the season will be lost.

A rosarian who makes up his mind to adopt this thinning-out system for getting thoroughly ripened wood must also be content with less autumnal bloom than if he allowed his plants to grow anyhow or in a semi-wild state. I noticed recently in one of your contemporaries a very pertinent remark from an experienced rosarian about autumn Rose culture, and which may with advantage be repeated here, that we most usually neglect the precaution of disbudding in the autumn, and those who would be ashamed to see the shoots of their Rose trees interlacing and the buds growing in threes and fours early in the season neglect this care of, and attention to their plants later in the year, with the result of getting inferior blooms and also injuring much of the wood, which is of value for the coming year's bloom.

I acknowledge that I felt the remarks to be generally appropriate, and I have no doubt with the majority this neglect is common, but one reply would be that it is really difficult with some Roses to keep pace with their autumnal bud formation. Such a Rose as my favourite Viscountess Folkestone is distracting in its prolific growth of flower-buds, and as it is not one of the very freest growing kinds, I do not thin it out so freely as is my habit with other varieties.

To sum up the points discussed, I may say that those who grow their Roses on light soils will, if they carefully carry out the instructions available through the garden press, be able to get blooms of high standard from apparently weak wood. That the fact of their neighbours on heavy soil having very big bushes and immense shoots is no superior advantage if good form be the primary object. That if they want a profusion of bloom they should not thin out the autumn growth, but if they consider the ripening of the wood to be of the first importance, they will do so. C. J. GRAHAME.

*Croydon.*

December in the Rose garden.—This is a month when we may reasonably expect severe frosts, and one of the chief precautions to be taken in growing such climbers as *Maréchal Niel* under glass, by simply introducing their long growths to

the greenhouse, is to see that from this time onwards their roots and stems are protected from frost. It will not be wise to leave these uncovered any longer, as if you allow frost to affect them at the most vital parts, especially when they are being somewhat excited at the tops by the heat of the greenhouse, however low the temperature may be, mischief is sure to follow. It is very easy to mulch the ground in which the roots are with some light stable manure; this will afford protection and nourishment at the same time. The stems themselves, at least as much as may be out of doors, should have a few hay-bands wound around them in much the same way that one sees pumps and water pipes protected. It is so unreasonable not to do this, that one might well wonder at any hints being given. But I have more than once seen cases where even such simple and necessary protection was not given. There is not much to be done in the way of actual work among Roses during December and January, except to rough dig any portions of ground where stocks or plants are intended to be planted in the spring, and to prepare sticks ready for tying the shoots to next season. Manure may be wheeled on to the ground during frosty weather and spread among the plants. Of course, where any protection was considered necessary, it has been done before these notes will appear; if not, then lose no more time. In the northern counties and midlands it is well to afford a little protection, but I would warn my readers against giving too much. Some short time ago I gave a few notes upon this subject, and will refer anyone to them who has not already prepared for King Frost. I am aware Roses are harder than the majority of amateurs used to consider, but that is no reason why a little thoughtful protection should not be beneficial. Harm is done when they are over-protected, and thus rendered more susceptible to frosts that come late in the season, and when the sap is on the rise a little more freely than it would have been if the plants had been left unprotected. —R.

## TOO-MUCH-ALIKE ROSES.

MANY of our best varieties have been redistributed under another name a few years after their grand merits had caused them to be extensively grown, with the natural result that the majority of gardens possessed them under the original and true name. The National Rose Society have done their best to check such proceedings by bracketing them together as being synonymous with older varieties, while at the same time they very fairly state that some of them may be different in habit of growth and foliage. At present there are forty names in this list representing only seventeen genuine varieties, two of them having no less than four names, and the same number possessing three each. I do not think this list is quite complete; certainly there are many more which come far too close to be called distinct. Still, on the whole, it is well to be quite sure before placing any of the recent introductions upon this list. Soil and district also have some influence upon Roses.

We will take the varieties that are bracketed together in the National Rose Society's catalogue, viz., Exposition de Brie, Ferdinand de Lesseps, Maurice Bernardin, and Sir Garnet Wolseley. The above is the order in which they are given in the National Rose Society's schedule, but I will now place them in the order in which they were introduced. Maurice Bernardin was sent out by Grainger in 1861; this was followed by Exposition de Brie, by the same raiser, in 1865; Ferdinand de Lesseps was sent out by E. Verdier in 1869, and Sir Garnet Wolseley by Cranston in 1875. This is a very good example of what I allude to when saying that it is the good Roses which get sent out a second and even a fourth time. To my mind the first three are identical in every way, but I do not call Sir Garnet Wolseley so large a flower or quite so good a grower as the three others. It will be noted from the dates of introduction that are given above that there are from four to six years between the sending out of each. It is certainly very peculiar that the three first (which are un-



doubtedly synonymous) should have been sent out at intervals of four years.

Then, again, I will take the other instance of four synonyms that are bracketed by the National Rose Society, with a parenthetical remark that this variety might well have five. The National Rose Society gives it *Alba rosea*, Josephine Malton, Mme. Bravy and Mme. de Sertot, but if the best foreign Rose list is to be depended upon, it was known previously as *Danzile*. Later on it was sent out by Guillot as Mme. Bravy in 1848, by Pernet as Mme. de Sertot in 1859, by Lartey as *Alba rosea* in 1862, and later still as Josephine Malton. I do not know the introducer of it by the last name, but believe it was sent out in 1870 or 1871, that being about the date it first came under my notice. I think we may take it that both Mme. Bravy and Maurice Bernardin are among the very best of their respective classes, and hence the inducement to send them out among other new (?) varieties. The whole list might be gone through in the same manner and would yield very similar results.

In the schedule for 1892 the National Rose Society have not got Duke of Wellington and Rosieriste Jacobs among their synonymous Roses, but on reference to the supplement of their catalogue published in 1890, I find these two varieties are bracketed. I presume it was an oversight its not getting put into their schedules as such during the following years, otherwise it is not very consistent, seeing they have added others of the new synonymous Roses which were decided upon as such when drawing up this supplement to their very interesting and remarkably accurate catalogue. A new catalogue is being drawn up now, and when the new schedules are prepared I trust this omission will be rectified.

All of the bracketed Roses are very similar in all ways, if not identical with one another. There are also many Roses that as a general rule are quite distinct, but from which it is often possible to cut blooms that would puzzle anyone to decide as to which variety they really belonged. Thomas Mills and General Jacqueminot may be given as examples. Ordinarily these two varieties are very distinct, but one may often select a deep-coloured Thomas Mills that would seem identical with a pale or light-coloured General Jacqueminot. Yet as a general rule they are quite different, General Jacqueminot having a deep velvety shade and most exquisite scent, neither of which is found in Thomas Mills. General Jacqueminot also flowers far more freely than Thomas Mills, and is in every way far superior to it.

Mabel Morrison and White Baroness are not bracketed, but I would like to be sure of the difference. Mme. Bérard and Beauté de l'Europe I have grown side by side, both indoors and out, and fail to distinguish the slightest difference. Of those that are very changeable in colour, such as W. A. Richardson, Jean Ducher, Anna Ollivier, Mme. Lambard, &c., it is often easy to cut blooms from them (and at the same time) which would seem distinct varieties. One may cut blooms of three or four different colours from these, and in some instances they would seem more like another variety. Anna Ollivier, for example, often produces a flower that would pass as Mme. Hoste, while at the same time there are blooms on the plant that are as distinct as it is possible for two Roses to be.

The following is a list of Roses not mentioned by the National Rose Society, and which are very much alike, if not identical in my soil, although they may come distinct with other growers: America and Isabella Sprunt, Mme. Dennis and Marie Opoix, Mme. Bérard and Beauté de l'Europe, Rêve d'Or and Tour Bertrand, Reine du Midi, La Reine and Reine des Français. While this further list may often be had alike when growing on different soils: Mrs. Baker and Countess of Oxford, Paul's Reynolds Hole and Sultan of Zanzibar, Mme. Rival and Auguste Mie, and occasionally Auguste Rigotard and Dupuy Jamain. Then, again, Roses have their peculiarities. I cannot grow Dr. Andry in my present ground nearly so

fine as in a former soil. Nor can I grow Countess of Oxford, Senateur Vaisse, Marquise de Castellane, Jean Pernet, and Rubens with such heavy blooms as formerly. R.

## ORCHIDS.

### LÆLIA ANCEPS ALBA.

I HAVE during the last month received a lot of inquiries from readers of THE GARDEN as to why these plants do not flower. They grow well enough, most people say, but they do not show any disposition to bloom. I am afraid these white varieties are not sufficiently cared for during their growing season. They are kept in too low a temperature for one thing, and this is the principal cause why failure comes in, I think. The white varieties are found in warmer places in Mexico, more on the Pacific side of the country; they therefore require a greater amount of heat to grow them sufficiently strong to induce them to throw up their spikes. They will bear all the exposure to the sun it is possible to give them, always bearing in mind that the plants are under glass; consequently, shading must be resorted to to prevent them from burning when the sun is very strong. A fine lot of these plants was showing the flower-spikes when last I was at St. Albans. One or two readers have sent in some flowers for names, so that I must necessarily say something about these now. Taking the three flowers from "C. C.," No. 1 is *L. a. Hilliana*, a plant that has been known and introduced for some years. It is a compact-growing plant, and a variety that has now become established. I frequently see it about in collections. In its growth it more resembles the typical plant than do many of the white forms. The flower now before me measures about 4 inches across; the sepals and petals are white, the lip white stained with blush, the throat yellow, with forked lines on the side lobes. No. 2 is *Stella*, a variety which has also been introduced for some years. It is a much stronger grower than the typical plant. The flowers now before me are thick and waxy in texture, and measure nearly 5 inches across. They are of the purest white, saving the throat and disc of the lip, which are golden yellow, the side lobes being marked with deep purple lines. From "G. B." also come some flowers of the white varieties, No. 1 being the very beautiful kind known by the name of *Percivaliana*, one of the earliest of the white forms after Dawsoni, a superb variety introduced by the Messrs. Low, of Clapton, and the first white form known. The true Dawsoni is at the present time exceedingly rare, and many of the white kinds are from time to time offered under this name.

*Percivaliana* resembles the typical plant in its growth, the flowers being between 4 inches and 5 inches across, the sepals and petals white suffused with a shade of soft rosy-blush; the lip has the tips of the side lobes recurved, the margins marked with deep rich purple with a few spots or dots of the same colour on the lower margin, the upper part of the central lobe also deep purple, the disc creamy-white, the throat pale yellow streaked with crimson. No. 2 is *Stella*, already named, and No. 3 is *alba*, having no marks of colour upon the lip whatever. George Methven sends a flower which he says is a splendid variety, and asks if it is not *Schroederiana*. It is only a somewhat inferior form of *Stella*, but it is not one whit the less beautiful. The last which I here wish to draw attention to is the rare and beautiful variety known as *Williamsi*, sent by David

McCullum. This is the first time it has flowered with him, though not giving it warmth enough during the growing season, I have little doubt. It is compact in growth, much resembling the type species in its habit and build, but of a less decided shade of green, the flowers being of good size, not above the average, pure white saving the throat, which is yellow streaked with reddish purple on the side lobes of the lip on the inside. WM. HUGH GOWER.

**Cattleya Warocqueana.**—From Mr. Appleton come some fine varieties of this beautiful *Cattleya*. No. 1 is a very fine form, much resembling *C. labiata* *Pescatorei*. No. 2 is also a fine flower with a great deal of white around the upper part of the lip, but it is quite past its best. Nos. 4 and 5 are ordinary forms of the same variety, but No. 3 I look upon as quite distinct from any of the above. It is distinct both in shape and colour. Does its appearance as a plant lead to any marked difference? The sepals are plain at the edges, the petals larger, waved at the edges, both being rosy purple, side lobes of the same colour as the petals, front lobe beautifully frilled and undulated; the front having a large blotch of bright rosy crimson, marked with broad radiating lines of rich velvety magenta, leaving a broad marginal border of rosy lilac; the throat is marked with lines of orange-yellow. This belongs to the *C. labiata* section, although very distinct in its colours and shape.—W. H. G.

From Brussels I have received numerous beautiful flowers of this variety of *C. labiata* from M. Linden, and he says he has enclosed with them a form of the old true *labiata*, but I fail to find it. There are certainly two flowers which very much resemble M. Pescatore's variety of *labiata*, but I fail to find Lindley's true plant in either of the flowers. The flowers sent without exception are very fine.—W. H. G.

**Koellensteinia graminea.**—"J. H." sends me a leaf and spike of this, asking if it is a *Cymbidium*, and saying it is a very elegant, though not a very showy Orchid. The latter statement I quite agree with, and I am glad to find these very pretty Orchids again finding favour with growers. The flowers are almost campanulate, the sepals and petals nearly equal, less than 1 inch across, white tinged with straw colour, the basal half marked with narrow transverse bands of reddish brown. The lip is creamy white, having a few reddish streaks on the disc. The plant was found in Guiana by Schomburgk nearly sixty years ago.—W. H. G.

### SHORT NOTES.—ORCHIDS.

**Dendrobium nobile nobiliss.**—John Bennett sends a flower of this variety asking if it is true. I should not think there is the slightest doubt about the name. It is a magnificent plant, but I am surprised to have the flower so soon, or so late in the season. The flower sent for D. Leechiaum was too crushed to identify.—W. H. G.

**Cymbidium sinense.**—This is a fine old plant. The flower has a lovely perfume, although it is dull-coloured. This old plant has now been introduced to this country 100 years, and it has been set on one side by most growers on account of its want of showy flowers. The plant is now flowering in Mr. Sander's nursery, where its perfume is highly appreciated.—W. H. G.

**Oncidium crispum.**—A very good form of this comes from Mr. Appleton. This is marked No. 1, but the flowers marked 2 and 3 are, I think, those of the variety *O. praeclatum*, known as *proclorum*. Your *O. Forbesi* are also very fine. A very richly coloured dark flower of this species came to hand recently from Mr. Cypher, of Cheltenham. It was perhaps the finest which has come under my notice.—W. H. G.

**Cattleya speciosissima.**—John Edwards sends me a fine flower of this variety. It is very large, measuring upwards of 8 inches across; but a much finer-coloured one came to me from Mr. Hardy, Timperley Lodge, Cheshire, last season. I do not think that the lip will become of a deeper or richer colour.—W. H. G.



## EDGE HALL.

EDGE HALL has no family history. The family of Dod, which has owned the estate at least ever since the days of Saxon kings, claims descent from Hwfa Dot, supposed to have been the grandson of Edwin Dot, who at the time of the Norman Conquest was lord of sixteen manors, from all of which he was ejected, except part of Edge, to make room for the new comers, and the estate dwindled to its present modest dimensions of 1000 acres. During twice fourteen generations only two of the direct male line, which became extinct in 1827, appear to have attained distinction, one (Sir Anthony) having been knighted on the field of Agincourt, and another (Sir Edward) having been Baron of the Exchequer of Chester in the reign of James

or family mysteries which would justify the tenancy of a ghost. Hence it happens that, greatly no doubt to the credit of so long an ownership, the past history of the house is an uninteresting blank.

The surroundings of Edge Hall are rural in the extreme. A mile to the east the well-wooded and well-heathered range of the Broxton Hills give ornamental shelter, whilst from the south-west to the north-west the horizon is formed by Welsh mountain ranges, some of the points being forty miles distant, and affording by their visibility most unerring forecasts of weather. A sunk fence of sandstone, easily jumped by a fox or a hare, and in other parts a line of movable hurdles, well wired against rabbits, separate 3 acres for house and garden from the surrounding grass fields and from a small park

large breadths of *Polygonum cuspidatum*, which has been successfully planted to supersede Nettles. Overhead is abundance of Hawthorn, Crab, and wild Cherry. Wild birds of all kinds, including hawks and herons, are welcomed, and consequently abound; jays and rooks, cornercrakes and moorhens, wood pigeons, stock-doves and turtle-doves, woodpeckers, peewits, cuckoos, and tawny owls, to say nothing of smaller songsters, are some of them delightfully noisy round the house day and night, summer and winter. To pass on to quadrupeds, twenty-one foxes were counted the first time the hounds visited Edge this season; squirrels abound, so that not a nut, wild or tame, is ever left to form a kernel, and short-tailed field mice would soon grow into a plague if weasels were not encouraged to follow them



Edge Hall, Malpas, Cheshire. Engraved for THE GARDEN from a photograph sent by Rev. C. Wolley Dod.

the First. This last was probably the builder of the older part of the present hall, which, from certain evidence afforded by the wainscoting and flooring, is referred by experts to the first or second decade of the seventeenth century. A large and elaborately carved oak chest in the entrance hall bears the inscription E.D. 1612 inlaid on the lid; another is marked 1614; whilst the dinner-bell, a later addition, has the date 1666 cast upon it. There is no trace of an older house on the present moated site, and it is said that the hall anciently stood a mile away on a spot still marked by a mound and a dried-up moat. But neither the ancient hall, wherever it stood, nor the present building, with its thick hollow walls and obsolete dcors in the wainscoting, leading to nowhere and affording a tempting habitation to ghosts, appears to have had any legend of murders

of 80 acres, evergreen except in snow, all the land being well timbered with Oaks about three centuries old. About 200 yards from the house the sand rock comes through, forming a long terrace with an escarpment—or scar, as it is locally called—towards the west. This edge, or “egge,” gave the name to the township. As there is no main road within half a mile, the approaches to the hall are by lanes, not easy for strangers to find. The park is bounded by a deep dingle with steep sides, covered with wood for a length of a mile. At the bottom runs a small brook full of trout; this turns a turbine for the house supply and fills a large and ornamental mill-pond of 4 acres. The woods in spring are carpeted first with Primroses and wood Anemones, then with wild Hyacinths and pink Campion, whilst later there is a tall growth of *Campanula latifolia* and

in their migrations and warn them constantly to move on. There is also a flourishing colony of badgers, which came ten years ago from their old home at Broxton—that is, “the town of badgers,” where they had been persecuted. They are too nocturnal to be seen often, but they dig up and eat many wasps’ nests in summer and leave many tracks of their wanderings in the snow a mile from their burrows. Cats are strongly discouraged; they neglect their legitimate pursuits, and prefer to destroy fly-catchers and water wag-tails on their nests.

The garden of Edge has so often been described, that little need be said of it here. The hall stands on the side of a hollow watercourse worn in the stiff clay, which in Cheshire often lies over the sand rock. Down this watercourse runs a torrent in heavy rains, but it is quite dry in summer, unless dammed



up. On the sloping banks of this, close above the house, there formerly stood ranges of cow-houses and pig-styes, which drained into a stagnant pond in the bed of the watercourse within twenty yards of the bedroom windows. No better arrangements for poisoning the pumps and polluting the air could easily have been invented. This hollow was formerly known as the Broad Lake, and until the moat was emptied a century ago had been used as a reservoir to fill it. Perhaps this partly accounts for the record, which appears, from the pedigrees of the family, that a very large proportion of the younger members used to die before reaching their teens.

This Broad Lake retains its name, which will perhaps puzzle posterity. Twenty-five years ago it was drained, and the watercourse confined within a covered culvert; all source of pollution has been cleared away from the slopes above the hall and the old farmyard levelled. The whole space is now covered all summer with a dense forest of herbaceous plants—every ornamental kind which will thrive in the cold and damp soil on which the house stands being cultivated there. As for the rest of the garden and the many little rockeries on which choice alpine get unremitting attention, enough information about them has from time to time been given both by the owner and his visitors.

## STOVE AND GREENHOUSE.

### GREENHOUSE FLOWERING PLANTS IN AUTUMN.

A GREAT many plants, such as Fuchsias, Pelargoniums, Petunias, and various other subjects that are commonly employed for the decoration of the greenhouse throughout the summer months, lose their beauty by the time autumn sets in, when the Chrysanthemum season begins in earnest, and owing to the number of these latter that are now grown, many pretty autumn-flowering subjects are not seen so frequently as would otherwise be the case. The choice of autumn-flowering plants for the greenhouse exclusive of Chrysanthemums is not particularly limited, as the following list of subjects noted in flower within the last few days will show:—

**SALVIAS.**—The pretty little *Salvia coccinea* has been in flower some time, and is still bright and cheerful, but the showiest display of all the greenhouse Sages at this time of the year is furnished by the compact form of *Salvia splendens* known as *compacta*, which is, I fancy, the same as that sent here from the Continent a few years since under the varietal name of *Bruanti*. This variety is characterised by a more compact habit than the old *Salvia splendens*, and as every shoot bears a profusion of bloom, a thriving plant is, owing to its free flowering character, quite a mass of glowing scarlet blossoms. The genus *Salvia* is an extensive one, but among the showiest next to those just mentioned is a form of *S. splendens* known as *M. Issanchou*, in which the flower and large calyx are both striped with white, which gives to a plant a somewhat singular appearance, though to my mind less pleasing than the self-coloured blossoms. *Salvia Bethelli*, which is apparently a form of *S. involucreata*, produces numerous flowers of a rosy crimson colour. Before the blossoms open they form quite a roundish knob at the points of the shoots, and being surrounded by large bright-col-

oured bracts, they are even then very noticeable. *S. azurea grandiflora*, which about ten years ago attracted a large amount of attention under the name of *S. Pitcheri*, has long slender spikes of beautiful blue blossoms, a tint that is but little represented among greenhouse plants. The small, but bright red flowers of *S. rutilans* are also freely borne, while a notable feature of this Sage is the fact that if the foliage is slightly agitated, it has just the fragrance of ripe Apples, but if bruised it is not so agreeable. *S. leucantha* is much less showy than the others, but its curious woolly spikes of mauve and white blossoms will be sure to arrest attention.

**CANNAS.**—Few classes of plants have so rapidly advanced in popularity as the dwarf large-flowered class of Cannas, which originated with *M. Crozy aîné*, of Lyons, in France. True, their flowering period is by no means limited to the autumn months, but it is at this season that they are more particularly noticeable, and in the greenhouse their bright-coloured blossoms serve as well as those of the *Salvia* to supply a colour wanting among Chrysanthemums, numerous as they are. In any selection of these Cannas, *Mme. Crozy* must have a place assigned it, for the blooms are large, with fine broad petals of a rich scarlet colour, edged with a narrow, but clearly defined band of gold. It is a green-leaved form, but some of this class have in addition to their showy blossoms richly-tinted foliage. When treated liberally these Cannas soon form good-sized masses, and in this way the same plants will bloom for months together, new shoots and fresh flowers being continuously produced. The individual blooms do not remain long in perfection, but still a succession is kept up for a considerable period from the same panicle, as the laterals develop after the expansion of the earlier blossoms, so that the spikes should not be cut off till it is ascertained that all the flowers are over.

**ABUTILONS.**—The Abutilons that we have now in cultivation are much dwarfer, brighter-coloured, and bloom with greater freedom than was formerly the case, so that now plants that will yield a considerable number of blossoms may be grown in pots 5 inches or 6 inches in diameter. In the various catalogues a very long list of garden varieties of Abutilon is to be met with, but there is really not a very wide range in colour, so that a dozen varieties will, as a rule, be sufficient for all ordinary purposes. Though *Boule de Neige* is one of the oldest of this class, it still remains the best white-flowered variety that we have. Many of these Abutilons are almost perpetual flowering, for they will bloom throughout the summer, and given a somewhat higher temperature than an ordinary greenhouse they will flower during the entire winter months.

**VALLOTA PURPUREA.**—This showy Cape bulb blooms, as a rule, during the early part of the autumn, but still examples of it may often be had in flower up to November.

**NERINES** are another class of beautiful flowering bulbous plants whose merits are too often overlooked.

**ACACIA PLATYPTERA**, as the harbinger of the Acacia season, is also noteworthy, while not only are the golden blossoms very pretty, but the curiously winged stems cause it to be most conspicuous among the other members of the genus, even if it is out of flower. A thriving plant of this will bloom for two or three months during the dull period of the year.

**LILIUM NEILGHERRENSE.**—The Lily season may be said to commence with *Lilium Harrisii*, which, when forced, can be had in bloom during the first months of the year; while it closes with *L. neilgherrense*, which in the greenhouse will flower from the latter part of September till nearly Christmas. Of course, this does not refer to a single plant, but where a quantity is grown, the flowering season usually extends over the period just named. The blossoms are of a primrose hue, though occasionally some individuals are deeper tinted, and others, again, almost white. The flowers are thick in texture, and in the greenhouse will remain in perfection for a fortnight or more.

A good many of this Lily are sent here every year, and the first season they flower beautifully, but, as a rule, not so well afterwards. In the case of imported bulbs, which usually reach this country about Christmas, they should be potted as soon as possible and kept in the greenhouse. They are late in starting into growth, for many of them will not appear above ground till May. When all danger from frost is over, they may be stood out of doors and allowed to remain there till the flower-buds show, when the plants must be again taken into the greenhouse.

**LASIANDBA MACRANTHA** and its variety *floribunda* will bloom in a greenhouse temperature in a far more satisfactory manner than is generally supposed. The typical species, from its rambling habit, is well suited either as a wall, pillar or roof plant in the greenhouse, where just at this season its rich purple blossoms will be much admired, though in the case of a flourishing specimen, its period of blooming is by no means limited to the autumn months.

**CHOROZEMAS.**—The earliest blossoms of some of these are just expanding, and a few plants will for six months or nearly so keep up a supply of bloom. The variety *Lowi* is the newest and one of the best, the flowers being very richly coloured. A spray or two of this forms a very pretty button-hole flower, quite distinct from most plants employed for such a purpose.

**GREVILLEA THELEMANNIANA.**—This is another New Holland plant that flowers from now onwards, and it must be regarded as one of the prettiest of the Grevilleas. This species needs to be pinched freely in a young state to ensure a bushy plant, when it forms a graceful specimen clothed with bright green Southernwood-like leaves. The flower-clusters, which are borne on the points of the shoots, are drooping and consist of a great number of blossoms. The individual blooms are of that curved shape common to most Grevilleas and reddish in colour, while the long protruding style, which is such a notable feature of the inflorescence, is bright red.

**WITSENIA CORYMBOSA**, a pretty little Iris-like plant, but of a shrubby character, produces its charming blue blossoms at this season of the year.

**VERONICAS.**—In a cool house a few of the best Veronicas are of great service, as they will flower well throughout the winter in a temperature lower than that needed for most greenhouse plants.

**TECOMA CAPENSIS** grown in the shape of small plants is about September or October very bright and showy.

**CASSIA CORYMBOSA.**—This old-fashioned subject will, if planted out during the summer, flower profusely till checked by the frost, and in the greenhouse it will often continue till well on into the autumn. Its somewhat rambling habit fits it for use as a pillar plant, while if pruned back hard after flowering it may be kept in bush form.

**SCHIZOSTYLIS COCCINEA.**—The bright Gladiolus-like spikes of blossom render this a very conspicuous object when at its best, but where it can be planted out it is seen to far greater advantage than when grown in pots.

**BOUVARDIAS.**—Included in the garden varieties of Bouvardias are some of the most beautiful greenhouse plants we have for autumn and winter blooming, and especially valuable where cut flowers are required. The varieties now in cultivation are numerous, but in making a selection, one or two kinds especially must have a place assigned them. They are *President Cleveland*, whose bright-coloured blossoms are borne in the greatest freedom, and *Humboldtii corymbiflora*, notable from the fact that its large pure white flowers are most agreeably scented. A small bright scarlet-flowered kind grown by Mr. Cannell under the name of *Scarlet Prince* is very telling. It may be one of the original species or a seedling therefrom, perhaps from *B. leintha*.

**LUCULIA GRATISSIMA** is usually seen at its best towards the latter part of the autumn, and so showy are its large Hydrangea-like heads of sweet-scented blossoms, that it would doubtless be more



often met with if it was rather less particular in its requirements. It should be planted out under much the same conditions as a *Camellia*.

**GERBERA JAMESONI.**—This South African Composite forms a bright and showy object in the greenhouse during the autumn, for though the flowering season is by no means limited to that particular period of the year, it may be safely included among plants that bloom at the present time. It forms a rosette of dark green leaves a foot or nearly so in length, while the flowers, which are borne on long clear stems, are as much as 4 inches in diameter. They are of the single *Chrysanthemum* or *Marigold* character, while each ray floret stands clear of its neighbour. The colour of the flower is a bright glowing scarlet of quite a distinct hue, and this causes it to be particularly noticeable when associated with other plants. It is fairly hardy in a sheltered spot, and is just suited for ordinary greenhouse treatment.

**TRACHELIUM CÆRULEUM** is more often seen outdoors than in the greenhouse, though for autumn flowering under glass it is very useful. It forms a branching specimen from 18 inches to 2 feet high, each shoot being terminated by a large head of small pale blue flowers. In the greenhouse a group of this *Trachelium* forms a very pretty feature, while it flowers for a considerable time, as after the principal heads of blossoms are over, axillary ones are often produced.

**PRIMULA OBCONICA** AND **P. FLORIBUNDA** are two pretty members of the Primrose family, the former being by far the more generally cultivated. It may be regarded as perpetual blooming, for it is rarely without flowers, which are of a kind of deep mauve tint. Ordinary greenhouse treatment will suit it perfectly, and even under the baneful influence of London fogs it suffers less than many subjects. On the other hand, the second mentioned species—*floribunda*—will frequently perish during the winter if in a smoke-laden atmosphere. The blooms of this are small, but of a bright golden colour, which renders it very attractive when in flower.

**EUPATORIUMS.**—Of the members of this genus *E. riparium* and *E. odoratissimum* are commonly employed for autumn and winter blooming, but there is also a third species, perhaps the prettiest of all, and certainly equal to any of the others. This is *E. probum*, a bushy growing plant with heart-shaped leaves and great profusion of blossoms, which are borne in flattened corymbs 4 inches or so across. Each flower or rather flower-head is about three-quarters of an inch in diameter, and at a little distance not unlike a double Pink. The *Eupatoriums* are all popular by reason of their simple cultural requirements, especially where cut flowers are in demand, as there is a good deal of the cut-and-come-again about them.

**EPIPHYLLUMS.**—These succulent plants are very pretty when in bloom, while, what is more, in the warmest part of the greenhouse they can be depended upon to flower freely. They are seen to very great advantage when treated as basket plants, as then the blooms are brought more fully under notice than is the case when the plants are confined in pots.

**SPARMANNIA AFRICANA.**—This old greenhouse shrub is not only wonderfully pretty when in bloom, but it is also very distinct from anything else. It is a free-growing plant that will seldom flower in a satisfactory manner till it is 5 feet or 6 feet high. The flowers, which are borne in good-sized terminal clusters, have pure white petals, while the brush-like mass of long protruding stamens is of a bright orange-red colour, and presents a marked contrast to the rest of the flower.

**ECHEVERIA RETUSA.**—Not only does this bloom in the autumn, but often throughout the winter, and I have frequently noted it on the stands in Covent Garden Market at that season. The blooms, which are red and yellow, are much showier than those of most *Echeverias*. It is of very easy culture.

**PLUMBAGO CAPENSIS.**—Though it has been in flower since the early part of the summer, this

*Plumbago* is still in bloom, and the beautiful little blossoms are as popular as ever.

**RHODODENDRONS.**—The various tube-flowered *Rhododendrons* flower freely during the autumn months, but in their case the best results are obtained when they are kept at this season in a temperature rather above that of an ordinary greenhouse, though this difficulty may be often overcome by keeping them at the warmest end of the structure. It is not, however, absolutely necessary even to do this, for I have a bush of the pink *Princess Royal* which up to October 20 had been in a house without any fire-heat whatever, and it has flowered and is still flowering freely, but the blossoms are not so brightly coloured as those on a plant which is in a somewhat warmer structure. The different *Rhododendrons* of this class must certainly be included among the very best of autumn-flowering plants for the greenhouse.

There are many other subjects available for blooming at this season, but enough has been mentioned to show that outside of those commonly met with there are many others that merit extended cultivation and tend to relieve the monotony that too often exists in our greenhouses.

H. P.

#### LAPAGERIAS.

THE culture of *Lapagerias* is better understood than a few years ago, but, judging from what has come under my observation, the simple needs of these glorious climbers do not in all cases appear to be fully realised. A mistake frequently made is that of giving them too much artificial warmth. I have seen some few plants both in pots and planted out; these were kept through the winter in an average temperature of 55°, but not one of them looked thoroughly happy. *Lapagerias* are like *Camellias*, cool house *Orchids*, and many other things; the rich healthy leaf tint natural to them soon disappears if a certain temperature is exceeded during the winter months. They are indeed so hardy, that in all but exceptionally cold winters I am convinced they will come through as well without artificial heat as with it. I have a plant in a large pot which for some years has stood at the east end of a lean-to house. As all know, last winter was marked by periods of severe frost, and during one of these the heating apparatus gave way, so that the soil in the pot was frozen as hard as a brick and remained thus for quite a week. Not a leaf was injured; even the young shoots that are annually pushed up from the crowns, and which were then quite succulent, sustained no damage. The plant is now in perfect health, bearing a quantity of well-developed blooms and having a number of unexpanded buds. When any plant sustains such hard freezing with undiminished vigour, it is worse than useless to give it much artificial warmth in the winter season unless except in the case of such things as have to be forced into bloom. I have heard of *Lapagerias* being successfully grown in the full sun, but my experience of them is that the foliage loses the rich green natural to it under the influence of bright sunshine, and that there is considerable danger of the older leaves dropping prematurely. I do not know how long the leaves remain green under favourable conditions, but several years at least, so that if they drop within a year or two after formation, it is a sign that the atmosphere has been too dry. The first *Lapageria* I had did not thrive well for several years. Every summer many of the leaves turned brown and dropped, and the young growths from the crown withered at their points. I was much puzzled to account for this, as every year the plant broke freely from the old wood, and the young growths pushed up strongly from the base. A canvas blind, however, appeared to afford the necessary amount of shade. At length it occurred to me that the injury was done in the early part of the morning. The east end of the house was not shaded, and the sun shone fully on the plant up to 10 o'clock, and in June and July the power of the sun is often great at that early period of the day. As soon as I

shaded the end of the house the discoloration of the foliage ceased, and from that time the plant did remarkably well. *Lapagerias* are of course seen at their best when they have a free root run in suitable soil, and in the case of houses of tolerably large dimensions, this is the most satisfactory way of growing them. The greatest care must be taken in the formation of the border, especially as regards ensuring perfect drainage. The fleshy roots so quickly suffer from stagnant moisture, that unless there is a free outlet for water the health of the plant is certain at some time to suffer. For a bed of soil say 2 feet in depth there should be 6 inches of drainage. This is by no means excessive, and will allow of copious waterings in the growing season without danger of souring the soil. Good peat with a little leaf-mould, a sprinkling of fibrous loam, with a liberal addition of coarse silver sand is, I consider, the best compost that can be employed. Some crushed charcoal may also be added as giving additional security against stagnation. There is, I think, no better time for planting than the present. The young growths that annually push up from the base are beginning to appear, and if these come into full growth they are liable to sustain a check in planting. In the case of plants that have become root-bound it is indispensable that the compost be made very firm round the old ball, otherwise there is much danger of the old soil getting dry, and when this is the case there is some difficulty in getting it thoroughly moistened again. For this reason I do not consider it advisable to employ large specimens, especially if they have not been potted for some time. The roots form a thick mat through which water does not so easily penetrate. Neither is it advisable to use small plants, as there is some danger of the soil becoming close and sour before the roots have taken possession of it.

Although there is no comparison in the growth of plants that can enjoy a free root-run in good soil and those that are confined in pots, a very fair amount of success can be had by pot culture. I have a plant in a 12-inch pot that has had no fresh soil for five years. This season it gave more blooms than in any previous year, and the foliage has the rich green hue that indicates good health. Naturally with plants in such a root-bound state high feeding is indispensable to keep the old leaves in good condition and to encourage a certain amount of growth annually. During the growing season I top-dress about once a month with concentrated manure, and this with abundance of moisture in hot weather promotes a free growth. Frequent syringings are necessary both as a means of creating atmospheric moisture and keeping off red spider, which is sure to come when the air remains for days in an arid condition. Slugs are apt to be very destructive to the young growths that push from the base. It is a good plan to lay some Cabbage leaves about round the plants through the winter and examine them late in the evening, or, better still, small heaps of bran. On mild evenings the slugs will come out to feed, and most of them will be caught by the time growth is being actively made.

J. C.

*By Reflect.*

**Clerodendron fallax from seed.**—It is doubtful if for autumn decoration there is a showier warm house plant than the one under notice, more especially when we come to think of the ready way of obtaining good plants by sowing seed in the spring. The value of this *Clerodendron* was brought to my notice in a marked degree by some fine plants I saw growing in 4½-inch pots in a warm house at Canford Manor in November. These plants many of them had heads of bloom from 12 inches to 18 inches across, and I was told these had been raised from seed sown on May 25 last.—J. C. F.

**The yellow Callas.**—I am somewhat curious to know if anyone has yet flowered the yellow variety (*C. Elliottiana*) which was distributed last spring. It was shown twice previously by the raiser in good form, but I have not seen any note



of the offspring flowering. If it proves to be free in this respect, it should be a valuable plant. Then there are the two other yellow ones; that shown early this year under the name of *C. Pentlandiana*, which has spathe of an extremely rich shade of yellow, and the still later hybrid, *C. aurata*, which has yet to be seen in public in this country. These yellow Callas, it is hoped, will all prove to be valuable decorative plants and worthy companions of the white one.—H. A.

—We should before long possess quite a number of different yellow-flowered Callas, for besides *C. Elliotti* and *C. Pentlandiana*, which we have seen, a third is announced for distribution under the name of *Richardia aurata*, and alluded to in *THE GARDEN* (page 529) by Mr. Gumbleton. Still, the list is not finished, for another, described as “a new golden-flowered Calla from Africa provisionally named the Pride of the Congo,” was disposed of by Messrs. Protheroe and Morris on December 14. In announcing the sale they say:—

Sender writes, “On returning from Lake Nyanza, after experiencing many hardships and dangers from the natives and wild beasts, I discovered a magnificent golden yellow Lily growing in swamps with *Nymphaeas* and various other water plants, samples of the different varieties I am sending. A diligent search was made by the men under my charge, with the result of finding about 200 plants in all. You will find the tubers are quite distinct from the ordinary Lily of the Nile. I have never seen anything like it. No doubt this will be found a grand addition to the genus.”

Time alone will prove whether this last sentence is justified or not; at all events, there was a brisk demand for the tubers, which realised from about 12s. to 15s. each. In appearance the tubers were very like those of *Richardia albo-maculata* and *R. hastata*, that is, in shape a good deal resembling those of a tuberous *Begonia*, with the bud from whence the future growth will spring scarcely discernible. The tubers were so decidedly dormant, that it is evidently a summer bloomer and totally deciduous. On the other hand, some that were sold quite early in the autumn at the auction rooms described as *Calla nilotica* (gold, white and red varieties) were just like those of the common Nile Lily, and they may turn out to be nothing more.—H. P.

### THE DUMB CANES, OR DIEFFENBACHIAS.

THE name of Dumb Cane is usually applied to *D. seguine*, but others also may be very well included under the same definition. I recollect now some years ago the singular effect produced upon a retriever dog. Like all young animals of its species, it was extremely fond of biting anything it set its eyes upon. This young dog happened to be shut in the potting shed when I was cutting down a specimen of *D. picta*, a variety then grown largely for exhibition. Those parts of the bare stems which I did not require were thrown aside to go to the rubbish heap. Meanwhile the dog, however, took a fancy to them; he took the pieces up in his mouth, gave them a smart bite, and then dropped them. This he did several times, in the interval shaking his head vigorously as if to get rid of something. After a time he got tired of the amusement, his tongue, lips, and gums, as a matter of course, swelling and causing no little irritation. It passed off, however, without any further consequences. Since then I knew a young gardener who incautiously bit a piece of the stem of the same species, not thinking probably that he would pay rather deeply for his temerity. This he did to a rather alarming extent—so at least he thought at the time; for about twenty-four hours he could hardly eat or drink anything, his tongue swelling to a serious degree.

The sap, even without biting the cane or stem, is quite sufficient to take effect. Where these *Dieffenbachias* are grown it is therefore highly essential to be on the guard against any possible contingency. Do not run any risk even with the shabby leaves; let these and other parts of the stems be taken to the stovehole at once and be burned. When due caution is thus taken there is not the slightest danger. When the old plants are cut down it is just as well to clean the knife afterwards to be on the safe side.

**CULTURE.**—These Aroids cannot in any sense be deemed difficult plants to grow; in fact, they are often disposed to grow too luxuriantly. This can, in a measure, be guarded against by not overpotting them; whilst, further, the soil need not be a rich one. I have grown them well enough for any purpose in turfy loam, leaf soil and sand, potting fairly firm. Water they will take whilst growing to almost any extent, and when pot-bound, rather than shift again the same season, an occasional dose of manure water will answer very well. As growth ceases in the autumn, it is best to keep the plants fairly dry at the roots, not sufficiently so, however, to cause them to lose their foliage prematurely. When cutting down is necessary, it should be done in the spring; it is hardly ever advisable to retain the old stools after the eyes taken from cutting up are seen to be well started into growth. If specimens are essential, then, of course, keep the old stools when they are healthy ones. For a week or two before cutting them down, the watering must be entirely dispensed with; the drier they are at the root when that operation is performed, the better will be the after-growth, for bleeding frequently sets in if there is much moisture in the soil (and sap consequently in proportion). When old plants are kept, the cuts should be made in a slanting manner with a notch on the wound crosswise to assist in the healing by keeping it drier. Until the wounds are healed and fresh growth is on the move, no water at all should be given. The tops can be struck easily enough in a moderately close atmosphere; it is better, however, not to retain too many leaves on them, so as to exhaust their vitality before root-action commences. The stems themselves can be cut up into eyes, as with *Dracenas*, inserting them in all sand and placing in a brisk heat. For decorative plants, the single-stem plant is much the best, whether it be a smaller one for the table or one of extra size for vases. Green-fly is about the most troublesome thing in the insect line; hardly any other of the several plant pests will attack them. The warm stove is much the best place for them at this season, but a house which at night does at times drop to 55° will winter them safely. In the summer they may be used safely enough in the house, particularly as large vase plants. They look very ornamental either upon the ground level, where they can be looked down upon, or when elevated, so that one can see beneath their handsome foliage, which at night, with lights above the plants, looks as if it were punctured with small irregular holes, the white blotches being so transparent. Small plants of the smaller kinds make a pleasing change for the dinner-table.

**VARIETIES.**—Formerly *D. picta* used to be more grown than any other kind; this, however, must now give place to better varieties. The best of these are *D. Bausei* (a garden hybrid) of moderate growth, the leaves yellowish-green, freely spotted with white, and margined with dark green. *D. Weiri* is the best of the dwarf kinds, with very compact growth, the foliage of a bright green colour, blotched and spotted profusely with pale yellow. *D. Weiri* *superba* is an improved form of the species, being in many respects preferable to it. *D. Baraquiniana* is an old variety, but still a fine one; the foot-stalks of the leaves are its markedly distinct feature; these are of the clearest ivory-white; the leaves themselves are green with minute spots of white. *D. Reginae* is in my opinion one of the handsomest of all; its growth is robust; the foliage around the margin only is of a deep

green with occasional blotches here and there; the rest and by far the greater portion is of a greenish-white. The leaves of *D. nobilis* are of a rich deep green colour, freely blotched and spotted in a transverse manner with white except towards the edges. *D. Rex* is one of the strongest growers, making a fine specimen, the colour of the leaves a bright green profusely barred and spotted with white. *D. magnifica* has somewhat shorter foliage, the plant being of a rather more erect growth; its markings are quite distinct, being white on a heavy-looking green, the white being most conspicuous next the midrib, from whence it gradually diminishes to small spots following the veins outwards, leaving a broad margin of dark green. *D. Carderi* is another very distinct species, in which the colours, a dark green and an ivory white are much mixed up; this also is fine as a specimen. *D. amœna* is a very pretty variety, and may be considered as being much superior to the old *D. picta* in every respect. PLANTSMAN.

**Begonia semperflorens gigantea.**—These strong-growing forms of *Begonia semperflorens* are hybrids between that species and *B. Lynchiana*, at first known under the specific name of *Roezli*. Seeds of this species were sent from Mexico by the well-known collector Roezel about a dozen years ago, and as the plants developed it was found that they were distinct from anything else, and the large masses of bright cherry-red blossoms rendered it at that time one of the showiest of the fibrous-rooted *Begonias*. As first sent here the plants were apt to run up tall and naked; consequently it was a happy thought to cross this species with *B. semperflorens*, the result being eminently satisfactory, for the progeny combined the strong growth of *B. Lynchiana* with the free-branching character of *B. semperflorens*. The two first put into commerce were, I believe, under the cumbersome names of *B. semperflorens gigantea carminea* and *gigantea rosea*, but the difference in colour between them was really not great. Mr. Cannell, of Swanley, was among the first to bring these *Begonias* before the public in this country, though they were raised and distributed by M. Lemoine, of Nancy. The variety *rosea* was awarded a first-class certificate by the Royal Horticultural Society early in the spring of 1886. All the forms of *B. semperflorens* produce seed readily, and the progeny is often very variable, so that this method of increasing these *Begonias* is very interesting, and there is also the possibility of obtaining some good and distinct forms. These strong-growing varieties of *B. semperflorens* are not only good pot plants, but for furnishing not too lofty a pillar in the greenhouse or some such a spot they are also well suited.—H. P.

### Dieffenbachias as small decorative plants.

—For this purpose the attention of the readers of *THE GARDEN* might be turned to *Dieffenbachia Weiri* *superba*, which whilst still in 3, 4, and 5-inch pots will make a pleasing change to the ordinary run of foliage plants. Its character and markings are so very distinct and unique, the happy combination of colour between a bright green and a yellowish-green is at once attractive. It is a plant that will remain in good condition for quite a long time in these small pots; whereas most of the other varieties want to be larger before they develop a truly ornamental character. If I am not mistaken, *D. Weiri* was introduced into this country through Mr. Weir, who collected for the Royal Horticultural Society some years ago. It comes from Brazil.—H. A.

**Canna Revol Massot.**—*Cannas* have for the sake of their flowers received a good deal of attention within the last few years, one prominent feature in connection with them being the fact that blooms may be had at almost any season of the year. A good deal has been done in the greenhouse (No. 4) at Kew to show the value of *Cannas* as flowering plants, and a recent visit showed that there were still some in bloom, but nearly the whole of them consisted of a single variety, *Revol Massot*, one of the varieties raised and distributed by M. Crozy, of Lyons, who may be said to have



created this large flowered race of Cannas. It was not till 1888 that these Cannas became popular in this country, though the variety in question, *Revol Massot*, as well as *Capricieux* and *Geoffroy St. Hilaire*, were sent out in 1885. Of these *Revol Massot* has green leaves and bright glowing crimson blossoms, *Capricieux*, bright crimson, edged and flaked with gold, and *Geoffroy St. Hilaire*, dark coloured foliage and large orange-red flowers. In the case of anyone wishing to obtain a collection of these Cannas, the present is a very suitable time for the purpose, as being dormant or nearly so, the rhizomes can be sent almost any distance and at a cheap rate, whereas when in a growing state and in pots, the tender unfolding foliage is easily injured.—T.

#### OUTRAGING NATURE.

I AM afraid I am a great sinner in this respect. I have many times had beautiful baskets of *Torenia asiatica* (see page 526), and a very effective mass it makes in a warm moist stove. In the summer it may be moved into the drawing-room occasionally or hung up in the conservatory for a change. I have also had beautiful masses of it in pans standing near the front wall of a low pit in the forcing house, where it rambléd about at its own will, spreading over the wall and almost reaching the floor in the warmth and moisture. If I consulted the artistic side of my character, I should let it ramble, but as a gardener with baskets to fill, I generally select the plants best suited to the object in view without considering too closely what Nature would do under any given circumstances. I have often gone out into the fields and dug up basketfuls of the long trailing growths of *Creeping Jenny*, as the Londoners call it, and used the plants for covering baskets and other decorative work. It was doubtless an outrage upon Nature, for the plants were thriving and happy, if vegetable life can be said to feel happiness in its native wilds. Very many of the plants used to fill baskets may be open to the same objection.

*Sedum carneum variegatum*, *Saxifraga sarmen-tosa*, *Tradescantia* in variety, *Cissus discolor*, and many other plants used to fill baskets are lowly creeping plants for the most part, but the gardener takes his materials as he finds them, and, as far as his knowledge goes, fits them to the purpose for which he thinks they are best adapted. At any rate, when baskets must be filled, the chances are that *Torenia asiatica* will continue to be grown in a basket in the future as it has been in the past. To mention another case, *Russelia juncea* makes a good subject for a large basket. I have seen large masses of it trailing about in all directions and hanging almost down to the ground, and when laden with its scarlet tube-shaped flowers it is a very graceful object, sure to attract attention, but the same objection of outraging Nature might arise, as it would probably be as effectively grown as a low trailing mass. Gardeners, like poets and artists, should be allowed a little license and not criticised too closely, as many of their errors may be ascribed to a laudable desire to please those who find the sinews of war which lead to their employment. There is a good deal in gardening at the present moment—probably there always will be—which from an artistic or natural point of view may be regarded as outrages upon Nature. E. H.

***Panax sambucifolius*.**—"C. J. C." sends me a spray of this plant for a name, asking if it will grow outdoors. It will not, as the plant comes from a warm part of Australia. It is well worthy of cultivation under glass, for at this season it is laden with its berries, which are very pretty, being borne in corymbose heads, and white, faintly tinged with blue.—W. H. G.

**Carnation Winter Cheer.**—This is invaluable for winter bloom, being the freest kind I have seen. So good was this variety the past two winters that I determined to grow it largely, and I find it answers every purpose, being a free grower and not splitting like many kinds. This variety

seems much stronger in constitution than others; it is not a gross grower, but seems free of spot and disease. As a pot plant it is one of the best, and may be relied upon to produce its beautiful blooms all through the winter. I have some plants in 4½-inch pots a perfect mass of bloom with a great number of buds; these will give a supply of flower for the next two months. Others potted up later from the open ground are now full of roots and forming a mass of buds. Little warmth to get the buds to open even in the depth of winter is necessary.—G. WYTHES.

**Sonerilas in bloom.**—These plants as represented by *S. margaritacea* are usually grown for the sake of their beautifully marked foliage; still, the flowers are very pretty, and as they are borne in great profusion, and that, too, during the late autumn and winter months, *Sonerilas* are worth consideration for the sake of their flowers alone. The colour of the blooms is a kind of lilac-mauve,



*Ledum buxifolium*.

that blends well with the prettily mottled foliage. Within the last few years we have had a stronger growing group of *Sonerilas* put into commerce under the name of *S. orientalis* and varieties, in which the foliage for beauty cannot compare with the older *S. margaritacea*, but they are very attractive from a flowering point of view. These naturally form bushy little specimens, whose upper part is quite a mass of blossoms, deeper in hue than those of the better-known *S. margaritacea*. This last is a shallow-rooting subject, and whether grown in pots or pans it does not need any great depth of soil, while it has a very pretty effect grown in suspended baskets. So treated, the basket should be well lined with live *Sphagnum*, and a compost consisting of this last with peat or leaf-mould and sand may be used. *S. orientalis*, on the other hand, grows much more freely, and in a mixture of loam, leaf-mould and sand it will do well. It is readily propagated by cuttings in the spring, or a plant or two will yield a considerable quantity of seeds if placed under conditions

favourable to ripening. These seeds are very minute, and when sown all the covering needed is a pane of glass over the top. They should be sown in the early spring months, as the young plants will then have a good long growing season before winter sets in.—H. P.

#### TREES AND SHRUBS.

##### LEDUM BUXIFOLIUM,

OR, to be quite correct, *Leiophyllum buxifolium*, is a remarkably variable and very distinct little shrub, useful alike for the bed or the border. It is popularly known as the Sand Myrtle, being a native of the sandy Pine barrens of New Jersey. On account of its dwarf, evergreen, free-flowering habit, it is one of the best and most interesting shrubs for rockeries. There is always a difficulty in selecting suitable shrubs for this part of the garden, many of the most beautiful and free-flowering being, as a rule, too large and strong for the majority of these structures, and it is only such as the above *Ledum* that may be safely recommended to take a place on even the smallest of them. In addition to the *Ledum*, *Azalea amena*, a plant that takes up little room, and though not perhaps generally known, is quite as hardy in the neighbourhood of London as the popular *Rhododendron*. It flowers with the greatest freedom in early summer, and in even our hardest winters it has not suffered in the slightest. *Cytisus purpureus*, many of the dwarf *Boxes*, a choice selection of the very dwarf coniferæ, &c., give us a fair variety to begin with. Shrubs, especially those of a dwarf evergreen character, are quite as essential in the rock garden as hardy alpine and other plants. They furnish in the dull months of winter, and help in a measure to hide the bareness which always exists here when the plants are at rest. Much remains to be done in this direction on most rockeries; as a rule, too much attention is given to the development of spring and summer-flowering plants, to the entire exclusion of plants that would give an effect in winter. Our rockeries need not be blank throughout this dull season; but, on the other hand, might be made as interesting, if not

as beautiful, as when at their best in summer. All this and much more may be done at the expense of very little extra space, as most of the shrubs mentioned are slow growers, and it would be many years before they required renewing. The *Ledum*, in addition to being evergreen, is, as may be seen in the cut, a beautiful flowering shrub. The flowers are white and borne in dense clusters in early summer. Like most other American shrubs, it thrives best in a peaty soil, and it will also be found useful as an edging to beds, &c. D. K.

***Liquidambar styraciflua*.**—The growth of this tree differs greatly in various localities. A very fine specimen of it at Strathfieldsaye has run up fully 30 feet, while one at Rooksbury Park in this county, although it has a large spread of branch, is but half the height. It is undoubtedly a handsome tree in any shape when the leaves are



well coloured, looking quite its best when isolated on a lawn. When growing in strong soil the colour of the leaves is not so bright as that of those of trees in sandy soil, except it be in a very dry season.—E. M.

#### WORK IN SHRUBBERIES.

Now that the shrubs, after the leaves of the deciduous plants and trees have fallen, are being cleaned up and put in order, there are also a few additional items worthy of notice. Of course, the cleaning up and making tidy can be done in a perfunctory manner and nothing further attempted, but by taking note as the work proceeds, it is often possible to improve the appearance by removal here and there. Where shrubs are overcrowded (and who has not seen them thus?) it is thus easy to remove a smaller one that is being overgrown by a larger. If this kind of work be left until a more favourable opportunity, that will not come for possibly another twelve months; so my advice is to do such removing at once. As the work proceeds, it will not be a difficult matter to find room for these surplus plants; at least, I do not find it so. Deciduous shrubs should also be pruned where found necessary, but by all means avoid the clipping process as illustrated in a practical, but ugly manner oftentimes in our public gardens. I have a strong aversion myself to the shears. On the other hand, by the judicious use of the knife or pruning scissors in thinning and regulating the growths, a deal of good may be done; and if this work be always followed up, the shrubs will be kept in order.

These remarks have also an equal bearing with evergreen shrubs. In doing the work, however, in any case the flowering proclivities of the plants must be duly considered. At this time also there is another item worthy of notice. It is that of layering such as the Aucubas, the common and Portugal Laurels, or anything else available around the margins. This can be done easily by having a few pegs always at hand, doing the work so as not to make it unsightly. No further attention will be necessary, but in twelve months' time there will be a lot of useful little plants at hand, which without doubt can be put to a good use. If so be they are not wanted at once, they can be bedded out in rows, to remain thus until a place is found for them. In this way I have propagated numbers of these shrubs, which are now large plants serving a good purpose, where otherwise the ground must have remained bare. In some spots, seedling Hollies and Rhododendrons come up spontaneously; so also do Yews. These can be placed in more favourable ground and left for a year or two. Laburnums I have also from seed now of a flowering size, which, if left where they germinated, would probably have succumbed before now. Commoner things, as Horse Chestnuts, Sycamores, &c., it is no trouble to secure where found necessary. In one way or another it is thus possible to keep the shrubs presentable without any undue expense. A.

**Ruellia Herbsti.**—A great many acanthaceous plants flower during the winter months, while the blossoms of most of them are very attractive, but for some reason or other they are by no means popular, why it is difficult to say. The *Ruellia* in question is no exception to the rule in its season of flowering, for it blooms freely at midwinter, when blossoms of all kinds are valuable. It forms a free-growing plant of a soft shrubby style of growth, clothed with deep green leaves. The flowers, which are freely produced from the axils of the leaves on the upper part of all the shoots, are of a rather peculiar curved shape, about 3 inches long, and of a rosy purple hue, with the recurved lobes at the mouth of the flower nearly, if not quite, white. A group of about half a dozen plants in full bloom will form a very attractive feature in the stove, while under favourable conditions the plants will bloom for three months or nearly so. Besides the generic name of

*Ruellia*, the plant in question is also known under that of *Dipteracanthus*. Several allied subjects are also beautifully in bloom, among which may be mentioned *R. macrantha* (recently mentioned in THE GARDEN), *R. Portellæ*, a low-growing kind with bright rosy pink-coloured blossoms; *Dædalacanthus macrophyllus*, an *Eranthemum*-like plant, whose pale blue flowers are borne in great profusion, while the brighter-coloured *Eranthemum pulchellum* is rapidly approaching the flowering stage. The *Aphelandras*, too, contribute their share of the floral display, notably *A. nitens*, with very bright-coloured blossoms; *A. Leopoldi*, with yellow flowers; and *A. aurantiaca*, scarlet.—H. P.

**Tea plant at Bicton.**—If the Tea plant referred to by Mr. Mayne from the gardens at Bicton is the one in a sheltered spot near the Palm house, it has stood out of doors there for a great many years, as it was planted prior to 1846, at which time it was a little bush about a foot high. It certainly stood there for twenty years with no other protection than a little dry Bracken around the roots and a few Spruce branches stuck in so as to slightly shelter the upper part of the plant. While it was quite uninjured during the severe winter of 1860, such cannot be accepted as a proof of its thorough hardiness even on the South Devon coast, as the position was so sheltered; whereas in the arboretum, though several times tried, the plant seldom survived more than two or three winters.—T.

#### CHRYSANTHEMUMS.

##### CHRYSANTHEMUMS.

EVERY year as surely as the Chrysanthemum season comes round there comes also the usual protest against the height to which many kinds go. Why this should be so, or why Chrysanthemums alone among flowering plants are to be abused for growing tall is a mystery. Is mere flatness a merit that there is such a craving after varieties that only attain a height of from 3 feet to 5 feet? In grouping plants, Chrysanthemums or what not in greenhouses, tall plants are needed. I go further, and say that leggy specimens of many things come in useful and lend an effect to a group of plants that well-grown specimens, no matter how manipulated, could not do. In outside planting, whether of flower beds, shrubberies, or groups of trees, the same rule obtains, and the further the things planted are from looking as if cast in one mould, the better the effect will be when finished if the material has been judiciously used. It is well known that the best Chrysanthemums are grown near the glass, and the taller the plants the more easily this can be done. In many places lofty houses are too common, and in these the more varied the plants are in height the better, for more plants can be accommodated and the flowers can be better shown in a block which is arranged to form one or two steep slopes (one for lean-to and two for span-roofed houses) than would be possible in the same space if the heights were more uniform. Besides this, most Chrysanthemums, especially the taller ones, have a tendency to look outwards rather than upwards, and can be best seen when elevated above the level of the eye. True, many of the newer ones are not so much given to this drooping, but several that we cannot yet discard have this habit, and when these are dwarf as well it is a great defect. Take *Mme. J. Laing* and *Sarah Owen* as examples, and I contend that with these an additional foot or so in height would be a positive gain, for unless the sticks are adjusted to a nicety, the flowers do not show half their beauty. Mr. Iggulden thinks it is time buyers were protected in some way from

the risk of buying extra tall kinds. Growers for sale seldom in their catalogues tell us that such and such a variety is tall; at the same time they rarely fail to make a special note of the dwarf and sturdy kinds. The inference to be drawn is plain, and we cannot expect them to speak more plainly. Again, the paragraphs continually appearing in the gardening press give many a hint as to the habit of new kinds, especially in reporting visits to the different nurseries where a specialty is made of the Chrysanthemum, these reports being very useful to the grower. Another aid in this direction is to take notice of the parentage of those newer kinds which are sports, for no matter how the colours vary, the habit almost always remains the same, and Mr. Molyneux's notes arranging these into families are very helpful. Each grower will please himself with regard to what he retains, but one can hardly afford to discard such beautiful kinds as *Lilian B. Bird*, *Mme. C. Audiguier*, and *Stanstead Surprise*, the first especially being a good grower and well clothed with fine healthy foliage in spite of its height; in this respect it is the equal of *Mr. H. Cannell*, and its superior in strength of stem, while its colour is unique and beautiful, and will not easily be beaten. I dislike those varieties which are very weak in the peduncle and hang their heads too much, and I always discard the weaker-stemmed varieties whenever I find another of the same colour and form which is equal in other respects and better in this. I am discarding *Criterion* and *Bismarck* this season, as Mr. Garnar proves so much better in form and strength. There is a fine field for working to produce good kinds that will not require sticks higher than the top leaf, or well below the flower.

Is there anything in common between dwarfness of habit and incurring of flowers in the Japanese section? These traits are rapidly on the increase, and, to my thinking, the distinct and beautiful form of this section is in a fair way to be ruined. Many of the newer kinds look more like coarse and untidy forms of the incurved or Chinese type, and it is probable that the future will see this trait so "improved" on, that it will be difficult to recognise to which section the flowers belong. Take *Edwin Molyneux* and *Mrs. C. W. Wheeler* as examples, and who will say that these would not be more attractive if they did not incurve? As soon as the outer petals of the former incurve the great beauty, richness of colour, is hidden. An old variety, *Mons. C. Hubert* (syn., *The Cossack*) is most beautiful until it begins to incurve, but it does this so quickly as to be scarcely worth growing when so many others keep the right side of their petals in sight until they fade. There is no doubt that the preference shown by many judges for those stands which contain the greatest number of new varieties helps to bolster up many kinds for a few seasons that have little intrinsic worth, and this is the more to be regretted from the fact that the judges themselves cannot know the constitution of these kinds or of what they are capable.

I add the names of a few dwarf and medium kinds of good habit, mostly old sorts, to Mr. Iggulden's list. *Mme. de Sevin*, *Mlle. Melanie Fabre*, *M. Piloster*, *Val d'Andorre*, *Mr. Garnar*, and *W. H. Lincoln*. Of course, a great deal in height depends on which buds are taken, and I may say that with me one of Mr. Iggulden's selection, *Coronet*, has gone to a good height, and is in fact a back row plant.

J. C. TALLACK.

**Chrysanthemum George Daniels.**—This comparatively old Japanese variety has more than held its own against many novelties, the catalogue



de-criptions of which, to say the least, are somewhat misleading. It figured in very many prize-winning stands this season, and in my case the best blooms were among the finest grown, being surpassed as far as depth and solidity are concerned by those of Vivand Morel only. The colour of flowers resulting from early-taken buds is nearly white, and there is a total absence of stiffness about the blooms that attracts admiration. It is also a model as regards habit of growth, the natural height being about 4 feet. This variety is also admirably adapted for growing as a bush, large, freely-grown plants producing a profusion of light pink flowers that are certain to please. In common with most other varieties, it is later than usual this season, being at its best now.—I.

#### REARRANGEMENT OF LISTS FOR 1893.

NEW and improved varieties are added so freely, that it is necessary to overhaul the lists annually with the object of making room for improved sorts. It is in the Japanese section that the increase is so marked, especially now that seedling raising forms such an important feature with English specialists of this flower. I am pleased to note there is an evident desire on the part of all concerned—cultivators, exhibitors, judges, and the public alike—to favour the type of flower that is consistent with greater depth and less coarseness of the floret. The bulk of the new varieties is of this type. Another very important point secured is the more sturdy habit of growth. The tall lanky growth, of which Mme. C. Audiguier is an example, will soon be a thing of the past. Avalanche shows well the habit of growth that is desirable. Another example, Mrs. Falconer Jameson, is naturally dwarf and thoroughly clothed with dense green foliage. Edwin Molyneux is largely employed for hybridising, either for infusing a richness of colouring or imparting an acceptable style of growth. Many more instances might be quoted to show the progress that has been made and likely to continue. Speaking of the types of blooms, such wide-spreading varieties as Meg Merrilies, Etoile de Lyon—when this is not very well cultivated—Baron de Prailly, the coarse-looking W. G. Drover, and Mrs. E. W. Clark must make room for those of the Sunflower class, Florence Davis, Mr. C. Bick, Vivand Morel, Mlle. Marie Hoste, Col. W. B. Smith, Puritan, William Seward, and James Shrimpton. Such varieties as the exquisitely rosy peach-coloured Rosy Morn open up a new race of decorative types, which in the race for size stand a chance of being forgotten. In addition to those above mentioned, I will draw attention to a few of the most striking varieties in the Japanese section, classifying them in their colours as near as possible. Those who would keep their stock up to the present-day requirements, whether for exhibition or the sake of novelty, cannot afford to ignore even the few named. Commencing with those which give white flowers, Avalanche cannot yet be dispensed with. Eynsford White runs it very hard, and is by some considered to be superior. The newly-introduced Mrs. C. Myers is likely to add some confusion, so much is it akin to the latter. Gaetano Guelphi, Princess May, Mrs. E. D. Adams, Stanstead White, Beauty of Exmouth, and Miss Annie Hartshorn all possess the right habit—sturdy, yet not too tall to be unwieldy. Of yellows, we have W. H. Lincoln and its improved form, T. Selwood, which is a shade deeper in colour, and Mrs. J. S. Fogg, chrome-yellow. The Tribune gives blooms distinctly lemon-yellow on a base of gold. Coronet, clear yellow; Kate Mursell, a light shade, not mentioning the new hirsute W. A. Manda, Mrs. Libbie Allen, Mrs. A. F. Spaulding, a much improved Gloriosum; Mr. E. Beckett, a November-flowered Mrs. Hawkins; Boule d'Or, with its long, graceful, drooping florets, will take the places of others not only because they are newer, but because they possess points of quality in density of flower as well as grace of formation of individual floret. Of pinks, salmons or lilacs, A. H. Neve, Lilian Bird, Mrs. E.

Beckett, Countess of Hambleton and Wm. Tricker are the types of flowers to encourage. Of bronzes, dull reds, and others less pronounced, G. C. Schwabe, Excelsior, Gloire du Rocher, Mrs. W. H. Atkinson, Val d'Andorre, Mme. J. Laing, Sarah Owen, Mme. Baco, and Mrs. C. Wheeler may be named as a guide. E. M.

**Staging Chrysanthemums.**—In reply to "Observer," permit me to state that I am not short "of practical knowledge." I am fully aware that some kinds have the propensity of developing their blooms upon somewhat long peduncles, but, on the other hand, there are many that do not. This criticism of "Observer's" does not affect the point at issue, and if he intends thereby to make it an excuse for the present system of denuding the stems as cut with the foliage upon them, it is but a weak one. What about the front row, for instance? This includes one-third of the flowers. With the foliage left below the bloom, will "Observer" as-ert that it will not improve the appearance? Those with the long peduncles will generally be found in the back row—Etoile de Lyon, to wit. Further, "Observer" wants to know how I would stage these latter flowers. In reply (to enlighten him), let me say it is perfectly easy; viz., take as much of the stem as may be required and tie the bloom with the long peduncle to it. This I have done, so I speak not from theory, but practice. The truth is, old hands prefer old methods.—FORWARD.

**Chrysanthemum Etoile de Lyon.**—That opinions vary a good deal in their estimate of the relative values of different Chrysanthemums has been well shown recently in THE GARDEN, for on page 451 Mr. Iggulden, writing of leggy Chrysanthemums, mentions, among others, Miss Lilian Bird, "which was 9 feet high, and, in company with many other tall varieties, will not be grown again." Later on in the same article, of Etoile de Lyon it is said "The stems being stout and clothed with fine leaves, their height, 5 feet to 6 feet, is scarcely noticeable." Now, in direct contrast to this we have two consecutive articles on p. 522, in the first of which Etoile de Lyon is severely condemned, and in the second Lilian E. Bird is spoken of "as one of the most distinct of Japanese Chrysanthemums, and for that reason should be generally grown." The difference may be owing to the varieties being viewed from two quite distinct standpoints, the first as plants, and the second as cut flowers alone. Lilian E. Bird is certainly a very pretty and distinct variety, but, apart from its height, it seems to be rather unreliable.—T.

**Chrysanthemum Tokio.**—"T." says the above-named Chrysanthemum is not so popular as Source d'Or. This may be so in a general way, but not everywhere. I grow more of this kind for cutting than any other, and I consider it the best of the crimson kinds, more showy and of more graceful form than either Cullingfordi or Jules Lagravere. It is one of the Chrysanthemums positively injured by disbudding. My favourite decorative varieties, so-called, are Tokio, light crimson; Aigle d'Or, bright yellow; Source d'Or, golden-bronze; Snowflake or Jane, pure white with yellow eye, semi-double and with beautifully twisted petals; Roseum superbum, rose and gold, beautiful under artificial light; Joseph Mabood, bronze, narrow petals; Marie Stuart, rosy lilac, Anemone; William Robinson, bronze, fluted petals; Chevalier Damage, bright yellow; Boule de Neige, white, late. All the above, except Chevalier Damage and Joseph Mabood, are self-supporting and stand erect, or nearly so.—J. C. T.

**Chrysanthemum Volunteer.**—Mr. Young, I fear, has never had Volunteer, which is totally different from Mrs. Irving Clark (not Miss, as printed on p. 488). Volunteer is a tall grower; crown buds show at about 6 feet, grown without a check sometimes higher; terminals appear at about 8 feet as a rule. The colour correctly is a flesh-pink on terminal buds; the crown buds are pure white as a rule, the florets rather broad and flat. Now-a-days this variety is considered too thin for the ex-

hibition table. Mrs. Irving Clark is paler in colour; the florets incurve quite informally, giving the centre of the bloom the appearance of its being a tortuous mass of florets.—E. M.

**Chrysanthemum America.**—Any variety that produces flowers a little out of the ordinary season is valuable, whether it be an incurved or a single variety. The subject of this note belongs to the latter section and is one of the largest flowered varieties in the section when the plants are cultivated for that purpose. The colour is delicate blush, but late flowers are quite white; the tips of the florets recurve slightly. Altogether it is one of the best of the section, especially for producing late blooms.—E. M.

#### CHRYSANTHEMUM NOTES.

New varieties have been brought out this season in large numbers, and the forms of the Japanese especially are very beautiful. The high-coloured crimsons are particularly notable and supersede the older kinds, with the single exception of E. Molyneux, still most popular as an exhibition kind. It is pleasing to note that by far the larger number of the new comers are of English origin, a fact which will give to our own hybridists even greater encouragement in the future.

WILLIAM SEWARD will probably be considered the best novelty of the year. The colour is a rich blackish crimson. It has long drooping florets, which are so numerous as to make a flower of massive proportions and of graceful form. The growth of the plant, too, is capital, far superior to the variety Jeanne Delaux, which has for some years past been the leading kind of this deep colour.

JOHN SHRIMPTON is another very rich crimson, the colour being similar to the reflexed Cullingfordi. In regard to shape as well this flower resembles the last-named, but in size the novelty is far in advance, and is bound to become popular as an exhibition flower.

PRINCESS VICTORIA.—This is another recurved Japanese form of large size, full and handsome. The colour is chestnut with yellow shading.

C. SHRIMPTON is a full-centred creamy white flower of reflexed form, from the same raiser as the above-named. They are, indeed, four magnificent Chrysanthemums, obtained from seed by Mr. W. Seward, The Firs, Hanwell.

One more very dark crimson flower is

G. W. CHILDS.—The early blooms of this kind are bordered with yellow. It is full and handsome, and a good grower of medium height. This is an American variety.

BEAUTY OF EXMOUTH has been frequently exhibited, and is a splendid white with a cream tinge, large, and the form of rare grace, a sturdy grower. It should be grown by all.

A pure white of quite a different form is

PRINCESS MAY.—This is a full massive bloom composed of long quilt-like florets. It is an excellent grower, and, like the last-named, raised in this country.

MR. CHARLES BLICK is a most lovely, long, curly-petalled Japanese bloom; the yellow is of a rich dark hue, and the texture of the flower particularly taking. It is easy to grow and of medium height. One of the seedlings raised by Mr. H. J. Jones, Lewisham.

MISS DOROTHEA SHEA is a fine recurved form, chestnut-red in colour. This variety is of the largest size, full, growth strong, and of medium height. Raised from seed by the well-known amateur, Mr. C. E. Shea, Fooks Cray.

L'ENFANT DES DEUX MONTES.—This is a pure white sport properly fixed from the hirsute-petalled Louis Boehmer, and as the type is of easy growth the new one should replace Mrs. Alpheus Hardy, most tender of Chrysanthemums.

WM. FALCONER is another valuable sport from Louis Boehmer. It is a light flesh-pink, thus doing away with the objectionable purple tinge which prevented the last named from becoming generally grown. Cultivators should not fail to obtain these two sports.

W. H. ATKINSON.—This has a sturdy habit of growth of medium height. Its flowers are large and of a pretty reflexed shape. In colour the variety is a salmon-red—a pretty shade.

MR. H. BROWNHEAD has a favourite shade of colour, namely, light buff. The form of the bloom is a loose incurved. It is not of gigantic size, but large enough. It is of dwarf habit.



MRS. A. G. HUBBROCK has large, deep blooms, which show the upper as well as the under sides of the florets in the same flower. The colour is deep carmine with silvery reverse.

PRIMROSE LEAGUE is a splendidly formed loose Japanese of large size. It is a free bloomer. I saw plants of it each bearing half a dozen huge flowers. The colour is soft primrose, fading to white. In growth, too, it is all that can be desired.

THE TRIBUNE has blooms composed of very broad massive florets of refined appearance. Its colour is a soft light yellow, and the plant a first-rate grower.

ROBERT FLOWERDAY is an immense-sized flower inclined to incurve its light crimson petals. It was raised, like the two above named, in America a few years ago, but is as yet little known. It is sure to become popular with those who exhibit.

WABAN.—This, a beautiful broad-petalled Japanese, is of fine form. The colour is a lively shade of pink, and will make a superb bloom for show purposes. It has large leathery foliage.

HARRY MAY has, as yet, hardly had a fair trial in this country, but it looks like making as fine a bloom in its way as is Lord Brooke.

POTTER PALMER is a first-rate kind. It is pure white and has broad florets, which hang down in a taking way. The plant is a strong grower and of medium height.

ROSY MORN.—This is a medium-sized reflexed Japanese of close build. The colour is a warm rose tint.

MRS. BRUCE FINDLAY is one of Mr. Owen's giant seedlings. The florets are narrow and cut at the edges, giving the bloom a distinct appearance. Its colour is flesh-pink.

Other Japanese kinds which are distinctly promising are Mermaid, Pearl, Indian Red, Tweedi, Ruth Cleveland, Miss Helyett, International, Harry Balsley.

KENTISH YELLOW must not be missed. It is rich in colour and pretty in form.

COMTE F. LURANI is well adapted for grouping. The habit is very dwarf, with the foliage quite close to the blooms, which are light rose colour, the edges of the petals darker. The flowers, if not extra large, are very striking.

There are several very good incurved kinds to record, and here again it may be noted that English raisers are to the fore.

BARON HIRSCH is a magnificent flower of large size. It is well built and the florets of good substance. The colour may be described a nice shade of old gold.

LORD ROSEBURY, like the above, is from Mr. Owen. It is a flower of large size, and in form resembles that of Princess of Wales. Its colour, too, is somewhat close to that variety, but much more dwarf in growth and of easy culture.

ROBERT PETTFIELD.—I am not sure, but fancy this is one of the Maidenhead seedlings. It is a soft pink in colour, and in size medium to large; in substance it is of the best.

LUCY KENDALL.—This is a chestnut-red-coloured sport from Violet Tomlin and has all the good qualities of that fine kind.

BROOKLEIGH GEM.—This variety came as a sport from Jeanne d'Arc, the ground colour of which is white, and tinted at the tips with rose-purple. The new one has the rose ground colour and darker tips. It should prove useful.

MRS. MITCHELL.—This variety sported in New Zealand from Empress Eugénie, which is an esteemed kind, although not one of the very choicest. The sport, however, is of a pleasing buff shade of colour, which will ensure its being widely grown.

FLORA MACDONALD will become a useful kind. It is of medium size, creamy white, and very dwarf in growth. A Japanese Anemone.

LA DEUIL is an acquisition to the class. The guard petals are long and the centre well filled. Its colour is a dark purple-rose.

MME. LAWTON is another large Japanese Anemone of light colour, and should prove useful.

H. SHOESMITH.

**Chrysanthemums R. A. Bahuant and R. Cannell.**—Except on the hypothesis that Chrysanthemum growers hail with joy from any source new incurved varieties, I do not see that they can regard these two forms as valuable accessions to the section—both being new and distinct in colour, both very large flowers, with broad, and perhaps in that respect a trifle coarse petals. Still, both need

very much of pulling in to make them presentable, and whenever so carefully dressed are both broad and squab rather than deep, and of the finest form. No doubt I shall find plenty of objection to this estimate, but how it is possible for those who admire the depth and contour of Violet Tomlin, Princess of Wales, Mrs. Heale, and Lord Alcester to be enthusiastic over the broad flat R. A. Bahuant I cannot tell. It makes an attractive bloom on the plants in a collection, but its proper place seems to be in a section of incurved Japanese, of which there are many fine varieties now.—D.

#### STURDY GROWING JAPANESE CHRYSANTHEMUMS.

I, LIKE Mr. Iggulden, deplore the extreme height which some varieties run up to. Unfortunately, however, it is absolutely necessary to allow some to have their own way in this respect to obtain the best results. Good blooms cannot be had of some sorts if the shoots are in any way tampered with in the matter of topping or even cutting down the plants in May. For an ordinary collection of plants where exhibiting is not thought of, there is no occasion to encourage these leggy growing sorts at all. Plenty that are sturdy and moderately tall can be had now that there has been such an influx of new sorts not only from France, America, and Japan, but by the raising of new varieties not only from foreign saved seed, but from that which is saved in England. As long as such sorts as Avalanche, Edwin Molyneux, and Mrs. Falconer Jameson, for instance, are selected as seed-bearers we may hopefully look for their progeny to be all right in the matter of growth. In addition to those quoted on p. 452, the following will be found of sturdy habit and giving good blooms also: W. H. Lincoln, a charming yellow, 3 feet to 4 feet; Mlle. Marie, quite one of the best of whites of the same height, the foliage so dense as almost to need some of it taking off to admit air to the stem to mature it thoroughly; Florence Davis, 5 feet; Mrs. G. C. Schwabe, delicate pink, from 2 feet to 4 feet; Marquis de Paris, pure white; Comte F. Lurani, rose and white, both 2 feet to 3 feet high; Edwin Lonsdale, 4 feet, brilliant amaranth; Vivand Morel, average height 4 feet, which provides at this height charming heads of blooms of various shades of colour; Col. W. B. Smith, an immense golden bronze with a terra-cotta shade of flower, quite new, robust in growth, but not more than 5 feet without any topping of the shoots; Mrs. C. Wheeler and Beauty of Castlewood, both of the Comte de Germiny type, but much improved in colour and build of their flowers; Beauty of Castlehill gives immense blossoms of a golden yellow hue at 2 feet high on single stems. Mohawk, brick-red, 3 feet to 4 feet; Mrs. E. D. Adams, early blooms pure white, later ones tinged with pink, same height; Wm. Lane, cinnamon, shaded rose, full, dense blooms, grand for grouping, 3 feet; Aida, nankeen yellow centre, deepening to bronze at the edge, 4 feet; not forgetting Val d'Andorre, L'Adorable, and L. Canning, perhaps the latest white flowering variety we have, all growing from 3 feet to 4 feet high. A longer list could be made, but enough has been mentioned to show that where even only large blooms are required it is not necessary to cultivate a single plant over 6 feet high, the bulk of those mentioned being fully 1 foot less than that.

E. MOLYNEUX.

#### SHORT NOTES.—CHRYSANTHEMUMS.

**Chrysanthemum Auricle.**—This Japanese sort is valuable for prolonging the display after the ordinary November varieties are past. The blooms are pale yellow in colour, not large, but of a size useful for decoration of any kind.—E. M.

**Chrysanthemum Mr. Brunlees.**—Incurved varieties are not nearly so useful for giving flowers in quantity as the Japanese taken as a whole, but for flowering during the early days of December in long sprays this is really a useful sort.—E. M.

**Chrysanthemum Mrs. J. S. Fogg.**—This variety is especially valuable for the front of Chrysanthemum groups for exhibition. Not only has it the largest foliage of any sort that I know of, but capital blooms can be had on plants not more than 2 feet high. The lovely chrome-yellow flowers are especially attractive.—E. M.

**Chrysanthemum Jessie Chignell.**—This single-flowered variety is perhaps the darkest-flowered sort we have; the colour is red with a very dark shade over it; the florets are narrow, with abundant space between the points of each, which does away with any idea of formality. The growth is rather tall, the blooms freely produced in terminal clusters.

**Chrysanthemum Mrs. Guth.**—This is a sport from the Japanese Val d'Andorre, well known as one of the best varieties in this section for specimen growing. The ground colour of the sport is the same as in the original, but deeply suffused with gold, which not only brightens up the at times dull appearance of the parent, but also the whole group with which this may be associated.

**Chrysanthemum James Dibbens.**—Is this variety synonymous with J. Stanborough Dibbens? I am much disappointed with the latter, and cannot think it is the same that I saw at the Kent Co. show last year. J. S. Dibbens I cannot distinguish from Mrs. F. A. Spaulding either in growth or flower. James Dibbens had much broader florets than any bloom I have yet seen of J. S. Dibbens. I fear that James Dibbens is not in commerce.—E. MOLYNEUX.

**Chrysanthemum Lady Selborne out of doors.**—This early-flowering Japanese is one of the best for growing against a wall out of doors. On November 24 it was in full bloom with me. Spikes with from three to six blooms attached are appreciated for vases. Anyone who has not tried this variety in this way should lose no time, and instead of consigning the old stools to the rubbish heap when they have done duty in pots, plant them at the foot of a wall for providing flowers next November out of doors.—E. M.

**Chrysanthemum Etoile de Lyon as a specimen.**—It may not be generally known that this Japanese sort is well suited for growing as a specimen. I do not mean as a formally trained one, but as a loose growing plant. At the late Torquay show a plant of it having twenty-five fully developed blooms was exhibited. The plant did not stand more than 4 feet high; no bending of the shoots had been practised, but the shoots had been topped thrice, the first time at 4 inches high, repeating it when 5 inches more growth had been added.—E. M.

## GARDEN FLORA.

### PLATE 889.

#### SHRUBBY CLERODENDRONS.

(WITH A COLOURED PLATE OF C. KEMPFERI.)\*

THE genus *Clerodendron* is a large and diversified one. There are probably more than 100 species distributed over the warmer regions of both hemispheres, most of them being eastern. Only very few of them are cultivated as garden plants, and of these the best known among the climbing species is *C. Thomsonae* (sometimes called *C. Balfouri*), the most popular of the shrubby species being that of which a plate is published with this note.

*C. KEMPFERI* is an old garden plant, having been introduced from Japan or India by Sir Joseph Banks nearly 100 years ago. It is cultivated almost everywhere for the sake of its bright scarlet flowers, and it appears to be widely distributed as a native plant in India as well as in Japan. It has several other names, that most favoured by botanists being *C. squamatum*, but the generally accepted name for it in gardens is the one given here. *C. Kämpferi* forms an herbaceous shrub, sparsely branched, from 2 feet to 4 feet high, slightly hairy. The leaves, which are heart-shaped, toothed, and rich green, vary in size from 6 inches to 12 inches in diameter; the petiole is from 3 inches to 6 inches long. The terminal panicles of

\* Drawn for THE GARDEN in the Royal Gardens, Kew, by Gertrude Hamilton, June 11, 1892. Lithographed and printed by Guillaume Severelyns.



HERB. GARDEN  
DEC 24 1882



CLERODENDRON KÄMPFE







flowers are scarlet, and on very strong plants they measure a foot in diameter. By sowing the seeds, which are freely produced by cultivated plants at different seasons, it is possible to have specimens in flower at almost any time of the year. Seedlings make better plants than those obtained from cuttings. They should not be stopped, but allowed to run up with a single stem if large heads are wanted. A group of healthy young plants in flower of this *Clerodendron* is a brilliant picture at any time.

*C. FALLAX* was named by Dr. Lindley from a plant flowered at Syon House in 1844 and which had been introduced from Java. It differs from *C. Kämpferi* only in having the leaves hairy instead of scaly on the under surface. The flowers, leaves, habit, and general appearance of the plant are very similar to those of *C. Kämpferi*.

*C. INFORTUNATUM* is another plant of similar appearance to that represented in the plate, differing only in having larger leaves and flowers. The long-tubed flowers spring from clusters formed by the calyces, so that the panicle is really composed of a number of clusters. It is a splendid plant as represented by Dr. Lindley, and one which is worth re-introducing, for, so far as I know, it is not in cultivation now. In India and Ceylon it is very common, and in some parts it forms a small tree. The flowers of the wild plants are usually white or pink, never scarlet, as represented by Dr. Lindley.

*C. MACROSIPHON*, from Zanzibar, is a compact little shrub of free growth, forming numerous upright branches, clothed with small-lobed leaves and terminal clusters of erect, long-tubed, white, sweet-scented flowers. It is deciduous, resting in winter and flowering in June. Plants of it may be seen flowering freely every summer in the stoves at Kew, whither it was sent about ten years ago by Sir John Kirk when British representative at Zanzibar.

*C. PANICULATUM* was in cultivation fifty years ago, and after a long absence was again introduced to Kew from China in 1889, and flowered in the stove in November. It forms a shrub from 2 feet to 6 feet high, the stems four-angled, freely-branched; the leaves cordate, lobed, dark green, 8 inches across, and the bright crimson flowers arranged in a large loose terminal panicle. Each flower is an inch long and half an inch across the spreading lobes. The plant flowers freely, and is in every way a useful stove shrub. It is a native of various parts of India as well as China.

*C. NUTANS*.—This also is an old garden plant re-introduced several years ago by Mr. Head of the Crystal Palace, who exhibited a well-flowered example of it before the Royal Horticultural Society, who awarded it a first-class certificate. A coloured plate, prepared from Mr. Head's plant, was published in *THE GARDEN* in 1888 (Vol. XXXIII., p. 412), where it is erroneously included with the climbing section of the genus. Under cultivation it forms a low loose shrub with curved branches and short-stalked, lance-shaped, dark green glabrous leaves 8 inches long. The flowers are in drooping elegant panicles from 6 inches to 1 foot long, rather loosely arranged, and pure white. Grown in a stove, the plant soon develops into a large specimen. It requires a rest in an airy dry house for a few weeks after it has made its growth to induce it to bloom freely. As a rule, it is not very satisfactory under cultivation. It is a native of Sikkim, Assam, &c., where it forms a sturdy bush at an altitude of 3000 feet.

*C. FRAGRANS* is a common garden plant in tropical countries, and is here and there cultivated in warm houses in England. It deserves more favour than it receives if only on account of the delicious fragrance of its flowers, which are white, double in the cultivated form, as large as the flowers of double Hawthorn, and borne in large clusters on the ends of the branches. It grows very rapidly in a stove, and when planted out soon covers a large space if allowed to, owing to its habit of producing root shoots in the same way as the hardy *C. foetidum* does. The double-flowered variety of it is a much better garden plant than the type, which indeed is not known in cultivation.

Grown in pots it forms a compact shrub a yard high. It is hardy in the extreme south of England, and a good greenhouse plant anywhere. Although common in America and India, *C. fragrans* is found truly wild only in China, whence it was introduced into this country a hundred years ago.

*C. FOETIDUM*.—This is one of Mr. Fortune's introductions from Northern China. It was distributed by Messrs. Standish and Noble thirty years ago, and soon proved itself to be hardy in the south of England. It is grown as a waterside plant at Kew as well as in an ordinary border. Its stems, which are annual, grow to a height of from 3 feet to 5 feet; they are round and spiny, and the large, deep green, cordate toothed leaves are in themselves an ornament. The flowers are borne in dense erect terminal heads from 4 inches to 8 inches across, suggesting in arrangement and size the heads of *Ixoras*. Their colour is rosy mauve. In a mild autumn after a warm summer this plant is a beautiful picture, but in such a season as the past it is a failure out of doors—at any rate, as a flowering plant. The underground stems spread rapidly, and in a suitable position, especially near water, this plant will soon cover a large area if allowed to grow unchecked. It is not nearly so well known as it deserves to be. In the warmer parts of England it certainly should be in every garden of any pretensions at all. There is a good figure of the leaves and flowers of this species in the *Botanical Magazine*, t. 4880 (1855). The name *foetidum* is in



*Clerodendron squamatum*.

allusion to the strong smell of the leaves when bruised. *C. Bunzei* and *C. foetidissimum* are other names for this plant.

*C. TRICHOTOMUM*.—This is another hardy species which we owe to Fortune, who introduced it from Japan. It is cultivated and, by some, is supposed to be a native plant in China. In England, particularly the south, it forms a large woody bush or small tree, with round smooth branches and ovate, not cordate leaves, soft in texture, hairy, serrate, with petioles 2 inches to 3 inches long. The flowers are produced in loose terminal heads or cymes on slender pedicels; the calyx is large, reddish brown. The corolla is short in the tube, with spreading white segments, the flowers being not unlike those of the common white Campion (*Lychnis vespertina*). In some gardens this species makes a fine lawn specimen. It is an interesting and, in some seasons, an ornamental flowering shrub, liking a deep rich soil and plenty of moisture. The leaves have a strong odour. This species was cultivated in Continental gardens a few years ago under the name of *C. serotinum*, which name it received from M. Carrière (see *Revue Horticole*, 1867). W. W.

*Primula nivalis*.—The plant which usually passes under this name is by no means scarce now. It has been largely cultivated in many nurseries during the past four years. I mean, of course, the

snowy white kind, which I believe is considered to be a variety of *vi-cosa*. I may take this opportunity of saying that *Primula nivalis* (true) of Pall. is a somewhat rare plant, neither so hardy nor yet so beautiful to my mind as the better-known white-flowered European plant.—J. W.

## THE WEEK'S WORK.

### PLANT HOUSES.

**FORCING SHRUBS.**—With the turn of days it may be deemed safe to introduce into a moderate warmth a few plants each of the hardy shrubs which have been duly prepared for early forcing, by correspondingly early potting in the case of home-grown material, if not already established and previously forced, or by using imported plants for first early work. One of the most reliable of all shrubs for the earliest use is Lilac *Charles X.*; it will force well in a fairly brisk heat, although I would not advise undue haste when it can be avoided. Another Lilac of which I am disposed to think we shall see a good deal more of is that called *Mme. Marie Legraye*; it is not apparently quite so dwarf as *Charles X.*, but it flowers very freely whilst still of small size. Being a pure white it is an excellent companion to the first-named. These we have now started on a bed of leaves with a gentle bottom-heat under pot Vines already breaking. The moisture thus obtained will assist an early break without the foliage getting too much in advance of the flowers. Large plants of Lilacs which are still in the open ground, but are intended for forcing, had better be lifted and stood in boxes or baskets in readiness with some soil pressed firmly around the roots, but unless compelled to do so I would not start these plants just yet.

Next to the Lilacs, note should be taken of the earliest Rhododendrons. Those which flower naturally whilst the weather is still cold are the best kinds to select for early flowering. Of these the various forms of *R. Nobleanum* in scarlet, rose and light shades of colour can hardly be said to require forcing, flowering so exceedingly early in a natural manner. I have often wondered why more use has not been made of this valuable early Rhododendron. Then there are the varieties of *R. præcox* and also one called *Early Gem*; these being dwarf kinds do not occupy too much space, whilst they flower profusely, being useful either for cutting or in the conservatory. Of the early deciduous Azaleas, the *mollis* section are by far the best; where these have prominent buds and a good number of them, they should be started with the Lilacs. For the earliest blooming, I prefer those plants of *A. mollis* which have been potted up for one or two years and have plenty of roots without any of the check consequent upon lifting and potting. Of Roses only those which are thoroughly established should be started yet, and these even should not have any undue amount of heat. In private gardens the Peach house just about started will suit them to a nicety. A few plants of the Guelder Rose duly prepared can likewise be started now. Of plants which I consider it advisable for the present to defer placing in heat are the *Deutzias*, *Prunus sinensis flore-pleno*, *Spiræa confusa*, *Andromeda floribunda*, and *Kalmia latifolia*. In a few weeks these will give much better results, taking them then in successional order as quoted.

What is really needed when dealing with these early-forced shrubs is plenty of moisture to induce them to start into growth kindly. Three or four syringings during the day, with another at night-fall or in the evening, will be none too much. Do not allow them to suffer in the slightest at the roots from want of water. Where it is possible to accommodate them all upon a bed of leaves with a gentle warmth, moisture also arising therefrom, they will do much better than if stood upon stages or on a dry bottom. As to successional batches, it is only necessary to say that a few plants introduced at the time of each respective kind is infinitely better than the larger number



with longer intervals between each. Later stocks now in the open should be carefully looked after; if they are not protected yet at the roots by being plunged, no time should be lost in doing it. For this I prefer a bed of ashes, the plants being plunged 2 inches or 3 inches over the rims of the pots. This saves the pots from breakage and is also better for the plants themselves. Further protection can be given if needed by a top-mulching of short litter; this will safeguard the removal of any should we have a severe frost.

**THE CONSERVATORY.**—This structure in any case where a cool one should now be made as attractive as possible, but more particularly so if it be attached to the mansion. Where it is possible I would facilitate this by raising the temperature a few degrees, so as to meet the requirements of plants which have hitherto been grown in more warmth. In this manner, for instance, the Poinsettias can be kept fairly well for a week or a fortnight, adding as they do largely to the lighting up of plants with more sombre foliage that surround them. What is needed in addition is careful attention to watering, keeping them of the two on the dry side, also in the warmest place. This little additional warmth will do no harm to such other plants as the Primulas, Cyclamens, early forced Hyacinths, and Tree Carnations, but with the Camellias some little caution is needed. This can be met very well by one or two syringings every day, seeing at the same time that they do not suffer at the roots. If this be attended to there will not be much to fear as regards bud-dropping, save in the case of excessive fogs that are not genuinely pure ones. In many cases this building will have to be lighted up. If it be done by means of gas, some top ventilation should be retained if the house can be kept at the required temperature. At the same time see that the shade of tall plants does not fall upon those which are dwarfer; these latter should be so arranged as to prevent this. By an inspection when the house is lighted up any defect in this way can be remedied to suit the occasion.

JAMES HUDSON.

### THE KITCHEN GARDEN.

**PREPARING FOR FORCING.**—It is as well now to commence making preparations for the early forcing of such subjects as Potatoes, Radishes, Carrots, or even Lettuce. Not that these need sowing yet or planting for the next few weeks, but it is advisable to get in readiness the heating material. About now, quantities of leaves, which form the best heating medium, may be secured. These should be collected and laid together in not too large a bulk, or heating may take place. Leaves are just as likely to become spoiled through overheating as stable litter. Equal parts of leaves and stable litter maintain a more lasting heat than litter alone. A supply of light and friable soil should also be provided, not that this need be new, as old potting soil or the soil from old Cucumber beds with some burned refuse forms an excellent compost, and should be made the most of. Leaf soil should be added when it is not sufficiently light, and pulverised horse manure or old Mushroom bed manure knocked up finely with the back of a fork in those cases where it may not be quite rich enough.

**SNOW'S WINTER BROCCOLI.**—The sharp spell of wintry weather we have recently experienced comes as a reminder that we should take good care of any Broccoli which is likely to become spoilt by frost. This has special reference to the invaluable Snow's Winter White, which if left exposed is apt to receive injury from frost, the young heads quickly becoming frozen through. Of course if we were sure of the weather keeping mild and open the plants could be left undisturbed. But as at the turn of the year sharp frosts are very apt to occur, all heads, or rather plants which are likely to prove serviceable should be taken good care of. Deep pits or wherever there is sufficient room for the foliage is as good a position as any. Lift them carefully with a ball attached and plant them rather thickly together, tilting the lights during favourable

weather. If there are no pits available, the plants may be laid in on a sheltered border, protection being afforded with mats kept off the tops by a wooden framework.

**BURNED REFUSE.**—There is no better season in the year than the present for collecting and gathering together all refuse, which may be reduced to ashes by burning. This material is of the utmost value to any crop grown in the kitchen garden, that is, if sufficient could be procured for the purpose. If not for all purposes, sufficient should be had for seed-sowing or for working into the surface preparatory to sowing the Onion and Carrot crop, as, besides being a beneficial manure, it is also a capital deterrent of the insects which are known to hibernate in the ground until the natural time comes for them to commence their depredations. All heavy soils are greatly benefited by the application of screened garden refuse. When needed merely for seed-sowing, it should be prepared by adding an equal bulk of old potting soil, which should also be sifted. A heap of such material cannot but prove of the greatest benefit in any garden when the time comes for its use.

**SALADING IN FRAMES.**—The present is just the weather for salading to damp off in frames if care is not taken to prevent it. The frames must be freely ventilated during mild weather and all decaying matter cleared away, the surface soil also being stirred. It is after a spell of frost that there is likely to be the most destruction. When frost occurs, keep the frames covered up. Unless it should be unduly severe, the lights could be uncovered during the daytime and also ventilated early to allow of damp escaping.

**WITLOOF.**—This is generally used as an adjunct to the salad bowl, but when well blanched it may be used as a substitute for Seakale. Witloof forces very rapidly now and in just the manner needed for Seakale. When to be used for salad, use the tops after being grown about 3 inches or 4 inches, as longer than this they are not so good. In forcing see that the soil is in a fairly moist state, this latter often making all the difference as to its being palatable or not.

A. YOUNG.

### HARDY FRUITS.

**APRICOTS.**—Most of the trees are well set with fruit-buds, or quite as much so as they were at this time last year, and it is to be hoped equally good crops will be eventually obtained. During mild weather the pruning and nailing may be attended to, these having little or no effect on the time of flowering. It cannot be too often pointed out how unwise it is to be sparing of the knife in the matter of pruning the lateral growth. When the young shoots were only lightly summer pruned, they require further shortening now, say to within 1 inch of the old wood. Left much longer than this, long ugly spurs are soon formed; whereas fruit of better quality is most surely produced on the shorter spurs or those that get the benefit of shelter from the wall and overhanging branches. Much may be done towards bringing trees into a better state by gradually shortening back long spurs either to better-placed back growths or by sawing them off clearly 1 inch or rather less from the old branches. When fresh growths are formed about these short stumps, keep them freely thinned out and well shortened back. Where they have been saved lay in well-placed young growths, if strong and well ripened, to their full length, but if weakly shorten back to half their length. It will be necessary in some cases to cut out some of the old branches in order to give the younger growths a chance to increase in size and productiveness, and by persevering with this treatment a change for the better will soon be apparent in the health of the trees as well as the weight and quality of the crops. Stunted old trees, as a rule, produce fruit of second-rate quality. Large old trees are very frequently neglected at the roots. After the pruning and nailing have been completed, those which last season gave signs of failing vigour should have their surface roots bared, the soil, after a good dressing of partially decayed manure

has been given, being returned on to the top of the latter.

**YOUNG APRICOT TREES.**—Where branches are commencing to die, the Moorpark being the first to collapse, the dead and dying should be sawn cleanly out and the rest rearranged, this making room in some cases for young trees to be planted. Never wait till great blanks occur on the walls before planting young trees, the wiser course being to anticipate these failures and there will then be no wasted space. Give young trees the benefit of fresh loamy soil with which old mortar rubbish, burnt soil and ashes have been freely mixed, but not any animal manure added. Soil that has so long been occupied by the roots of fruit trees, and, it may be, with the still hungrier roots from shelter trees outside of the garden, is not fit to receive fresh trees, hence the necessity for opening extra large holes, or say not less than 4 feet across, and filling in with fresh compost for young trees. If the position is somewhat low and the subsoil clayey, plant considerably above the ordinary level, raised borders best suiting Apricots in all such cases; also keep the collars high, sinking being allowed for. Newly-planted trees may be pruned now or at any time during the next six weeks, but they should only be lightly secured to the walls till the soil has settled somewhat. If all the branches are of nearly one size, well ripened and uninjured, there is no necessity to prune them, a fruiting stage being most quickly arrived at, when they are laid in to their full length very much as received from the nursery. If any pruning is thought advisable, shorten the branches to rather less than half their length, light pruning usually being followed by an irregular break, the shoots being produced principally at the extremities; whereas, unpruned shoots form either shoots or fruiting spurs at every joint throughout their length. Where it is desirable that walls be furnished quickly, this can best be done by training a strong central shoot upright and allowing this to branch right and left. The lower side branches should be reserved and laid in to their full length, but if the side shoots from these are kept stopped during the summer, still more vigour will be imparted to the spreading centre. If maidens instead of trained trees are planted, cut these back to within 5 inches of the point of union with the stock. Well-established young trees should have their lateral growths freely spurred back, short fruiting spurs being left their full length unless they can be cut back to a wood-bud. Lay in leading growths without shortening them, more shoots for furnishing being obtained during the summer, when gross wood can also be checked by pinching or stopping. In each and every case examine all the old shreds and nails, as should the former cut into the bark or nails unduly press against the wood, gumming and most probably loss of branches will result.

**PEACHES AND NECTARINES.**—It is too early to prune and nail these, but the good old plan of loosening the young wood from the walls may be adopted with advantage, as it further hardens the wood and retards bud movement. Before the trees are much loosened, it can better be seen where thinning out is needed, and this may well be done now, in particular cutting out old bearing wood, also foreshortening at the extremities. The young wood that is to bear fruit next season should not be shortened, and when loosened, see that no ribs are run of the branches being broken down by snow or winds. When the weather is mild and the ground free of snow and frosts, root-lifting and transplanting may yet be proceeded with, deferring these important operations till the spring, when so much other work presses, being a mistake.

**PLUMS.**—An examination of the trees discloses the fact that these, too, are in a very satisfactory state as far as abundance of flower-buds is concerned. They are hardier and more generally reliable than Apricots, but in many respects their cultural requirements, more especially pruning, are very similar. Laying in strong young shoots to their full length is the surest way of bringing apparently worn-out trees to a more healthy productive state, the old branches being sawn cleanly out wherever a younger one can be had to take its



place. If young shoots on comparatively vigorous trees are pruned, wood-growth and little else usually results; whereas, if laid in to their full length, abundance of short fruiting spurs will form during summer. It sometimes happens that this avoidance of shortening other than lateral growth ends in young trees being too fruitful, becoming stunted in growth accordingly. The remedy consists in early and freely thinning out the fruit and feeding at the roots. Also let exhausted old trees or any that are more disposed to fruit abundantly than to form much more wood than is desirable, have the benefit of a surface-dressing of manure as advised in the case of Apricots.

W. IGGULDEN.

#### ORCHIDS.

At the December meeting of the Royal Horticultural Society there was an exceedingly good display of Orchids of many bright and varied colours, conspicuous amongst them being the *Calanthes*, showing as I have pointed out in previous numbers, how very useful they are for the decoration of the Orchid houses, and also for cutting at this season of the year. They have practically entered into their season of rest when the flowers are open, and do not need so much heat as they received when in full growth. The garden varieties are now very numerous. They are so easily raised from seed, and take such a short time to produce their flowers, that every Orchid grower should endeavour to raise plants of them. The garden varieties of *Cypripediums* are also being abundantly produced and make a brave show. The most popular seed or pollen parent is *C. Spicerianum*, and although the seedlings are so numerous, few equal and none surpass the very beautiful *C. Leeanum*; this and the variety *superbum* still hold their own. From the recent importations of *C. insigne* many very distinct and handsome forms have flowered, and truly there are no *Cypripediums* so easily managed as these varieties of *C. insigne*. The ordinary type flowers very freely, and as it is easily grown in a warm greenhouse temperature, it should be found in every garden. The *Cypripediums* are as easily raised from seeds as the *Calanthes* and bloom in a short period (that is for Orchids); they may take five or six years from the time of sowing the seeds. One of the loveliest and most sweetly-perfumed Orchids flowering at this season is *Pilumna nobilis*; it is simply an enlarged form with stouter petals of *Pilumna fragrans* or *Trichopilia fragrans*. It does not thrive in the cool house in winter, but will do admirably at the cool end of the *Cattleya* house. There is a considerable difference in the temperatures of these Orchid houses if we take the end nearest the boiler and the one furthest removed from it. In our cool Orchid house, 60 feet by 12 feet, the difference is 5°, and the atmosphere is also rather drier at the warmest end. The *Cattleya* house, 50 feet by 20 feet and span-roofed, shows about the same difference in temperature, and when the end of a hot house is exposed to the north, this also makes a considerable difference, especially with long-continued frost winds from the north-east. We grow the *Pilumnas* on the north side of the house and near the roof glass in winter. The plants must not be too freely watered now, but they need a fair supply when in growth; indeed, they will take as much as the New Grenadan *Orontoglossums*. The handsome *Zygopetalum Mackayi* is also in bloom now, and its erect spikes of handsome flowers are very striking and effective. It is a large-growing plant and can very readily be propagated by division. It is a *Cattleya*-house Orchid and needs a large pot to grow in, with plenty of good fibrous peat. In dividing this and similar orchidaceous plants, it is much better to pull them asunder with the fingers, as by using a knife many of the best thick fleshy roots may be cut through. The *Cypripedium candatum*, of which we have a considerable number of plants on the stage near the glass on the shady side of the *Cattleya* house, does better in winter than in summer; the light and free expo-

sure to sunshine which *Cattleyas* require seem to cause the tips of the leaves of this species to decay, this not only considerably checking the growth of the plants, but rendering them very unsightly and of considerably less value. The pretty little *Masdevallia tovarensis*, of which there are many large plants with scores of flowers upon each, are now very pretty, and they will last well into the new year. The flowers of the autumn-flowering *Cattleya labiata* will mostly be over by Christmas, but the first spikes of *C. Trianae* are already sufficiently advanced to show the flower-buds out of the sheaths. This is very early, for the larger number of them will be in flower during February and March. Before leaving the *Cattleya* house, we must look up to the rafters and take note of certain plants suspended therefrom in baskets. The *Trichopilias* are there, and very lovely plants they are when in flower; but they must not be neglected in winter, for the very reason that they do not require much attention leads some careless gardeners to overlook the fact that the plants, although in a state of rest, are preparing at the same time to produce their flowers for next year. The plants most valued of this species are the pretty *T. suavis* and its white form *alba*, *T. tortilis* with its petals resembling a corkscrew, *T. crispa*, and *T. crispa marginata*. *T. lepidia* is rare and handsome, and there is also *T. marginata*, which is also grown as *T. coccinea*. Most of them have by this time completed their growth, but in the case of these and other Orchids, of which the growth is not completed, they may either be placed at the warm end of the house or be put into another house 5° warmer until growth is completed. The pretty little *Oncidium cheiroporum* should now be in flower in collections. We grow it in the cool house during the summer months, but in winter it has a tendency to damp off there either from lack of heat or from the effects of too much moisture. The plants may be suspended near the roof glass at the cool end of the *Cattleya* house, level if possible with the eye, so that it is easy to admire the compact graceful spikes of small bright yellow flowers or enjoy their delicious perfume. In watering these plants be careful not to pour it on the bulbs, as they are very liable to damp off when water is allowed to lodge at their base. *Aerides crispum*, *A. Fieldingi*, *A. Lindleyanum*, *Vanda suavis* and *V. tricolor* with their varieties succeed better in this house than elsewhere, and they retain their leaves better in the shady part of the house than on the sunny side. Any of them that show by the moist green state of the tips of the roots that they are yet in growth should so far be supplied with water, but not too freely; the roots clinging to the outside of the flower-pots must be dewed over with tepid water; once every day in the morning is the best time. When these plants get into the resting period, a thin greyish film creeps down the roots until only a green tip is visible. Less water is then required, but all such plants as these having no pseudo-bulbs to support them must not be dried off like *Cattleyas*, *Lælias*, *Catasetums*, &c.

J. DOUGLAS.

**Trichomanes reniforme.**—A magnificent batch of this very distinct plant is now to be seen in Mr. Bull's nursery. It appears to be very shy in producing fertile fronds. These plants are admirably adapted for a Wardian case, and if so used, I prefer them to be kept separate from other Ferns in a small case. Another grand plant is *Hymenophyllum dilatatum*, of which Mr. Bull also possesses many fine examples with broad and rich green pinnæ. The fronds are erect and produced from a creeping rhizome. A very pretty species and a free-growing one is *Hymenophyllum demissum*, which much resembles the Killarney Fern (*Trichomanes radicans*); the fronds, however, are more finely divided. Worthy of cultivation along with the above is *Hymenophyllum crispatum*, a pretty plant, with curled winged stalks, the fronds being three times divided and of a bright green. The above kinds will all thrive in a Wardian case, requiring only a temperature of about 40° to keep

them in good condition. These plants thrive in a mixture of sandy loam, peat, and sharp sand with some lumps of sandstone for their rhizomes to scramble among.—W. H. G.

## ORCHARD AND FRUIT GARDEN.

### GRAPES FOR PROFIT.

GRAPES under good management are said to pay well, but how long they will continue to do so is a moot question. The Channel islanders were among the first to plant Vines very extensively for the purpose of growing large quantities of Grapes for the British markets, and, thanks to the ease with which they could obtain land for the purpose, if at comparatively high prices, they more than held their own for a time. Of late years, however, a change for the better has taken place as far as obtaining land on the mainland is concerned, the consequence being that large numbers of vineries and forcing houses generally have been erected in all directions, the work of building still going on as briskly as ever. Already the inexperienced Grape growers in Guernsey and elsewhere have found that the inferior produce with which they have literally swamped the markets compares very badly with what is grown now so plentifully much nearer the markets, and, as might be imagined, the profits have fallen away alarmingly. In the first place, they relied too exclusively on that popular, but quickly perishable variety, the Black Hamburgh, and when they found they must grow less of this and more of the showy, long-keeping late varieties, their protective laws rendered it a very difficult and risky matter to import the latter. A considerable number of Black Hamburgh stocks have been grafted with Gros Colman, Alicante, Lady Downe's, and Gros Maroc, and still more Vines of the first-named planted, Muscat of Alexandria also being extensively grown. Now the merest tyro can manage to produce a heavy crop of Red Hamburghs (not many really black ones reach the mainland), and that, too, without the assistance of fire-heat, but the case is very different with Gros Colman, Alicante, and Muscat of Alexandria, as many of those ex-seaman growers in Guernsey and elsewhere have found to their cost. The latest reliable information to hand discloses the fact that many of these enterprising men (who have my sympathy and that of all other British gardeners who admire pluck and perseverance in their fellow creatures) are now rooting out Vines and giving the houses thus cleared solely or principally up to Tomato culture. Even in this department they will have to mend their ways, or else find Continental markets for their produce, as it is very certain better Tomatoes are being, or shortly will be, grown on this side in sufficiently large quantities to meet all demands.

Tomatoes, as Mr. Barron points out in his latest edition on "Vines and Vine Culture," are largely responsible for the greatly increased production of Grapes in this country, these more than paying for the cost of a cheap vinery while the Vines are reaching a productive state. Had it not been possible to grow large quantities of Tomatoes during the first two or three seasons in a newly-planted vinery, nothing like the number of Vines would have been planted, as it is very certain that many who put up large houses could not afford to wait four or five years before getting little or anything for their trouble. Nor is it possible to form expensive borders or such extraordinary combinations of



good turf, charcoal bones, wood ashes, mortar rubbish, and other ingredients so dear to the average gardener. What the market growers have, perforce, to do is to make the most of the soil comprised in their small holding, and it is greatly to their credit that they can produce such extraordinary crops at so trifling an outlay in the shape of fish manure, Thomson's manure, bones, or whatever manure they may favour for mixing with their ordinary soil. Nothing in the shape of expensive concrete bottoms, drainage and such like is attempted, ordinary land drainage being all that is necessary in very many cases. The Fordingbridge vineyard, near Wimborne, affords plenty of food for reflection to the gardener who may have previously thought it necessary to go to so much expense in the way of forming borders. There the soil is a well-drained gravelly loam, quite ready made for a Vine border, the only slight addition being what is thrown out when the foundations are dug for walls. For the first two or three years nothing in the shape of manure is given, the Vines growing very strongly without it, and not till they are being heavily cropped does feeding from the surface commence. Nowhere else have I seen heavier crops of Gros Colman, Alicante and Gros Maroc, 40 lbs. of Grapes being taken by Mr. S. Castle from rods the average gardener would be content to saddle with half that weight.

There is only a limited demand for high-class Grapes, or those perfect as regards size of bunch, berry and finish, and those who hope to make Grapes pay well must of necessity crop heavily and be content with those fairly well finished, or such, say, as sell readily at medium prices. Unfortunately, what may be termed medium prices are dropping in common with those obtained for both high-class and inferior produce. For instance, what, during this November and December only fetched 2s. per lb. wholesale, would in previous years have realised from 6d. to 1s. more. Even at the reduced prices, the sales are not readily effected, and in all probability more late Grapes will be cut and placed in bottles this winter than during any year previous. There is no doubt also that prices will rule low during the next two months, or so long as Gros Colman can be kept. The profits of the growers will, if my prediction is verified, and I am afraid my information is only too reliable, be lower than ever, as, in spite of the enormous weight of Grapes that is taken from the Vines, having to keep them longer than usual inevitably entails a considerable waste. The variety that keeps better than any, that is to say with a minimum of waste, is Lady Downe's. Unfortunately, this excellent late Grape does not readily lend itself to the market growers' methods, or, in other words, they are unable to grow sufficient weight of bunches from a given number of rods to justify them in planting it extensively in preference to Gros Colman. As far as many provincial towns are concerned, Grapes are very scarce during April and May, or when the only late varieties generally available are Lady Downe's and Mrs. Pince's Muscat. The latter is even more uncertain than Lady Downe's, and when I have discussed with experienced men the possibility of growing either of these long keepers profitably, they have invariably stated that Gros Colman paid very much better. Now that the latter is being grown in such greatly increased quantities, the chances are that Lady Downe's may yet prove the more profitable of the two. At any rate, were I to start growing for the market on a large scale, a house or two would be given up to Lady Downe's by way of experiment.

We sometimes hear of high prices being paid for Muscat of Alexandria, but when I give instances of 6s. and upwards being paid for superior samples, I am met with the well-proved assertion that these cases are altogether exceptionable. There are times when fruiterers and others will pay fancy prices for showy Grapes, but repeat the consignment a few days later and it is quickly discovered that prices have dropped materially. A considerable amount of cultural skill has of necessity to be expended on the Muscat of Alexandria, and fire-heat must be freely turned on for many months in succession; whereas Gros Colman requires only a minimum of fire-heat to bring it to perfection. All the same it is my belief that all who can grow and properly ripen heavy crops of Muscats will never experience any great difficulty in selling them at say on an average 2s. per pound. It is the only white Grape that does pay for culture on an extensive scale. With white Grapes, and more especially Muscats, private gardeners ought to be able to hold their own, but in but few instances can they do so with black varieties, unless given a freer hand in the matter of rooting out old Vines and making a fresh start with fresh ones of sorts more showy and of inferior quality it may be, but which are most in demand. Mixed houses are anything but satisfactory, and those owners of vineries who expect their gardeners to realise considerable sums for their surplus produce ought to be prepared to favour the introduction of market growers' methods.

W. I.

**Apple Dr. Harvey.**—I should like to ask Mr. Tallack, who sent you a note on the above (p. 461), if he grows Waltham Abbey Seedling, as I fail to see any difference in the Dr. Harvey and that variety as far as the fruits are concerned. I am not able to compare the wood and foliage; perhaps he may be able to do so. I fully admit it to be a good variety, a free bearer, and of large size, but these remarks apply with equal force to Waltham Abbey Seedling, a large, round, pale yellow, soft fruit, coming in at the season Mr. Tallack names. I have seen Dr. Harvey in the eastern counties under the name described, but have never been able to get at a tree of Waltham Abbey at the same time to compare the wood and growth of the two. Mr. Tallack did not describe the growth, but Waltham Abbey Seedling is remarkable for its large fruit and small foliage, a great bearer either as a pyramid or standard, our old standard trees carrying very heavy crops.—G. WYTHES.

**Should forcing Strawberries be protected?**—If "must" had been substituted for "should" in the above query, it would be easy to answer, "No." Of course, if there are frames standing idle or space to spare in cold houses, the plants may be put into them, as they can then be more conveniently handled if wanted in frosty weather; but this is the only gain, as plants left in the open with their pots plunged to the rims in ashes force equally well or better than protected ones and are uninjured by frost. A sheltered spot, where the plants are not fully exposed to blustering and biting winds, will be best for wintering the plants. It is well known that Rhubarb and several other things force better after being well frozen, and that this is so is proved by the second batch put in to force often overtaking the first when this has been introduced to heat before there has been any wintry weather. Frost puts the finishing touches to the ripening of crowns and roots, preparing them for a new season of growth. Why should this not be the same with the Strawberry, a thoroughly hardy plant when grown under natural conditions? I have never seen a pot Strawberry injured by frost in the resting season, or three per cent. of the pots split when treated in this way, even when zero has been reached more

than once during the winter. I never stack the pot plants for fear of their getting too dry, as the Strawberry is a moisture-loving plant; neither is any litter or other covering ever thrown over them, nothing of the sort being wanted if the ashes come right up to the rims of the pots. Apparently "Y. A. H.'s" successes with plants left in the open have been attained when the winters have been mild and not wet. Such winters are too uncommon, I should say, to allow of anyone trusting to the chances of getting them, for mild winters are generally wet ones, but I do not think we ever get too much rain for pot Strawberries if the drainage is as it should be. If I had my choice of places under glass in which to winter the plants, I should prefer a cold house to a frame, as they would be more constantly under the eye and not so likely to be neglected when watering; and if there is any fear of this, I would rather let them take their chance of Nature's watering out of doors than put them under glass to suffer.—J. C. TALLACK.

**Dessert Pears keeping badly.**—This defect has been general this year; many kinds have rotted just when they ought to have ripened, but there have been a few notable exceptions. That excellent kind Josephine de Malines is ripening well; so, too, is Knight's Monarch, and among early kinds, Beurré d'Amanlis, Louise Bonne of Jersey, Gansel's Bergamot, Williams' Bon Chrétien, and one or two more were good. Marie Louise d'Uccle has been the worst, though Duchesse d'Angoulême, Napoleon, and Thompson's have run it very close. Will any of your correspondents kindly give a list of those kinds which are keeping and ripening well with them?—J. C. T.

#### LARGE APPLES AND PEARS FOR FLAVOUR.

I HAVE seen adverse comments made as to giving these fruits the highest award when there were small kinds of higher flavour passed over, and I thoroughly agree with it, but it must be carried out always if anything is to be gained, as it will not do to give the award for large Apples and then to reverse it and give it only for flavour in the case of Pears. I am aware there are serious objections to cutting Pears, and rightly so, not only on account of the unsightly appearance they present a few hours after being cut, but also as far as the exhibitor is concerned, as the fruits when cut can only be once shown, and this will not meet with the approval of large growers, who now bestow much time and labour in finishing or colouring these large fruits, often growing them in pots and houses for exhibition purposes alone. The loss of a few large fruits by cutting would not be of great consequence, as it would to a certain extent place those fruits grown under natural conditions in a better position, as some of the abnormal fruits staged would then fall into the background if flavour was the chief point to be observed; but I fear in the case of Apples cutting the fruit cannot be justified for several reasons, as of late, size, colour, and finish seem to me to be three leading characteristics and to have been encouraged, as at all shows the points named are considered before flavour. I would point out the difficulties that exist in showing fruit now with such an enormous increase in the varieties, especially Apples, and with such a selection where size is everything, what chance is there for flavour, for instance, in a class for dessert Apples? Cellini Pippin, Lady Henniker, Prince Albert, King of Tompkins Co. and Emperor Alexander are pitted against Cox's Orange, Ribston, Golden Harvey, and other small varieties, the result being that the large kinds, which are also shown in the cooking classes, get the highest award for mere size. I must admit the flavour of some of the large kinds may suit some palates, indeed be preferred to that of a good Cox's, but in such cases the schedule may avoid these awards by allowing the judges to give the highest award for quality and not quantity. I think in cases where the schedule says dessert kinds, mere size should not be considered, so that the same remarks apply with equal force to Pears, and I agree that quality and not size should alone be considered. Beurré Diel grown



on a south wall and in a warm soil is not to be despised, and requires a lot of beating. I have had B. Diel this season on such an aspect all that could be desired. I admit Doyenné du Comice carries great weight, but it is not always shown in condition, and a poor sample of this variety against a fine Pitmaston Duchess must carry weight in any collection if the fruits are judged by appearance only. I noticed at one of our large fruit shows (the Crystal Palace) awards were given for flavour; this was most interesting to those who did not know the quality of each variety, as it enabled them to make a selection, but as far as the exhibition was concerned for mere lookers on, it was disappointing to see an array of fruit cut to pieces, presenting an unsightly appearance for two or three days. I think when fruit is cut there should be sufficient left whole to make up a respectable dish. S. B.

### NOTES ON STRAWBERRIES.

In reply to the following questions concerning Strawberries—

- 1, *Best kinds for flavour and bearing in your district;*
- 2, *Best early and late kinds for open-air culture;*
- 3, *New or little-known sorts you have found worthy of cultivation;*
- 4, *Mode of treatment to secure the best and most regular crops;*

we have to thank correspondents in all parts of the kingdom for replies.

— With regard to the best kinds for flavour, there will be much difference of opinion, owing to various causes. For flavour there is none better than the old British Queen, but it requires special cultivation and will not remain long on the ground. I find the best results are secured from strong plants put out in August. Dr. Hogg is another good kind, and those who fail with British Queen would often do well with this. It requires good culture, heavy soil and annual planting. The Pine section, of which Elton and Filbert Pine are good, often succeeds where the first-named fails. I would also advise La Grosse Sucrée for flavour. It is a grand cropper when not allowed to remain too long on the ground. Keens' Seedling and President are difficult to beat for flavour and free cropping when both qualities are considered. For preserving purposes it is difficult to get a better variety than Vicomtesse Héricart de Thury, excellent in every way, a heavy and sure cropper, growing freely on most soils, and when grown well a valuable early dessert variety, its size being its only drawback. I find King of the Earlies the earliest variety. Pauline is also an early fruiter, but of bad shape. Noble is a free grower, comes in very early and most useful, the only fault being poor flavour. I like Competitor better, this being an early kind. James Veitch, well grown, is, I consider, better than some so-called early varieties, though inclined to coarseness; but mere size is not objectionable in many places. For a few early dishes to succeed King of the Earlies there is none better than Vicomtesse Héricart de Thury, followed by La Grosse Sucrée. Of late years we have made considerable progress in prolonging the season by the introduction of late kinds. Waterloo is good for this purpose, and I am surprised it is yet sparsely cultivated. Some object to its dark colour, but this is not a serious drawback, as it possesses other good qualities, being a large firm fruit. Laxton's Latest of All will, I think, prove a valuable addition to our late fruits. Jubilee is an excellent late variety, a hardy, vigorous grower, of good flavour, doing well in most soils, and a heavy cropper. I have always relied on Oxonian for late fruit, but Latest of All and Jubilee are superior. Elton Pine should also be included in the list of late kinds, flavour and size recommending it. I cannot do better than mention the excellent qualities of Mr. Allan's new Strawberries raised from crossing British Queen and Countess.

I believe they will prove valuable additions, as they have size, appearance and flavour. I have not had an opportunity of testing them here. John Ruskin will prove a favourite where it succeeds; for forcing it did well, but I have not tried it in the open ground. I must also include Jubilee and Latest of All. Waterloo, if not termed new, is worth growing. White Knight will, I think, be liked, but I have not given it a large trial. Scarlet Queen is also a good grower, fruit large and bright and worth a trial. The mode of treatment to secure the best and most regular crops is undoubtedly by annual planting. Most of the varieties do best under this system of culture, this being the safest plan to secure size, flavour and a full crop. I plant strong runners as soon as they can be secured from the plants. These are obtained early in July from young plants put out thickly to produce runners for forcing. They are planted on trenched ground well manured, mixing heavy clay or loam in the soil for those varieties that are noted for flavour, but bad doers. In no case are the plants allowed to remain after two crops of fruit have been gathered; in many cases only one crop is allowed, as yearling plants produce the best fruit for dessert.—G. WYTHES, *Syon House, Brentford.*

— The variety I rely on principally for early work is Sir J. Paxton. Other early kinds are grown, such as Keens' Seedling, Stirling Castle Pine, and Pauline, but the above is preferred to these, as the flavour is so good, and also on account of its free cropping qualities and the large size of the fruits. The plants of this variety for the earliest supply are grown on a rather wide border facing due north and having the protection of a high brick wall, and on this border Strawberries are invariably ready for gathering the first week in June. Successional crops of the same variety are grown on borders having various aspects, and the latest bed out in the open ground. By this time Oxonian comes into use on a south-east border, and the supply is thus taken up by the plants on a north border, and with us these generally continue to yield till the end of August. This is a grand, free-cropping Strawberry, and I would not willingly replace it with any other variety that I am acquainted with. Sir C. Napier is grown, but the flavour is not considered good enough. Another variety which we have grown for the first time is Countess, and I have formed a very high opinion of it. It is a fine Strawberry, and it comes into use between Sir J. Paxton and Oxonian. Auguste Nicaise is also a good kind, and other varieties on trial are Competitor, John Ruskin, and a few others of which I shall be able to speak with greater authority another season. The system we pursue here is to replant one-third of the whole number grown each season, and a corresponding number is also broken up every year. With regard to the earliest lot of all, the plants are of three different ages, and this allows of one-third of them being grubbed up, the vacant ground being filled at once with new plants. Pots are employed for layering, and this is done as soon as the runners are ready, and planting out is performed as soon as the pots are well filled with roots. Oxonian succeeds best when broken up and replanted every second year, as the crop is not so good, nor are the fruits so fine the third season. British Queen and Dr. Hogg are the highest flavoured Strawberries that I am acquainted with. I class Sir J. Paxton next to these, then come Keens' Seedling, Stirling Castle Pine, Countess, Auguste Nicaise, and last Oxonian.—A. WARD, *The Gardens, Stoke Edith Park, Hereford.*

— From what I have seen of Strawberries here during two seasons, my opinion of Vicomtesse Héricart de Thury is very much improved. It is here our best all-round fruit; this with Sir Joseph Paxton we find the two best for forcing and packing. Nearly all our dessert fruit we have to pack and send to London, so we only grow those well adapted for this purpose. John Ruskin we started in the same house with Vicomtesse H. de Thury, treated in the same way, gathered them both on the same day, and sent them to the table with names attached, but of the two, Vicomtesse was preferred, its brighter colour being in its

favour, and it is not so liable to mildew. President being an old favourite of mine, I intend trying it for forcing here. We also grow La Grosse Sucrée, Sir Harry, Auguste Nicaise, James Veitch, and Noble, this, as usual, being a very heavy cropper here, but our soil, like many others, does not give it a good flavour. For late work my favourite is Elton Pine, with A. F. Barron, Waterloo, British Queen, and Latest of All. I am no believer in putting out plants that have been forced, but prefer good healthy runners prepared one season previous to planting them in their permanent places, where we give them plenty of room each way. Four years is the outside of their lives from time of planting in permanent quarters. We bastard-trench for them, giving a good dressing of manure; top-dress them in the winter, but do not dig this in. In warm showery weather we give them a good dressing of hot lime to kill insect pests, afterwards mulching before they are in bloom with long stable litter. We layer our runners in small pots in the usual way, but grow plants on purpose for this, and do not let them fruit at all, leaving all the early runners on them, so that we may start layering just when we wish. I like to get if possible all the plants plunged in coal ashes in a cold frame before any severe weather sets in.—J. LAMBERT, *Powis Castle Gardens, Welshpool, N. Wales.*

— The sorts that give the best all-round returns here are Noble, Vicomtesse H. de Thury, Keens' Seedling, Sir Chas. Napier, James Veitch and Waterloo. Elton Pine and Oxonian are failures. Auguste Nicaise is a very fine variety both in pots and the open. There appear to be two sorts under this name, one quite worthless, almost colourless, and of poor flavour.—G. BAKER, *Membland, near Plymouth.*

— In reference to Strawberries, our best earliest variety on sandy soil is Noble, taking it from all points, for although it cannot be called first-class in flavour, its vigorous constitution coupled with its enormous yielding properties atones for this partial deficiency. First-class flavour is not of such paramount importance—at any rate, we cannot afford to discard Noble. In reference to flavour, the best with me is Keens' Seedling as an early followed by President, James Veitch (which with me does grandly and is of good flavour), and Auguste Nicaise, tried here this season for the first time. It is of vigorous growth, bearing freely, its only drawback being its liability to red spider. Waterloo, comparatively new, is a great acquisition as a late sort, fruiting better on two-year-old plants than on one. I apprehend, however, that in the Gunton seedlings about to be distributed we shall possess varieties of the very first water—a combination of size, appearance, and flavour. The mode of culture I adopt, and which is now very general, is to have three beds, making a fresh one yearly and destroying one. I always layer from young stock, and I prefer, if possible, to keep the bloom pinched off runner-producing plants.—JOHN CRAWFORD, *Coddington Hall, Newark-on-Trent.*

— I consider our best all-round variety is Vicomtesse H. de Thury for forcing, flavour, and preserving. Sir Joseph Paxton and President are good. La Grosse Sucrée is a desirable variety. Pauline is a useful variety, travels well. Aromatic is a strong grower, and in a good season is a fine showy variety. Filbert Pine is still worth growing as a high flavoured variety—in fact, our best flavoured variety. I have grown Noble, John Ruskin, and A. F. Barron, and I like A. F. Barron best. It is an improved form of Sir Charles Napier, and I think on suitable soil it is a variety with a future before it. Our mode of culture is as follows: We trench our heavy soil, working in plenty of half decayed stable manure and burnt garden refuse, planting in August 2 feet from row to row and same distance from plant to plant, using either forced plants or prepared runners, keeping ground free from weeds and mulching with long stable manure as soon as flower stems show themselves.—R. MAHER, *The Gardens, Tattenham Court, Newbury.*

— As regards the best varieties for flavour and bearing in this district, I may mention the well-



tested Vicomtesse Héricart de Thury, La Grosse Sucrée, Keens' Seedling, Sir Joseph Paxton, Auguste Nicaise and President. For earliness, size and general fine appearance, Laxton's Noble, though somewhat deficient in flavour, is a taking Strawberry and a good cropper, and for market it has few, if any equals. Late varieties: Elton Pine, Oxonian and Helena Gloede. The last-named three varieties planted under a north wall give us a very good succession. Were I confined to the culture of only one variety of Strawberry, that variety would undoubtedly be Sir Joseph Paxton. It combines all the good qualities of a Strawberry—flavour, size, bright colour, handsome appearance, and the flesh being firm it is a first-rate traveller, that is when carefully packed; it may be sent a long journey without being injured, and it is also a good grower and an excellent cropper. The Alpine and Hautbois are Strawberries which appear to be but little cultivated. The former is the last Strawberry that we have, producing its small bright red fruits until cut down by frost. The runners should be planted out early every summer in rows 1 foot or 14 inches apart and at the same distance from plant to plant, attending to them in the way of watering and picking the flowers off the plants the first year, also removing the first flowers the following year, so as to get the plants to yield ripe fruit by the time the other varieties are done bearing. The plants do better by having stones, flints, &c., placed closely together over the ground between them. These, in addition to preserving moisture at the roots, keep the fruits clean. The Hautbois should be planted in triangular patches in rows 2 feet asunder. The fruit is quite distinct from that of all other Strawberries in colour, flavour and aroma. Here, as in many other gardens where quantities of Strawberry plants are annually forced, several rows of each of the approved varieties are transplanted to liberally prepared ground in March, April and May after the plants have been duly hardened off and while quite moist at the roots, giving a distance of 2 feet between the rows and the same space between the plants in the row, treading the soil firmly about the plants and then laying on a good surface-dressing of short manure between the rows and plants, and giving the whole a good watering. Of course, the plants are divested of any bad leaves that may be attached thereto before being planted out. After the crops have been gathered from the established plants, a like number of rows of the oldest plants—plants which have borne three crops of fruit out of doors—are cut down with the draw-hoe and burnt, and Broccoli planted in the ground thus vacated in holes made with the crowbar, letting the plants down to the first leaves and working a little soil about the roots with the setting-stick and then watering.—H. W. WARD, *Longford Castle, Salisbury.*

—The best kinds for flavour are British Queen, Dr. Hogg, Vicomtesse Héricart de Thury, while for bearing, Sir J. Paxton is the variety cultivated in such quantities for market use, owing to its large size, good colour, firmness of flesh for travelling and freedom in bearing. Vicomtesse Héricart de Thury is splendid for garden use, being a heavy cropper, but too small for market. Noble is not much prized by the market people owing to its bad flavour and soft character. A sort called Garnier's is much grown by some for early picking. It is a local sort; the fruit is rather below medium size, bright in colour, and early. Alice Maud is grown by a few for its earliness. Here I find the Vicomtesse as early as any. Noble would be the earliest of all, but the last two years we have experienced frost just at the time the first blooms were expanded, thus checking what would be the first fruits. By a few persons Prince Frederick is grown merely for its earliness, but the fruit is of very poor flavour. The best late sort grown in quantity is Sir J. Paxton; this variety has such a way of producing late bloom trusses, that it is the only sort grown in quantity for this purpose. Waterloo has not been grown long enough nor in quantity to determine its worth as a late sort, but from what has been experienced it promises well in this respect. Dr. Hogg and

Captain are the only sorts that I have tried away from the ordinary kinds; the former is distinctly good in quality, but the chalk with which our soil is so highly impregnated is not conducive to great success. Captain produces very firm, highly-coloured fruit; the flavour is but moderate, while the crop is much too small to warrant its retention. There appear to be too many blind bloom-buds produced on the plants, which is a serious defect. The method most commonly practised in field culture is to take a crop of Potatoes from the land, and early in September to plant the runners which are dug from among the fruiting plants, preserving the roots intact, but removing the soil from them. Care is taken not to plant the runners so deeply as that the crown would be buried. If the runners cannot be planted during September, it is deferred until March, when all danger of frost lifting the plants is past. The distance at which the plants are put out varies in different localities; as a rule 2 feet is allowed between the rows and 16 inches between the plants. Manure beyond what the Potato crop required is not employed. Common salt is largely used in the place of farmyard manure. Garden culture differs from field culture. Early runners are layered into 3-inch pots. These make stocky plants by the first week in August, when they are firmly planted on deeply dug and moderately manured land 2 feet apart all ways. By establishing the plants early a fair crop of fruit is obtained the first year. The length of time the plants will continue to bear fruit varies very much in different localities. I have known the same plants fruit annually well for ten years, but as a rule four years is considered quite long enough to allow the same roots to remain, and very often after the third year they are destroyed. During the early part of August the runners (except those for stock) and the bulk of the leaves are cut off, the ground cleared from weeds, but in most instances the space between is not broken.—E. MOLYNEUX, *Swanmore Park.*

—Sir Joseph Paxton has, so far, proved the best all-round variety on our soil, Loxford Hall, Garibaldi, and Waterloo following in the order named. Noble is our earliest variety, and is of fair quality and a great cropper. Waterloo and Oxonian are our best late kinds. Some new varieties are on trial, but it is too soon to speak decidedly of their merits. We find that deep trenching and heavy manuring give the best results on our light sandy soil, only allowing the beds to stand for three years and then rooting them out.—S. T. WRIGHT, *Glenston Court, Ross.*

—Best kinds for flavour and bearing are, I think, Dr. Hogg, Competitor, Sir Joseph Paxton, President, Commander, Vicomtesse Héricart de Thury, and James Veitch. The best early and late kinds are: early, Vicomtesse Héricart de Thury, Noble, Competitor, La Grosse Sucrée; late kinds, Waterloo, Elton Pine and Jubilee. We never keep a Strawberry plantation longer than three years. In the autumn the piece of ground that is to be occupied with Strawberries the following year is trenched, working in a good supply of manure as the work proceeds. In the spring it is planted with early Potatoes, and as soon as they are off the ground is levelled and a good dressing of wood ashes is lightly forked in, not dug; then the ground is ready to receive the plants. We layer our plants into 3-inch pots early in July, and they are planted as soon as well rooted in rows 2 feet 6 inches apart and 2 feet apart in the rows. As soon as planted they are mulched with well-decayed manure, which prevents having recourse to watering.—W. HARMAN, *Bickley, Kent.*

—Strawberries have done very well. I consider, for an early good-flavoured sort, none can beat Black Prince. Vicomtesse Héricart de Thury is very good with me; next, President, Sir Charles Napier, James Veitch. Noble I have had grand, as far as size and appearance go, but it has no flavour. To secure good crops, I recommend trenching a piece of ground as much as will be required for one year; dig in manure and dress with lime. As soon as the young runners have given a few roots, plant out 2½ feet between the rows and 1 foot apart in the rows; attend to them

with water till they get established. I do not recommend leaving them after the second year. By starting at one end of the garden and cropping with Strawberries, trenching down as soon as the second crop is gathered, the garden is kept in good heart for all crops.—W. M. GEDDES, *Thrumpton, Derby.*

—With regard to the best flavoured and best bearing Strawberries for this district, after repeated trials of many kinds, we have settled down to three kinds, but only two of these are grown in any quantity, and they are Vicomtesse Héricart de Thury and Sir Joseph Paxton, adding Auguste Nicaise for the late batch in pots under glass only as a sensational fruit, as it does not give us a full crop not taking one season with another out of doors. This season the last-named has been very light, I think owing to the frost injuring the blooms, but the enormous fruit sometimes produced and which are of fair flavour will always find admirers. No one can, I think, find fault with Vicomtesse, or Garibaldi, as it used to be called, as regards its flavour; the only failing is the fruit is small, but then, again, it is produced in enormous quantities, and after the first few fine fruits are gathered we find it the easiest to gather for preserving, as the fruit parts freely from the calyx. Sir Joseph Paxton we find of first-class constitution, an abundant bearer, the fruit of good size and shape, highly coloured, firm and excellent for travelling, and of fair flavour, making it a Strawberry hard to surpass when all points are taken into consideration, and I find the area over which this kind is grown extensively is somewhat a large one. When a somewhat limited collection is grown there is less chance of mixed plantations, which are only too common in many gardens. The mode of treatment best calculated to ensure a full and regular crop is to make a new plantation every year. This new plantation generally follows early Potatoes which have been planted on trenched ground, so that by the time the Strawberries are planted the ground has got moderately firm. This planting is always made from the latest forced plants, which are strong and healthy and give a full crop of fruit a little less than twelve months after planting; these plantations are allowed to stand one more year, after which they are done away with. A small portion of the new plantation is made up with young runners, say two or three rows, planting them somewhat thickly in the rows, but the rows the same distance apart, viz., 30 inches. These young plants if got out early give excellent runners to layer from the following July, and the plan is much better than having to go among the fruiting plants to secure them. As soon as the layers have been removed the young plants in the row may be thinned. This planting produces heavy crops during the two following years, after which they are destroyed like the rest. I should have said that the flowers are pinched off these young plants the first season to throw all the strength into the production of early and good runners, which is the key to a good lot of plants for forcing. But the main plantation is always made from forced plants every year. I think that one of the principal sources of failure in Strawberry culture is allowing the plantation to stand too long. We have on several occasions allowed a portion of those planted out of pots to stand to the third season, but they have never given satisfaction, and we now give these two seasons, and those planted as layers three seasons as the extreme limit for profitable crops. I can well recommend the planting out of a portion of the plants prepared as for forcing on a sloping south border during August, making the ground firm about them, and with or without the aid of a few glass lights a valuable lot of early fruit can be secured, but after the first fruiting these should be done away with, as they get too thick to produce early crops another year, as light to the fruit is an important factor to their earliness.—C. WARDEN, *Clarendon.*

**Apple Manks Codlin.**—The true variety of this is one of the best early Apples in cultivation; it is ready for use early in August, and continues



good until November. In these gardens are three old trees which have not failed to produce a good crop during the past twelve years, this year, one of the worst on record, being no exception. For market the fruit may be considered too small, but for home consumption, where quality is the first consideration, it is in request as long as obtainable, and is much appreciated for making into jelly.—*J. DAY, Galloway House Gardens, Garliestown, N.B.*

## KITCHEN GARDEN.

### A FREE USE OF MANURE.

THOSE private gardeners who have not previously seen but little of what is going on in the market gardens and farms round London and other large towns are invariably impressed with their first glimpse into the ways of those working these. Especially are they surprised at the quality and quantity of manure that is used. As a rule, private gardeners fail to get enough solid manure, and in very many instances have to be content principally with what has previously done duty as hotbed material. Very poor stuff the latter is, or little better than a mass of humus, and such ought always to be supplemented with fairly liberal supplies of chemical manures, that most generally needed being potash in some form. To all appearances market growers apply their cheaply-obtained and really good animal manure—the principal fertilising properties not being either washed out by rains or dissipated by undue fermentation—at the rate of not less than 30 tons, and not unfrequently nearer 40 tons to the acre. The ground being in a good condition for receiving this, it both can and does produce enormous crops in close and rapid succession. Good stable manure, such as can be obtained in the neighbourhood of large towns and also any from a mixed farmyard, more especially where the fattening of beasts is going on, is as near perfect as can be mentioned. In this case it would appear next to impossible to overdo the ground with this in a semi-decayed state, always provided the cropping is close and heavy. It is very different with the rotten stuff that has to do duty in very many private gardens. This contains but few constituents of a plant-sustaining nature other than moisture, and which humus both holds and absorbs from the atmosphere. In the course of a few years this kind of manure sours soils, especially those of a clayey nature, and this can best be corrected by a dressing of lime instead of manure applied at the rate of 2 bushels per square rod. The lime most to be preferred is that obtained from the magnesia limestone rock, and this ought to be applied direct from the kiln. It can be most simply slaked by being laid in small heaps and covered with soil for a few days, and should then be spread over the surface of the previously dug ground and forked in. The effect of this dressing on manure-sick ground is almost magical. It has the effect of liberating food previously locked up, and enters into combinations with other constituents required for the invigoration and sustenance of vegetable life generally.

It was not, however, my original intention to discuss the nature of manures, but rather to touch upon what crops stand most in need of rich food at the roots. All things considered, the most liberal use of solid manure is advisable in the case of Globe Artichokes and Rhubarb, as it is scarcely possible to grow these too strongly. On dry hot soils and poor ground generally, the former fails badly in a

dry season, and at no time are the heads so large and succulent as desirable. For these crops, resort to trenching or double digging, mixing manure freely with both spits, while if the nature of the ground renders trenching impossible, increase the depth of surface soil by means of additions of compost in which strong loam and manures figure largely. In my case Globe Artichokes are of such importance, that I would deny any other crops solid manure in order to let the former have plenty both mixed with the soil and in the form of a mulching. Rhubarb is not nearly of such importance, but pays well for liberal treatment. Onions if wanted of large size must have plenty of solid manure in the soil in addition to soot and other manurial dressings, and even if medium-sized to small roots are preferred, it is advisable to make the ground rich, firmness of soil and thick cropping doing the rest. Soot, in addition to being a good fertiliser, is also to a certain extent a preventive of Onion grub. It pays well to well fork in half a bushel to the rod now and to apply another somewhat lighter surface dressing just prior to sowing the seed. It is an old custom to sow Onions in succession to Celery, the latter being supposed to leave the ground in excellent condition for the reception of the former. Such may be the case in some few instances, but as a rule Celery exhausts all the manure placed in the trenches, and the apparently finely divided state of the surface of the ground when levelled is altogether misleading. The surface may be perfectly fine, and just underneath patches of soil closely run together, wet and cold be found. It answers my purpose to devote ground previously cleared of early and mid-season Celery to Onions, but advantage is taken of a frosty morning to wheel on a good dressing of manure, rough digging following as soon as practicable. Thus treated the soil breaks down admirably at sowing time, invariably producing a good crop of medium-sized, firm Onions, and when the latter are cleared off very little further preparation is needed for spring Cabbage. If Carrots, Beet, Salsafy, and such like were to follow Celery, I would yet advise digging the ground deeply after the levelling has taken place, no animal manure being given however. Contact with the latter and also masses of wet trampled soil buried well below the surface by the levelling process cause tap-roots to fork badly. These, therefore, should have a finely-divided deep root-run, and if solid manure is applied it must be buried not less than a foot deep.

It is a mistake to be too stingy with manure as far as Potatoes are concerned. Doubtless market gardeners somewhat over-do their dressings, contact with so much strong manure having the effect of impairing the quality of the crops. If such is not the case, how else are we to account for the bad quality of the bulk of market Potatoes as grown in the vicinity of large towns? If good solid manure is applied at the rate of 30 tons to the acre, this being dug in now where the land is of a heavy nature and not distributed market farmers' fashion along the drills at planting time, the Potatoes will get the full benefit of this and leave the ground in splendid order for any members of the Brassica family or Strawberries. Gardeners having nothing but poor rotten manure to wheel on to their Potato ground ought to supplement this at or near planting time with either soot, guano, or superphosphates and kainit. Well-decayed garden refuse to every five loads of which one load of fresh lime has for some time previous been well mixed, is one of the best manurial dressings that can be applied by way

of a change to Potato ground. Peas, runner and Broad Beans must have plenty of manure under them, or they are liable to fail badly in hot, dry weather. The manure dug in ought also to be only partially decayed, as I have repeatedly found that where old hotbed or very rotten manure has been used, the former especially has been badly attacked at the roots by eelworms. When once the latter make their home in the roots these become greatly swollen, and both root-action and top-growth are quickly paralysed. Wood ashes mixed with the manure and very lightly sown with the seed is a preventive of insect attack at the roots, and also acts as a powerful fertiliser. Sown too freely with the seed it is liable to cause the latter to decay, and the soil in the drill ought only to be just whitened by dry wood ashes at sowing time. Kidney Beans will thrive well for a short time on unmanured ground, and produce heavy crops if they succeed a crop for which manure was freely dug in.

Cauliflowers revel in a rich root-run, the strong fresh manure dug or ploughed in by market growers suiting them well. To have them extra fine, or say fit for exhibition, manure should be freely dug in and liquid manure given in large quantities when the hearts are forming. If Brussels Sprouts are given good room and a moderately firm root-run, there is not much likelihood of too much manure been applied at the roots, and the same remarks apply to Borecole generally. Broccoli, Chou de Burghley, and Savoys I prefer to plant in succession to Leeks, Strawberries, or any other crop for which manure was freely used, a moderately rich, yet firm root-run best suiting this class of winter vegetables. *I. M. H.*

**Brussels Sprouts and Potatoes.**—I note that "W. I." takes exception to my comments on the non-advisability of planting Brussels Sprouts in conjunction with Potatoes. I admit that "W. I." has made out a very good case, at least as regards dual planting in the matter of very small kitchen gardens. But all the same I consider it a bad system to adopt generally. Winter crops of any green vegetable cannot be grown too freely exposed, and if this had more attention, we should not so often hear of the destruction of green crops during severe and prolonged frosts. In the last paragraph, "W. I." says there is another point to be scored, "that heavy soils are, or ought to be, freely manured now and roughly laid up for the winter." No doubt "W. I." is giving his own experience with his own particular soil, but if the soil of the garden he has charge of will allow of this being done, he has one of the best of heavy soils to deal with. If the soil in my district was treated similarly, it would be quite spoilt for one season, and very likely two. Heavy soils cannot be all treated alike. It is not because one kind or class of heavy soil may be turned up in the autumn or early winter that it is conclusive evidence that this can be done in all cases.—*A. Y. A.*

Like "W. I." I make a practice of growing Brussels Sprouts between rows of Potatoes, and I have never seen any valid reason why this should not be done, for if properly carried out no harm is done to the sprouts and the Potatoes are as good and as numerous. Certainly the rows are farther apart than would be the case if the sprouts were not grown on the same ground; but the loss is not equal to the gain, as we give them less room than "W. I." does, or say about 38 inches, and we find this ample for both crops. As "W. I." says, the point is to select short-topped Potatoes, and there are others besides the Ashleaf kinds of excellent quality which serve as well, and no other is better than Snowdrop for the purpose, this being an ideal garden Potato of splendid quality either as a second early or a late kind, and good to the last. Covent Garden Perfection and Sutton's Prize-



taker also are dwarf and suitable; but it is needless to enumerate varieties, as there are many dwarf sorts to select from, and dwarfness is the thing needed. I have now three good plots of Brussels Sprouts, one grown between Potatoes, the others planted in the open, and there is nothing to choose between them. I grow principally the old Paris Market, and no sprout can beat it for general use or for quality when cooked. Too many coarse or giant strains of Brussels Sprouts are in the market. These may be best for exhibition, but they will not bear comparison with the old stocks for quality, and they have also the fault of not coming true to name, many of them being loose and unsightly.—J. C. TALLACK.

#### EARLY SEAKALE.

I QUITE agree with Mr. Wythes' remarks (p. 455) as to the superiority of Seakale grown from root-cuttings, and also that two seasons' growth is not needed as a preparation for forcing. Seedlings do well sometimes, but my experience is that scarcely any vegetable has so many enemies when in the seedling stage as Seakale; consequently losses are sure to occur if the natural enemies are in evidence. Plants from seed, too, do not force so readily as those grown from cuttings, at least when they have only had one year's growth, and this has probably given rise to the idea that two years' growth is necessary. Given good thongs, properly started before planting, at least a month is gained in growth, while birds rarely touch the young shoots, neither does the Turnip fly attack them. Many seedlings are lost through these causes, and even the little black slugs, which eat many young plants, do not do much damage in the case of root sprouts. I like to lift the plants as early as convenient after the fall of the leaf, all root thongs of the right size being then cut up into lengths and placed thickly together in the soil of a Melon or Cucumber frame, which may not be wanted till spring. The tops of the thongs are kept level with the soil, and they stay here till planting time. The frame is covered up in very severe weather to prevent the thongs from splitting through being frozen. More thongs should be saved than will be needed eventually, as this will allow of a selection of the best sprouted ones for planting. I make the thongs each about 5 inches long, this being more than the generally advised length; but I think better roots for the ensuing year are obtained by so doing, and the sets have a better chance of escaping the drought if a dry time sets in after planting. I plant in rows 21 inches apart and allow 12 inches between the sets. Weeds are kept down by fairly heavy dressings of salt at intervals during the growing season. This helps the plants greatly, as no manure acts more beneficially on Seakale than salt. When the forcing crowns are lifted, they are laid in in any odd corner where they will not get set fast with frost, and drawn from as required. For forcing, makeshift places can be made to answer well, and many are the ways used. No place suits the forcing of Seakale better than a heated Mushroom house, but the heat must not be too great or fluctuating. I force all the earliest in a rough-made enclosure in a shed close to a boiler house; under the shed floor is the main hot-water pipe leading to some houses. The floor is made of flag-stones, but immediately over the pipes an opening, over which a plank is laid, is left. Round this space I have made a box 18 inches deep, 6 feet 6 inches long and 4 feet 6 inches wide, and here I can force 300 crowns; but I only put in 100, at the same time leaving the rest of the space for successive batches put in weekly. I can keep up a succession by clearing out each batch as it is cut and putting in a fresh lot. Later on I bring on batches under arches in the Fig house, and this brings us to the latest lot, which is forced in beds where grown, finely-sifted coal ashes or sand being used for blanching the last few dishes, and for these no pots are used. As to varieties, I find Lily White to be equal in other respects and superior in colour to the common kind, and I am growing some hundreds of it this

year for forcing, besides having made a permanent bed for the latest cutting, as unless very thickly and heavily covered up, the purple kind comes of the worst colour in the spring.

J. C. TALLACK.

**Parsnips.**—In no vegetable has there been so little improvement effected as the Parsnip. Probably this arises from the fact that because somewhat strong in flavour and esteemed very watery, it is not in great request. It may be that there are no means of intercrossing the Parsnip, and thus no advance of an appreciable kind has been made. What was once regarded as a distinctive form under the name of the Student seems now to be a good selection of the Hollow Crown. It may also be that some of this indifference to the Parsnip is found in the customary method of cooking it, for when peeled, cut into pieces, and boiled in water as usual, the product is a quantity of strong watery pulp. When, however, the roots are simply scraped, boiled whole in a small quantity of water, so that when done the water has nearly all evaporated, then Parsnips are soft and of delicious flavour. Now is the season for cooking Par-



Summer use of Seakale pots in flower garden at Woodlands, Cobham.

snips, as with the advent of winter they just become good.—D.

**Management of seed Potatoes.**—If not already done, all the seed tubers of the early varieties should be arranged crown upwards in single layers in shallow boxes or baskets and placed where light can reach them, so that the main crown eyes may come strong and green. Very few growers use cut sets of early white kidneys of the Ashtop type, but the Beauty of Hebron and the varieties which have sprung from that variety may be cut with advantage when large, as they have more eyes than the white kidneys. For first early Potatoes the land can scarcely be too rich, and this could be seen to now when the ground is being prepared. If early Potatoes are manured at the planting season and in very light soil, it may be advisable to defer the manuring till then; the manure must be thoroughly decomposed, or, better still, worked into a compost with the charred remains of the rubbish heap and a little artificial manure mixed therewith. Bone phosphate and guano mixed in the proportion of two of bone phosphate to one of guano always brings

forth good results, and in the case of Potatoes forced in pots or in frames this mixture used at the rate of half an ounce sprinkled round each set will give good results. Potatoes for planting in frames should be started now in a temperature of 55° to 60° if required for planting in January or early in February. It is better to start in time, as more heat in these short days will draw the plants up weakly. Where much Asparagus is forced in frames there is generally enough heat left in the beds after the Asparagus is over to bring on a crop of early Potatoes, especially in the frames cleared after February comes in, as then the sun will be gaining more power.—E. H.

#### FLOWER GARDEN.

##### SUMMER USE OF SEAKALE POTS.

WE were pleased in Mrs. Earle's garden, Woodlands, Cobham, to see how prettily these were used for half-hardy plants in summer, as shown in our engraving. The pots were simply turned up, roughly drained, filled with scarlet Pelargoniums and other half-hardy plants, and placed on a little terrace, where they looked very well. The pot is really better in form than the usual garden pots.

##### NOTES ON HARDY PLANTS.

**Monarda didyma.**—Dull as the garden is at present, this plant manages to keep itself in evidence by its powerful and pleasant smell. Its tall tops are brown and dead, but its matted root stems, which run closely on the surface of the ground, are slightly verdant and give off the pleasant (if strong) smell by which the plant has earned its common name of wild Bergamot. With regard to this red species, I have heard a deal in the past summer in reference to the degree of colouring that occurs in different gardens on the leaves, stems and flowers. I think it may be concluded that soil and climate are largely responsible for variations in these respects. I know that in some gardens the scarlet is so deep in colour, that it might be properly termed "dusky," and the colour extends well down the stems of the plants. I have seen the same stock in another garden of a much lighter scarlet. At the same time, I believe there are varieties with colour properties quite fixed, yet differing considerably. The purple *Monarda*, too, is better or worse in its colour shades according to garden conditions. I believe the colours are invariably better where the soil and climate are the more moist, and perhaps a fairly stiff loam is the better kind for these showy summer plants. I have never anywhere seen a white variety that I would care to cultivate. Not only is the white wanting in purity, but in no plants that I have seen is there a corresponding extension of the colour to the foliage, as in the case of the purple and scarlet forms.

**Bulbocodium vernum.**—This bulbous and early-flowering plant is hardy enough for almost any garden, but though it blooms freely in its way, it hardly ever makes a creditable show out of doors because the flowers appear without the foliage. They are of humble stature and of somewhat ragged form and dingy colour; besides, the date of its flowering is when the weather is usually bad and damp, just the sort of weather to destroy any colour beauty that there might be in a red-purple flower. It might be described as a poor flower of the autumn *Crocus* type—the *Colchicum*—only, of course, it appears in spring. It is an alpine plant, and the best way to grow it is in the midst of an evergreen creeper, like some of the



Stonecrops or the prostrate *Genistas* in the way of *G. pilosa*. These not only help to sustain its somewhat brittle tubular stem, but also to keep it free from splashes.

**The Pulmonarias, or Mertensias.**—Owing to the somewhat indiscriminate use of these two names for two widely differing genera, there is much confusion among gardeners, especially with regard to a plant having the same geographical and specific name *sibirica*. Very often when the glaucous-foliaged tall species with pale blue flowers is wanted, it is wrongly asked for by the name *Pulmonaria sibirica* instead of *Mertensia sibirica*. I have no intention to do more than give the hint that with regard to these Borage-worts, those especially who are about securing plants should be careful with the names they use. For a long time the two *Mertensias*, *sibirica* and *virginica*, have done duty for each other cross-wise in reference to their names. Hardly any two plants of the same genus could be more dissimilar. *Virginia* appears and flowers very early, the young foliage being plum purple, the stems a foot or less high, the flowers large and in long racemes; whilst *sibirica* flowers much later and continuously through the summer, has a glaucous-green foliage, tall stems nearly a yard high, forking, and the flowers disposed in more lax racemes, smaller, more tubular, but rather resembling in colour those of *virginica*. *Virginia* also dies down in early summer. *Sibirica* is one of the latest to fade in the autumn.

**Shortia galacifolia.**—As I have said before, we get to know about this as time goes on. Whilst we know that the plant will make slow, but healthy progress in ordinary sandy loam, we find it will grow luxuriantly in a compost chiefly of leaf-mould, good rich stuff like that in which our *Auricula* friends grow their rarest gems. It also would seem that vigorous plants should only be expected when they have a piece of strong underground stem. These I find are of a woody character, and push forth tufts of roots from every joint, and those roots at the furthest extremity, equally with those close under the more foliaged parts of the plant, may be found to be in most active condition. This indicates to my mind that, humble as the plant may be, it requires comparatively a great amount of root-fibre. It is quite likely that this will become one of the most popular of low-growing and slow-spreading plants for our rock gardens.

**Anemone blanda.**—The buds of this dainty Windflower may be a welcome sight, reminding us at the Christmas season of the coming spring, but they are hardly safe unprotected out of doors. Anyhow you will get very different and much better results in the way of higher colour and more perfect flowers if you shelter them with a little glass in some way, but not, of course, to exclude the air. Indeed, I have always found that this winter-flowering *Anemone* is most profitable in a frame where frost can be kept out. Not that the plant will not stand frost, but so grown you save the pretty foliage, which bedecks as with a frill the handsome large flowers, and, moreover, the flowers themselves are saved from those dull shades which follow a keen frost. J. WOOD.

Woodville, Kirkstall.

### THE GODETIAS.

If the genus *Godetia*, which was established by Spach and has been referred by most modern botanists to *Oenothera*, can hardly be distinguished from the last-named genus botanically, this is not the case from the horticulturist's point of view, as these plants are very extensively grown in gardens under the former name, and they are much more appreciated and cultivated than the true *Oenotheras* in flower-knots, borders, pots, &c.

All the species of *Godetias* are annuals and are indigenous to California. The fine varieties which we now possess have been derived principally from *Godetia Lindleyana* (Spach),

*G. rubicunda* (Lindl.), and especially from *G. Whitneyi* (Hort.) (*G. grandiflora*). These plants are valuable for their hardiness, vigorous growth, branching tufted habit, and particularly so for the exceedingly great abundance of their flowers. It is hardly possible to meet with handsomer plants than some of these varieties, the large, gaily-coloured or perfectly white flowers of which literally conceal the foliage, so that when seen in masses in a flower-knot the effect is really admirable.

The culture of *Godetias* is easy, being similar to that of most annual plants that are grown in the open ground. They like a light, mellow, very fertile soil and plentiful supplies of water during the summer. They are propagated only from seed, which may be sown either in autumn or in spring in a seed-bed or else where the plants are intended to bloom. In the latter case, however, the plants have more or less a tendency to make a long slender growth, so that if one desires to have thick-set, well-branched plants, it will be necessary to transplant the seedlings.

The autumn sowing is made in the latter part of September and the seedlings are pricked out into a sheltered bed or, still better, under a cold frame, for although these plants can withstand a few degrees of frost, the mats or litter with which the beds are covered in frosty weather are not always sufficient to protect them in the climate of Paris. In the following spring the seedlings are planted out, each with a good ball and at a distance from one another of from 16 inches to 20 inches. They will then flower from the end of May to August.

The spring sowing is made in April or May in the open ground or, better, under a frame, and the seedlings are treated in the same way as the autumn-sown ones. If the seed is sown broadcast where the plants are to bloom, it should be scattered very thinly, so as, if possible, to leave a space of 6 inches to 8 inches between the young plants. Plants thus sown will flower in August and September. A sowing may also be made in June or July, the plants from which will flower in October, and if the seed is sown very thinly in pots, the seedlings will not require to be transplanted, and they will yield potsful of bloom useful for the furnishing of cool houses, conservatories, &c.

All the *Godetias* are very handsome plants and well worth cultivating. I shall, therefore, only mention the most remarkable varieties, and these briefly.

**GODETIA RUBICUNDA.**—Flowers vinous-red with a small purplish-carmine spot on the claw of each petal, produced in long, loose, leafy spikes, and standing about 2 feet high.

**G. R. SPLENDENS.**—In this the spots are larger and more vivid in colour; in one form of it the flowers are semi-double, resembling small satiny pompon tufts.

**G. R. NIVERTIANA**, in which the basal spot is of an exceedingly vivid carmine-red colour, which is extended into streaks through the flesh-pink colour of the remainder of the petal.

**G. WHITNEYI** has violet-lilac flowers with a reddish spot on the claw of the petal. This, the finest species of the whole genus, differs from the preceding one especially in having a very branching habit and forming broad, compact clumps more or less pyramidal in shape, which at blooming time are literally covered with flowers. Numerous varieties have originated from it, the most remarkable of which are

**G. W. PYRAMIDAL CARMIN** and its double form, with very vivid-coloured flowers.

**G. GRANDIFLORA MACULATA** and its dwarf form, with flesh-white flowers, spotted and nearly 4 inches in diameter.

**G. LADY ALBEMARLE**, with flowers of a deep red, slightly tinged with violet; a large, vigorous-growing and very floriferous variety.

**G. DUKE OF FIFE** has the same habit as the preceding variety, but the flowers are more vividly coloured and have a small white spot at the base of the petals.

**G. DUCHESS OF ALBANY** and its dwarf form have large, pure white flowers, noteworthy for their port and their dazzling whiteness.

**G. DUCHESS OF FIFE** has flesh-white flowers with a bright red spot at the base of the petals.

The variety *Bijou*, which should undoubtedly be referred to *Godetia Lindleyana*, is remarkable for its dwarf stature and its spreading, tufty habit. Its flowers are white.

From the foregoing remarks it will be seen that the *Godetias* possess in a very high degree a combination of those qualities which render a plant ornamental and suitable for the summer embellishment of gardens.—*Revue Horticole*.

## SOCIETIES AND EXHIBITIONS.

### NATIONAL CHRYSANTHEMUM SOCIETY.

A WELL-ATTENDED meeting of the general committee was held on Monday last at Anderton's Hotel, Mr. R. Ballantine presiding. Letters were read from the Dowager Duchess of Sutherland and the Duke of Sutherland acknowledging the vote of condolence passed at the last meeting, and the former consented to have her name added to the list of lady patronesses. Mr. R. Dean referred to an interesting audit, prepared by Mr. A. Taylor, of the number of cut blooms staged at the recent November show at the Aquarium, from which it appeared that 2163 were staged by the exhibitors. The Japanese were, of course, the most numerous, amounting to 1134 in 142 varieties; the incurred were next with 642 cut blooms in 75 varieties; the remaining 387 cut blooms included all the other sections.

Owing to the amount of business, the evening was too far advanced to admit of discussion upon the draft schedule for 1893. One matter, however, in connection with it was introduced, viz., the resolution passed at the conference recommending an enlargement for show boards for Japanese blooms. The schedule sub-committee, however, were of opinion that the question be left as at present, which is that large boards are optional. They felt that were it enforced many of the affiliated societies would withdraw, and the expense would cause many exhibitors to cease showing at the Aquarium. Mr. Jukes supported the sub-committee's recommendation. He felt strongly that as the matter was now optional, no good reason existed for the change being made compulsory. There was too great a tendency towards mere size, and this new rule would encourage the growing of great coarse blooms. There was another point to consider—the question of room. He was sure the space at command was none too great either at the Aquarium or at many local shows, and to increase it, as would be necessary under the suggested alteration, would in many cases be an impossibility. Mr. Harman Payne very strongly urged the committee to carry out the resolution carried at the conference. He submitted that the boards of cut blooms were intended to display the individual merits of each flower, and that the cut bloom classes were never instituted to show the collections off as a whole. He protested against flowers being jammed together so closely that the visitors could not tell where the flowers began or ended. The old boards could still be used for the other sections, so that expense hardly entered into the question, and if it did, so long as there were money prizes offered, so long the exhibitors might be expected to conform to any law the society made. He moved an amendment to the effect that at all shows of the N.C.S. the enlarged boards be compulsory in the open classes for Japanese. Mr. C. Gibson supported the amendment. Mr. Fowler, while appreciating some of the difficulties in



making the rule compulsory, considered some regulation necessary as to the size of the cups, and thought 3 inches in diameter quite sufficient. The committee's recommendation, however, was carried. New members and new societies were then admitted, the Yeovil, the Staining Societies, the Horticultural Society of New South Wales, the Christchurch (N.Z.), and the Cambridge (N.Z.) Societies being those who applied for affiliation. The secretary reported that the N.C.S. would not hold a September show next year, as already announced, but that they would contribute £20 as prizes to the show proposed to be held by the Aquarium Company. There will be three exhibitions by the society as follows: Early varieties, October 11, 12, and 13; ordinary varieties, November 7, 8, and 9; late varieties, December 5, 6, and 7. The floral committee will meet on the second day of the November show instead of on the first, as heretofore.

### THE GARDENERS' ROYAL BENEVOLENT INSTITUTION.

A GENERAL meeting of the members of this institution was held at Simpson's, 101, Strand, on Tuesday last, December 20, for the purpose of passing a resolution (special) to change the original name of the institution from the Benevolent Institution for the Relief of Aged and Indigent Gardeners and their Widows to the name by which it is now generally known for the purpose of registration, and also to consider and adopt alterations and additions to the rules of the institution as recommended by the Committee of Management.

The meeting was very well attended, and considerable interest was taken in the proceedings by the members. The treasurer (Mr. H. J. Veitch) presided, and was supported by the trustees (Dr. Hogg, Mr. N. Sherwood, and Mr. John Lee), with the hon. solicitor (Mr. Thomas Peacock), Dr. Masters, and others. The chairman stated that the committee deemed it necessary for the better working of the society that the rules should be carefully revised so as to meet the requirements of the institution in its now enlarged sphere of operations compared with that period when the rules were drawn up. These rules as amended with others quite new were now presented by the committee for confirmation or alteration as might seem fit to the members present. One of the chief points had been to so revise and amend the rules as to give more elasticity to the working under the Friendly Societies Acts. Other rules were added also, and that to the benefit of the institution.

Under the old system, the rules were 33 in number. These have been re-arranged, being brought under a better system of classification, and now number 15, with various sections to each. The most noteworthy amendments to the old rules are as follows, viz.: In new rule 3, section 8 (old rules 14 and 15), it is further required that a statement be signed by the applicant and the first two subscribers who support the application, showing how any present income is derived. This the committee deem essential to the better consideration of each application, as well as in the interest of the institution. Other amendments were made in the appointment of arbitrators, and in several instances so that the rendering of the rules is better understood.

The most important additions are as follows, viz., in rule 3, section 10, which reads thus: The committee shall be empowered previous to any election to credit any candidate who has paid

4 years' subscriptions with 50 votes	
5       "       "       "       "       "       "	100 "
6       "       "       "       "       "       "	150 "
7       "       "       "       "       "       "	200 "
8       "       "       "       "       "       "	250 "
9       "       "       "       "       "       "	300 "
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14      "       "       "       "       "       "	550 "

This addition to the rules is a most important one, and one which we feel fully persuaded will

meet with the heartiest approval by the supporters and subscribers to the institution. Hitherto a subscriber who may have paid his subscription for any number of years less than fifteen had to bear the expenses and anxiety incident upon an election, the same as an applicant who had not subscribed anything to the funds, without receiving any relative benefit from having subscribed other than that he might possibly receive by those who before placing their votes closely scrutinised the merits of each case. Now, in accordance with the number of years a subscriber has paid into the funds, from four years upwards, so will he have the number of votes placed to his credit as already given, if so be he has the occasion to appeal for election. This addition to the rules should undoubtedly add to the number of subscribers from amongst gardeners and others who may be eventually eligible for the pensions. It is surprising that they cannot realise more than they do the great and essential benefits which are conferred by the institution upon those who are in need of assistance. This proviso for their benefit should surely induce more to become subscribers.

Under the same rule 3, section 14, is further added another distinct and valuable regulation as follows: "The committee may at their discretion (provided the funds of the society will permit) grant gratuities in one or more instalments, not exceeding in the whole £5 each, to unsuccessful candidates at any election who are life members, or have been subscribers to the institution for four years immediately preceding the election." In rule 4, section 4, a proviso is made to "confer honorary votes in respect of special services rendered to the institution, and may appoint from time to time any persons who in their opinion are likely to be beneficial as honorary officers or collectors to the institution." This again is an excellent addition which should act as a further incentive to those who have already worked well in the interests of the institution, and to whom some such recognition is undoubtedly due. Rule 12, section 1, provides for the inspection of the books and accounts of the society by any member or person having an interest in the funds of the society at all reasonable hours. Other alterations and additions can be noted by the friends and supporters of the institution after the new and revised rules are confirmed at the annual general meeting in January next, when they will be printed and distributed with the annual report, &c.

As a still further proof of the advantages offered by this excellent institution, it should be stated that the number of applicants for pensions at the ensuing election is unusually large. Some of these, as stated by the treasurer at the last dinner, when Lord Brassey presided, are of a most distressing character. It is painful to think that some of these must be rejected for want of sufficient funds. What is wanted now to meet the exigencies of the case is more annual subscribers. The sum of one guinea per annum is surely not a large one. Twenty new subscribers means at least one fresh pensioner placed upon the lists. This, whilst it confers upon the aged and needy untold blessings, also forms in itself a proviso in future case of need to the subscriber himself if he be a gardener.

**Guild of Kew gardeners.**—The gardeners of Kew, past and present, are desirous of forming themselves into a guild, and propose to publish annually a journal in which will be recorded (1) the present Kew staff from the director to the gardeners; (2) a list of all old Kew men, with the date of their leaving Kew, and their positions and addresses; (3) brief notices of distinguished past Kew men; (4) Kew notes; (5) interesting correspondence from old Kew men; (6) the proceedings of the Mutual Improvement Society and the prize essays of the year; (7) the proceedings of the Kew British Botany Club; (8) the report of the Cricket Club. Frontispiece, portrait of a distinguished Kew man. The journal will consist of about fifty pages, royal 8vo, to cover the cost of which, with postage, an annual subscription of one shilling will be necessary. It will be published on May 1. Will all old

Kew men who have at any time worked as gardeners at Kew kindly send their names, date of leaving Kew, with present position and address, to the secretary for publication in the journal? It is anticipated that every Kew man will gladly become a subscribing member of the guild, and also communicate any interesting professional information for publication in the journal. It will be seen that the aim of the guild is the very laudable one of uniting all Kew men in a bond of fellowship by means of a journal which will convey to them news of interest and enable them to communicate with each other. There are probably 500 Kew men distributed all over the world, but of the whereabouts of all except a small proportion there is at present no record. The committee to carry out this scheme is composed of Messrs. W. Watson, W. J. Bean, G. H. Krumbiegel, J. Brown, H. Pettigrew, and J. Aikman. All communications should be addressed to the secretary, J. Aikman, Whitestile Road, Brentford. It would save correspondence if members would enclose their subscriptions when they write to the secretary.

\* \* We hope the promoters will think of the responsibility that attaches to those who found new societies, guilds, and associations in presence of the plethora of those bodies from which we now suffer. No such body should be founded unless there is an absolute necessity for it.—Ed.

### NOTES OF THE WEEK.

**Apple Besspool.**—It is a pity this kind is such a shy bearer, more especially in a young state, seeing it has so many other good qualities. It is of large size, of a bright reddish colour, and good either for kitchen or dessert. It comes into use from December onwards. The tree is a strong erect grower.

**Hickories.**—It is probable that these trees are very much neglected in England, as we very rarely see them. Mr. F. L. Olmsted has lately sent us plants of the following:—

Carya alba . . . . .	Shell-bark Hickory.
" amara . . . . .	Bitter-nut.
" aquatica . . . . .	Swamp Hickory.
" microcarpa . . . . .	
" olivæformis . . . . .	Pecan-nut.
" porcina . . . . .	Pig-nut Hickory.
" sulcata . . . . .	Big Shell-bark Hickory.
" tomentosa . . . . .	Mocker-nut.

**A floral picture.**—In the Orchid house at the Manchester Botanic Gardens at the present time is a floral group worth going many miles to see. It is well known that blue is not the most common of colours amongst flowers, and yet the prevailing colour in this group is blue, and consists of *Tillandsia Lindenii*, a heavenly blue, and *Eranthemum pulchellum*, a darker blue. The other plants consist of the old, but seldom to be met with, *Linum trigynum*, the autumn-flowering *Cattleya labiata*, *Amaryllis alula* and various kinds of *Cypripediums*, artistically massed together in large numbers, the whole forming a group of the most fascinating description.

**False Newtown Pippins.**—Lovers of the Newtown Pippin must know that there is a false Newtown about. Some unprincipled Yankee is slipping in barrels of an Apple very like the Newtown in size and somewhat resembling it in colour, but with only the fifth-rate flavour we all know so well in poor quality Apples. The false Newtown is a little larger and smoother looking than the Newtown. American growers should in their own interest seek out and expose those who mix up with it inferior fruit not one-fifth of the value of the Newtown. Newtowns are rather scarce this year, as we notice unsorted barrels bringing about 40s. apiece. The growers may be assured the practice we call attention to will, if continued, put an end to the fine demand there is for this Apple in the London market.

**Apple Cockle Pippin.**—It may be worth asking why this Apple is not more frequently met with. Although not an attractive kind, it is a valuable dessert Apple, coming into use from December onwards. The fruit is middle-sized, ovate



skin greenish yellow, covered with a light brown russet near the base, with a tinge of orange next the sun. The flesh is yellowish white, tender and juicy; it also keeps well. It succeeds well as an orchard tree, although not a large grower. I well remember orchard trees of this kind producing splendid crops when I was living at Hedsor Park, Maidenhead, some twenty years ago. Since that time I have not seen it grown, till recently I saw some splendid fruit from orchard trees at Bridehead House, Dorchester. These were of good size and very highly flavoured. The trees are large ones, showing it was a variety planted by our forefathers more than by us.—DORSET.

**Flowers from Ireland.**—Mr. H. C. Hart, Carrabagh, Portsalon, Letterkenny, in sending us a charming and varied series of flowers from the open air on Dec. 22, says: "I send you a Christmas posy from my garden. The Veronicas are especially gay with me. There are about ten sorts in bloom, two or three of which are deliciously sweet. A large bush of Marguerite Daisy is in perfect foliage and good flower, though the blossoms are not up to summer form. Two sorts of Cytisus (*C. racemosus* and *C. Everestianus*) are, particularly the latter, now in their prime. Both are deliciously fragrant. Desfontainea has still a good sprinkling of blossom. There is a bunch of a pretty feathery Eupatorium, which I am sure you will admire. I planted it out a small plant three years ago. It is now a 3-foot bush with quantities of flower panicles. The dainty little Erica caffra is covered with blossom, and a couple of other Cape Heaths nearly in flower. Andromeda floribunda will be a sheet of bloom in a few days. No Rhododendrons out yet. Aubrietias, Primulas, and Schizostylis brighten up the beds. These are all in open borders and quite unprotected. Parochetus and Lithospermum petraeum have a few flowers. The weather is very mild. No frost here."

**The Midland Carnation and Picotee Society** issue their second annual report, with list of awards, list of subscribers, schedule of prizes, rules and balance sheet for 1892. It is a neat, very well-printed report, a model indeed of what such a report should be. It shows well in what a spirited way the midland growers have taken up the culture of the Carnation. We hear the self classes were very good and that there is a desire to do without the paper collars. This is by no means difficult, as it is quite easy to arrange the flowers in loose bunches and in a natural way, as has been done in the case of the selfs. No Carnation is worth growing which if it fell into a lady's hands would not be arranged with all its natural grace of bud or flower; and therefore the society could do nothing better than encourage growers to show things as they grow, which is the only grateful way to anyone of artistic feelings. To take one portion of a plant only, flatten it out and paste it down on a board or paper collar is the most brutal and inartistic thing one could do, and must ever be the laughing-stock of people who see beauty in form and flower and plant.

**Winter berries.**—Seldom have winter berries been so abundant, at least in this part of England. I refer more particularly to the Whitethorn and Hollies. The first, now denuded of foliage, are sheets of crimson with haws, and in many places the Hollies are sights not soon to be forgotten. Come what weather may, the berry-eating birds will enjoy immunity from starvation. This may not be an unmixed good, for it means to gardeners wholesale spoliation of the fruit. On a manor about 1 mile from here, belonging to Viscount Bridport, are many thousands of fine Holly trees, and a large number of the females are now masses of glowing scarlet, conspicuous at long distances. In some instances there seems to be but little else but berries; amongst them is a considerable sprinkling of the yellow-fruited variety, which, although affording a pleasing contrast, possesses but little of the charm of the scarlet-fruited type. I suppose this lavish fertility may in some measure be accounted for by reason of the fine open spring weather prevalent when the trees were in flower. The fine collection of stove, greenhouse, and other

plants at Cricket St. Thomas during the lifetime of the last lord testified to his lordship's ardent love of gardening; combined with this was great regard for the Holly, and his implicit instructions to his tenantry and gamekeepers to preserve and protect all thriving specimens. I cannot but think that there must be a wide difference in the flavour of Holly berries; we often see particular trees cleared by birds, while others hard by remain untouched. A striking instance of this I have close at hand. In a shrubbery within a dozen yards of the house I planted about thirty years ago a vigorous seedling. It is now a fine tree, and in most years fruits abundantly, but no sooner do the berries begin to colour, than a general onslaught takes place by flocks of pigeons, jays, blackbirds, fieldfares, thrushes, stormcocks, and sometimes starlings, undaunted by the close proximity to the house and the constant passing to and fro. This continues until the tree is stripped, and although there are many other trees around, as long as this particular one's supply lasts they are disregarded.—J. M., Charmouth, Dorset.

**Cut-down Chrysanthemums.**—I send you a few notes on Chrysanthemums, also flowers for your inspection from cut-down plants grown in 7½-inch pots. The plants were cut down the first week in June. The information may be useful to some of your readers.

	From rim of pot	No. of flowers
President Burrell	23 inches	5
Vivian Morel	24 "	14
Mme. Taulier	20 "	7
F. A. Spaulding	19 "	8
J. S. Dibbens	25 "	14
F. H. Spaulding	22 "	14
Mme. Beale	18 "	12
Mlle. M. Hoste	19 "	12
E. G. Hill	20 "	11
Harry Widener	20 "	13
W. H. Lincoln	20 "	20
Beauty of Castlewood	18 "	5
Mrs. Langtry	18 "	12
Miss A. Hartshorn	19 "	10
L. Canning	14 "	15
Violet Rose	24 "	7
Etoile de Lyon	23 "	12
W. W. Coles	20 "	10

As a rule, I find the American flowers have the best substance.—W. BEALBY, *Meadow View, Beaumont, Jersey.*

\* \* A very important note. The flowers are excellent.—ED.

**Scholarships in horticulture.**—At a meeting of the Court of the Worshipful Company of Gardeners, held on Monday, December 19, at the Cannon Street Hotel, the scheme of examination in horticulture lately set out by the Royal Horticultural Society was brought under discussion, and it was decided that the company should offer a scholarship of £26 a year, tenable for two years, to be awarded after the examination to the most successful candidate under certain conditions. It was also announced that a second scholarship of the same value was offered by the president of the Royal Horticultural Society, Sir Trevor Lawrence, Bart., and it was hoped that others might follow such a good example. The exact conditions of the scholarships have yet to be settled, but the main provisions will be that the holders shall be between the ages of 18 and 22 years, and that they shall study gardening for one year at least at the Royal Horticultural Society's Gardens, Chiswick, and for the second year either there or at some other place to be approved.

**Wanted, a colour chart.**—Anybody who has had the slightest experience in describing new flowers has felt the urgent want of some such work as that suggested by "F. W. B." I have made many inquiries at the leading London artists' colourmen for a good book on colours, but have only succeeded in obtaining a work giving washes of water-colours sold by one of the well-known firms. This is not what florists, reporters of shows, or gardening writers require. A common standard colour chart would be of the greatest value to us all, whether we go in for Roses,

Dahlias, Chrysanthemums, or other flowers. In translating French descriptions of new flowers there are many puzzling expressions concerning the numerous shades of colour that some of their novelties are supposed to possess. The purple, amaranth, mauve, bronze, crimson, violet, and lilac shades are innumerable, and no two of our English nurserymen seem to be agreed when they attempt to describe their importations unassisted by the raiser's description. To look at a flower for a few minutes with note-book in hand and jot down clearly and accurately its proper shade of colour or colours is a task not easily performed. A little study of such a chart as is suggested would help us all. I believe it would not be long before it would be authoritatively accepted by many of our leading societies.—C. H. P.

## PUBLIC GARDENS.

**Epping Forest.**—On the recommendation of the Epping Forest committee, the salary of Major Alexander M'Kenzie, the superintendent of Epping Forest, was increased from £600 to £750 per annum from Christmas next.

**West Ham Park.**—A report from the finance committee was carried for the payment of £910 for the maintenance of West Ham Park during the year, and for authority to continue the band arrangements at a cost of £150.

**Home Park, Hampton Court.**—The question of opening Home Park, Hampton Court, to the public is again being agitated, and the East Molesey Local Board have decided to co-operate with the Mayor of Kingston and the Surbiton Improvements Commissioners in an application to the authorities for the opening of the enclosure.

**Paddington Recreation Ground.**—The following City Companies have recently made grants towards the fund for the purchase of the Paddington Recreation Ground: The Goldsmiths' Company, £500; Mercers' Company, £250; and the Grocers' Company, £100. These and other recent contributions have brought up the sums subscribed to a sufficient amount to enable the Bill in Parliament to be deposited, and this has now been done by the Paddington Vestry.

**Well-formed rock gardens.**—Mr. Meyer sends us some charming photographs of rock gardens, executed in Devonshire, showing the much more keen appreciation of natural forms and how stone does naturally emerge from ground than has hitherto prevailed. Mr. Meyer is a very spirited rock gardener, and knows the plants of the rocks too.

**Government planting in Ireland.**—We learn that large orders for trees have been sent to Messrs. Dicksons (Chester) by the Irish Land Commissioners for planting on the west coast of Ireland.

**Rose forcing houses.**—I know opinions differ as to whether houses constructed for Rose growing or forcing (grown in pots or planted out) should be so built that the roof can be taken off in the summer for the purpose of assisting the wood to ripen. Would any practical Rose grower kindly come to the assistance of an anxious SUBSCRIBER?

**Names of plants.**—Joseph Barclay.—Too much crushed to identify; never pack flowers in cotton wool.—W. Roberts.—*Cestrum aurantiacum*.—W. S., Brixton.—Quite impossible to recognise; never send Orchids wrapped in cotton wool.—J. H.—Cyclamen flowers so badly packed, that it is utterly impossible to form any opinion regarding them.—J. M. B.—1, *Fittonia argyroneura*; 2, *Panax exelsa*; 3, *Higginia discolor*.—E. Hutchins.—1, *Ficus Parcellii*; 2, *Anthericum variegatum*.—G. G.—1, *Acer variegatum*; 2, *Tillandsia tessellata*.—H. G. M.—1, *Cattleya bicolor*; 2, *Lælia Dormaniana*; 3, *Physiphon Loddigesii*; 4, *Oncidium pretextum*.—G. B. F.—1, *Adiantum hispidulum*; 2, *Asplenium cicutarium*; 3, *Lomaria nuda*; 4, *Microlepia seabra*; 5, *Oleander Wallichii*; 6, *Lastrea glabella*.—M. M.—1, *Cypripedium insigne Maulei*; 2, *C. Seegerianum*.—G. Pinnock.—1, *Davallia divaricata*; 2, *Gymnogramma gloriosa*; 3, *Balanium culcita*; 4, *Neottopogon australasica*.—C. M.—We should say it is *Gesnera exoniensis*; 2, *Euphorbia jacquiniiflora*; 3, *Scutellaria Ventenati*.—G. H. W.—1, *Cypripedium orphanum*.—Querist.—*Oncidium crispum*.



## WOODS AND FORESTS.

## PLANTING EXPOSED GROUND.

FROM experiments that have been made in many places throughout the country, it is now pretty conclusively settled that the Corsican Pine is a tree well suited for planting in cold and wind-swept regions. True, from its narrower spread of branches, it cannot compare with its nearly ally the Austrian (*P. austriaca*) in the amount of shelter it will afford; still, that it is equally hardy and suitable for exposed hilly ground is now well known. The very fact of its having a narrow spread of branches makes it peculiarly suitable for general forest planting, for, like the Larch, it seems able to grow and produce timber satisfactorily when but the top fourth of its stem is furnished with branches. Both the Corsican and Austrian Pines get the name of being bad to transplant, and this is true to some extent, but not half so true as is generally stated. By lifting annually or every two years, when young and before being planted out permanently, the roots become thick and bushy, full of fibres and soil-retaining; but where judicious transplanting has for a time been neglected, there are usually but one or two large roots and very few of the branching fibrous ones that render planting out a success. Taking everything into consideration, the Corsican Pine, independent altogether of its value in a commercial sense, is a tree that is peculiarly suitable for planting on exposed ground, and may, with the Austrian, be successfully planted in the formation of woods at high altitudes and where the ground is fully exposed to the worst winds of the particular district. The Scotch Fir (*P. sylvestris*), every mountaineer must know, is an excellent conifer for planting at high altitudes and on poor rocky soil. Probably it ascends to a greater height in this country than any other species, while the fact of its being able to succeed in the poorest of soil is yet another and excellent recommendation. Even on gravel, and that of the unenviable "pan" class, it grows astonishingly, and may any day be noticed on some of the commons around London.

The common Larch must not be forgotten in a choice of trees suitable for planting on the flank of the hillside, but the fact of its being deciduous is rather against than in its favour. It gets beaten badly about, and in the plantation to which I referred it certainly could not hold its own with either of the three Pines that have been spoken about. The branches on the worst side always become short and twisted and appear as if they had been nibbled off by sheep; but for all that, it is an excellent tree for the purpose under consideration. The Larch is such a valuable forest tree, speaking economically, that we cannot do without it, for none other has yet stepped in to take its place, so that even if it will not succeed satisfactorily on the outside of an exposed plantation, yet inwards it is one of the best and should be largely planted. By planting even a treble line of Austrian, Corsican, Scotch and Mountain Pines, the amount of shelter afforded is just enough for the Larch, for then it will succeed, and, if the soil is at all good, grow away rapidly.

Next to the Pines mentioned, one of the best trees I know of for planting on exposed ground is the American Winged Elm (*Ulmus alata*), or, at least, what is generally known under that name. All along the outskirts of a strip of woodland that many years ago was planted on one of the Welsh hills for shelter to the neighbouring sheep farms, this small-growing, wry

tree has stood well, and clearly distinguished itself as a capital subject for planting where the winds blow hard and long. It is certainly a tree of no great pretensions, rarely rising more than 26 feet from the ground, and having thickly arranged branches that are furnished with the curious wing-like appendage from which the name has doubtless been derived. Far and near, deep and shallow it sends out its roots, while the thick corky bark of stem and branch seems as if purposely intended for protection.

Sycamores do unusually well, but they are hardly suitable for the more exposed ground, but form fine sturdy specimens and produce a lot of good timber when not directly exposed, or, in other words, where the first brunt of the storm has been faced by other more hardy species. Several of the Willows are first-class trees for the exposed hillside, good examples of which may be seen away up in the mountains by the base of Snowdon and around the beautiful lakes of Ogwen and Eid-wall. Then two at least of the Poplars, the Bird Cherry (*Cerasus Padus*), the Hornbeam, and the common Scotch Elm are all well able to hold their own on breezy ground at high altitudes. The Beech must not be despised and asserts its own rights, as the grand old specimens on that Kentish peak of solid chalk, Knockholt, and which is visible for miles around, will at once prove to the sceptical. The Oak, although it gets twisted, stunted, and scarcely recognisable, is a good wind-resisting tree, and not one whit behind it is the common Alder. But about the Birch and Elder it is perhaps needless to speak, for everyone knows full well the friendly shelter afforded at meal-time by a clump of the former, while the visitor to some of our wildest coasts, and where he can scarcely keep his feet, must admit that, though despised, rooted out and neglected, the common Elder is one of our most valuable shrub-like trees.

A. D. W.

**The Pine beetle.**—When it is desired to plant immediately after a crop of Scotch Fir is cut down and cleared away, it should be proved whether the ground is in a foul state or not. This can be done by keeping a quantity of the branches when burning up all the brush, and have them spread over the ground in spring, when it will soon be seen if Pine beetles are there, and if they are, gather and destroy them during spring and autumn.—J.

**The Sycamore.**—When of a large size the timber of the Sycamore is valuable; and even after it is thirty years old, it sells readily for bobbin making and other turnery purposes. The soil best suited to it is a dry gravel or sandy loam, or even sand; and it is most valuable for planting in exposed situations, or within the influence of the sea breeze. Where it grows well the seed generally germinates freely in the surrounding plantation. The trees should be planted about 12 feet apart.

**Alder**, as a rule, is never allowed to attain a very large size before being cut down for profit, and may therefore be planted moderately close. It thrives best in a moist soil fairly sheltered, and may be planted 9 feet to 12 feet apart, filled in with Spruce nurses from 3 feet to 4 feet apart. When the ground cannot be thoroughly drained, it may be planted 5 feet to 6 feet apart, to avoid planting Firs as nurses. As the Alder is saleable of moderate size before it becomes coarse, it may be felled to advantage at forty or fifty years.

**The home nursery and planting.**—One of the most valuable adjuncts to any property, but particularly where tree planting is at all extensively engaged in, is the home nursery. Of this fact I am becoming more and more cognisant every year, and I feel certain that the death-rate of trees and shrubs on most estates would be largely diminished if a well-managed home nursery was

kept up. Probably, in many instances, the cost of forming, planting and keeping up a home nursery has much to do in influencing those who would otherwise be inclined to establish such to refrain from the undertaking; but such is mistaken policy, as the rental of ground, stocking and after-management are as nothing compared with the great loss annually where trees have to be conveyed from a distance before being finally planted out. Those persons who have been engaged on extensive planting operations know full well that the death-rate of young trees after having been conveyed for any considerable distance by road or rail is considerable, and might be greatly minimised by the setting on foot of that valuable and indispensable adjunct, the home nursery.—A. D. W.

**Layering Oak stools.**—In filling up Oak plantations, the advantages of layering from suitable stools can hardly be realised by those who have never practised it upon a large scale. The support which the layers derive from the parent stool causes them to rapidly outstrip the growths from acorns or from recent transplants. By selecting two years' shoots and carefully layering them in cultivated ground, and at the end of the second year again layering the young plants, a considerable space around the original stool may be filled up in a few years; and one great advantage of the system is that there is no fear of wind-waving even upon the greatest exposures, and the support which the new plants derive from the parent stool not only promotes rapid growth, but also enables it to be carried on upon sites where from poverty of soil trees cannot be planted with any prospect of success. Layers may either be cut away at the end of the second or third year, according to the quality of the soil; but when it is intended again to layer them from those first formed, no cutting away should take place until the process is finished.—J.

**Pruning deciduous trees.**—In answer to "K's" inquiry in THE GARDEN, Dec. 10, p. 530, regarding the best time to prune deciduous trees from 7 feet to 12 feet high, such as Sycamore, Maple, Chestnut, Limes, &c., when the first three species are pruned in winter, the wounds are apt to bleed when the sap rises in the spring, and in order to avoid this they had better be pruned in August. Limes and trees that are not apt to bleed may now be pruned with impunity. Cut off the branches to be removed close by the stem with a sharp pruning-knife, but superfluous leaders at the top may be cut off with a pruning chisel attached to the end of a pole, which will save the trouble of climbing. The chisel makes a smooth sloping cut, which requires no dressing of any kind. It is sometimes advisable to cut back large rambling side branches in order to promote the formation of a uniform top, and in doing so the part to be removed should be taken off at the base of a lateral twig.—J. B. WEBSTER.

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